AllAboutTrees

Arboricultural & Ecological Consultancy
Chartered Arboriculturalists & Environmentalists

Arboricultural Method Statement

For Trees At

Shotton Community Hub,

Shotton Colliery

For

D3 Associates Ltd

Institute of Chartered Foresters
Registered Consultant

Arboricultural Association
Fellow Member

Consulting Arborist Society.com
PROFESSIONAL MEMBER

Document Verification

Document Title	• Arboricultural Method Statement For Trees On Land At Shotton Community Hub, Shotton Colliery • For D3 Associates Ltd
Prepared By	• T Archment ND HND Arb MArborA
Authorised By	• Andrew Watson FLS MICFor CBiol MRSB FArborA CEnv LCGI

Original Issue	
Issued 6th June 2023	Authorised - A Watson

Revision	
-	-

Revision	
-	-

Table of Contents

Appendices

1. Introduction

1.1 We are instructed by D3 Associates Ltd to provide an Arboricultural Method Statement (AMS) regarding the protection and management of the significant trees located within two specified areas at the Shotton Community Hub, Shotton Colliery.

1.2 This method statement is a reference document produced to ensure best practice in the management of the trees during the demolition and construction phases of the development and brings together all of the relevant information including the recommendations set out in British standard 5837:2012 – Trees in relation to design, demolition and construction. The method statement must be read in conjunction with our Arboricultural Impact Assessment dated 6th June 2023.

1.3 The method statement forms part of the specification and schedule of works to be issued to the contractor and may form part of the contract documentation.

1.4 This document should be kept on file at the site office and be available for inspection by relevant parties.

2. Protected Status Of Trees

2.1 Trees may be legally protected, this may either be in the form of a Tree Preservation Order (TPO) or that the trees are located within a Conservation area. In addition, some tree felling may require a felling licence from the Forestry Commission.

2.2 Potentially large penalties may be enforced for illegally carrying out works on protected trees. It is recommended that checks are made before any works are undertaken and no work should commence until permission has been granted. Please note that there are a number of exemptions from the requirement to obtain a felling licence including land on which full planning permission has been granted by the local authority, however this exemption does not cover land where only outline planning permission has been granted, or on land which has been allocated for residential development within local authority urban and local development plans.

2.3 AllAboutTrees has been able to ascertain with Durham County Council (the Local Planning Authority) on Tuesday 6th June 2023 that there are no restrictions protecting the trees on the site. The site is not within a conservation area and there are no TPOs imposed on any trees within the site.

3. Site Operations Prior To Any Construction Works

3.1 Tree Works

3.1.1 The first arboricultural works on site will be the removal of all the conflicting vegetation:

- Trees 1, 5, 6, 8, 24, 25
- Groups 2 & 4-6,
- A section of group 3
- A section of hedge 2

which are identified on the Tree Protection Plan (TPP) by the broken black ring surrounding the tree centre and referred to in appendix 1 of this report. The groups, and section of groups / hedgerows to be removed have had the coloured infill hatch, and RPA removed / altered. The broken black ring has been placed around the coloured categorisation circle adjacent to hedge / group label.

3.1.2 It would be appropriate to remove trees 4, 13 and 15 at this time though this is to establish a higher level of arboricultural management and is not required to facilitate the development.

3.1.3 The stumps may either be ground out using a stump grinding machine or removed as part of the ground excavation works if not situated within the root protection area of trees to be retained.

3.1.4 Details of any prescribed pruning works are included within Appendix 1 of this report. The tree works should wherever possible be carried out in accordance with BS3998:2010 Tree Work – Recommendations.

3.2 Wildlife Habitats

3.2.1 As part of the survey the significant trees were inspected from ground level for signs of wildlife habitation, in particular birds and bats.

Bats

3.2.2 All UK bats and their roosts are protected by law. The legislation protecting bats are:

- The Wildlife & Countryside Act 1981 (WCA)
- Conservation of Habitats and Species Regulations 2017

For all countries of the UK, the legal protection for bats and their roosts may be summarised as follows:

You will be committing a criminal offence if you:

1. Deliberately* capture, injure or kill a bat
2. Intentionally or recklessly disturb a bat in its roost or deliberately disturb a group of bats
3. Damage or destroy a bat roosting place (even if bats are not occupying the roost at the time)
4. Possess or advertise/sell/exchange a bat (dead or alive) or any part of a bat
5. Intentionally or recklessly obstruct access to a bat roost

**In a court, 'deliberately' will probably be interpreted as someone who, although not intending to capture/injure or kill a bat, performed the relevant action, being sufficiently informed and aware of the consequence his/her action will most likely have.)*

3.2.3 Penalties on conviction - the maximum fine is £5,000 per incident or per bat (some roosts contain several hundred bats), up to six months in prison, and forfeiture of items used to commit the offence, e.g. vehicles, plant, machinery.

3.2.4 No visual signs were found to indicate the presence of bats in the surveyed trees.

3.2.5 When carrying out tree works it is essential that the contractor or other competent person carriers out a specific 'bats in trees risk assessment' which can be obtained from the 'Arboricultural Association' or the 'Bat Conservation Trust' (BCT). If evidence of bats is found work must stop immediately and Natural England Batline contacted (0845 1300 228). A further inspection may well be required by a licensed bat handler or roost visitor.

Birds

3.2.6 In the UK, all wild birds, their nests and their eggs are protected by law.

In England, Scotland and Wales the legislation that protects wild birds is:

- The Wildlife and Countryside Act 1981
- The Countryside (or CRoW) Act 2000

3.2.7 Signs of past nesting activity were evident and as such caution must be exercised.

3.2.8 As with bats the contractor has an obligation to carry out visual checks prior to works. Where possible tree works should be carried out in the period from August to the end of February in order to avoid the bird nesting season.

3.3 Protective Barrier Erection

3.3.1 The protective barriers are to be erected prior to the commencement of site works including demolition, soil stripping or movement, bringing onto site of materials, supplies or machinery. Tree works can be undertaken prior to the erection of the barriers.

3.3.2 The barriers must be erected in the position indicated on the Tree Protection Plan (TPP) by the dark blue line and be constructed as per the following specification.

3.3.3 The barriers should be considered essential and should not be removed or altered without prior recommendation by an Arboriculturalist and approval of the local planning authority.

3.3.4 The barrier should consist of proprietary 2m tall welded mesh panels mounted on rubber or concrete feet. The panels must be joined together with a minimum of two anti-tamper couplings situated at least 1m vertically apart and installed uniformly throughout the barrier so that they can only be removed from inside the barrier. The panels must be supported by stabilising struts mounted on a block tray.

3.3.5 No fixing shall be made to any tree and all possible care must be taken to prevent damage to tree roots when locating the posts.

3.3.6 All types of barriers must be firmly attached to prevent movement by site personnel or vehicles and all-weather signs with the wording “Construction exclusion zone- keep out” should be attached.

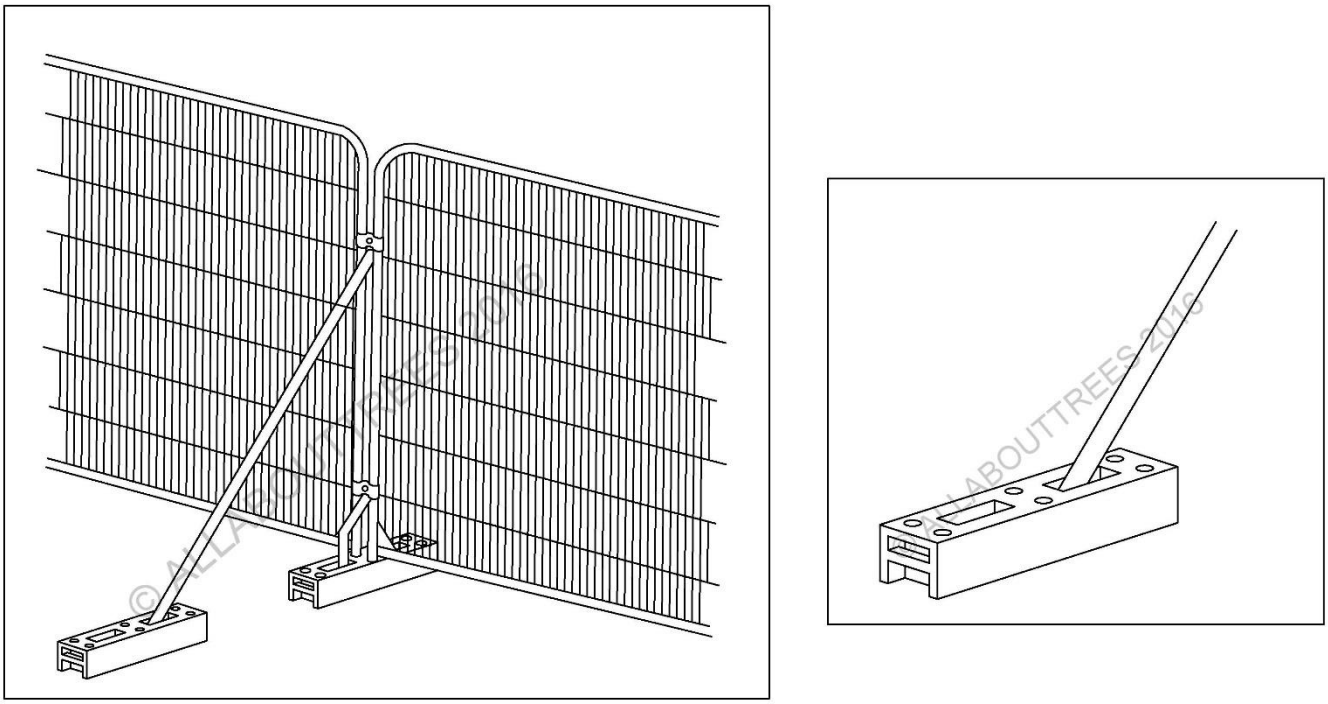

Figure 1 - Stabiliser strut mounted on block tray.

Figure 2 – An example of a barrier erected on a site

3.4 Ground Protection Within Root Protection Areas

3.4.1 In some cases it will be necessary to provide access within the RPA of tree 21. To minimise disturbance to the rooting area it will be necessary to provide ground protection measures in the area indicted by the orange hatching on the TPP.

3.4.2 The following diagrams visualise the layout requirements. By sufficiently protecting the rootplate of the tree, the access and associated working area can be placed within the RPA. There is no limitation as to the size of the ground protection area, but we would advise that it is at least 0.5m from the trunk of any tree.

3.4.3 Temporary ground protection should be tailored to the likely load it will be subjected to. The following diagrams indicate the acceptable techniques for:

- Pedestrian
- Plant and vehicle access up to 2 tons gross weight
- Plant and vehicle access up exceeding 2 tons gross weight

Ground Protection Suitable For Pedestrian Movement Only

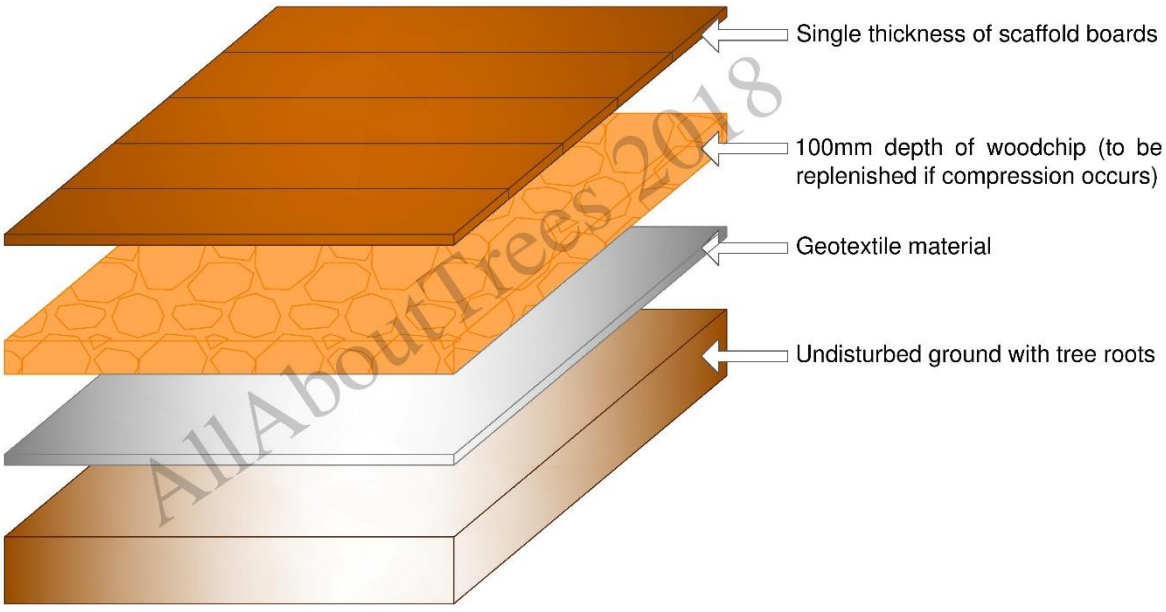

Figure 3

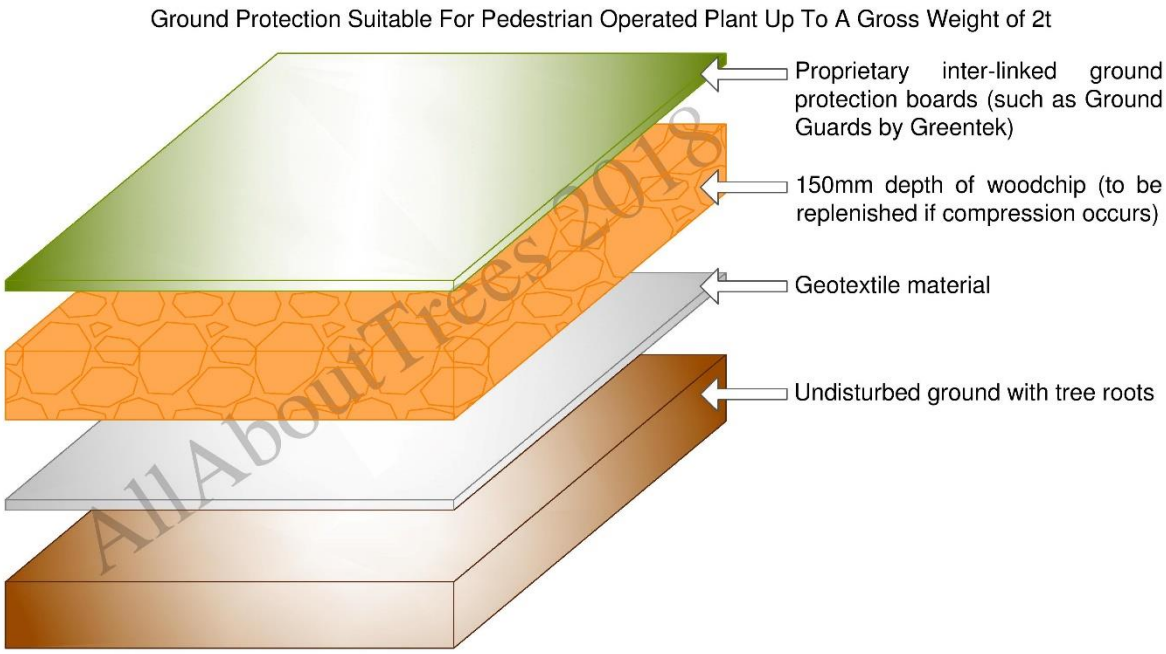

Figure 4

3.4.4 If the likely loading is to exceed 2t gross weight it will be necessary to produce an engineered solution with arboricultural advice to accommodate the likely load safely. One such example is shown below. In some cases, it may be necessary to install a temporary road using a 3D cellular confinement system (such as Cellweb by Geosynthetics Ltd).

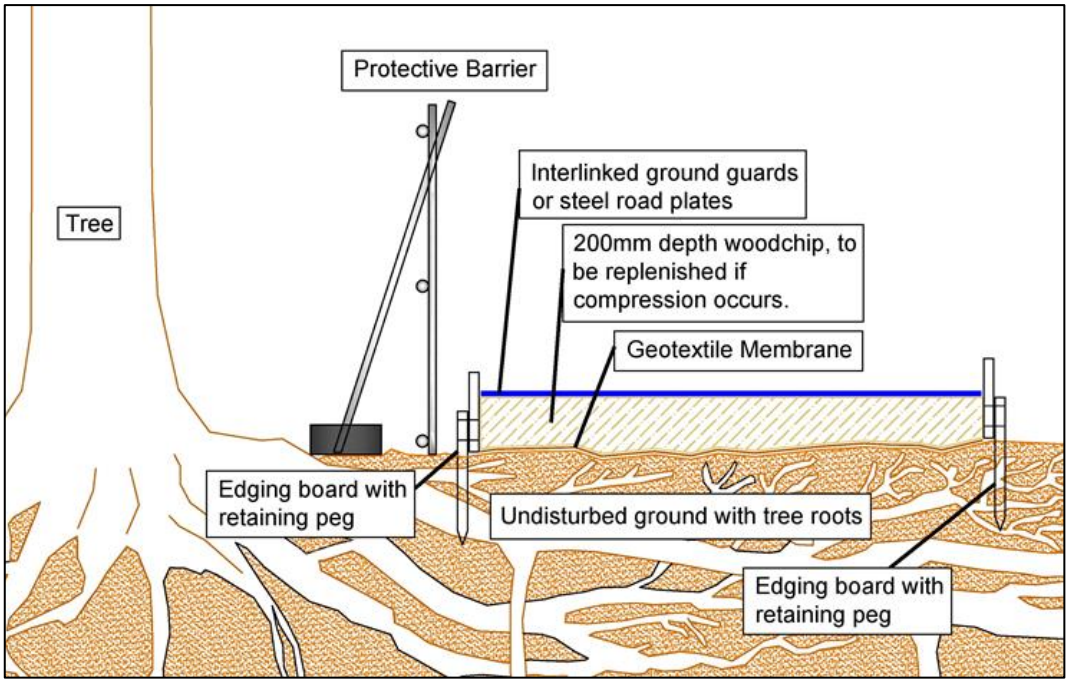

Figure 5

3.5 Location Of Site Compound & Storage Areas

3.5.1 The contractor's site compound, storage & parking areas must be located outside of the root protection areas (RPAs) of the retained trees. This includes any trees which are located outside of the study area but not included within the survey.

3.5.2 All site storage areas, especially cement mixing and washing points for plant and vehicles must also be situated outside of the root protection areas (RPA). Where there is a possible risk of polluted water runoff heavy duty plastic sheeting and sand bags must be used to contain spillages and contamination.

4. Demolition & Construction Methodology

4.1 Demolition

4.1.1 The demolition work near the trees must be undertaken with great care with every effort made to avoid damage to aerial and underground portions of the tree. Roots frequently grow adjacent to, and underneath structures and surfacing and damage can occur when the roots are physically disturbed or the soil around them is compacted from the weight of machinery or material.

4.1.2 When demolishing structures near to trees the machine should ideally break the walls and roof into the footprint of the building (top down pullback methodology) and avoid any debris falling into the root protection area.
If this is not possible the section of the building adjacent to the tree will need to be demolished by hand.

4.1.3 Existing surfacing should be carefully lifted using either a long reach machine positioned outside of the root protection area or manually using hand tools. Surfacing is broadly defined as any hard surfacing used for vehicular access, parking or pedestrian pathways. Including tarmac, crushed stone, solid stone, compacted aggregate, concrete and timber decking, but excluding compacted soil with no hard covering.

In summary:

- Machines with long reach may be positioned outside of the root protection area (RPA) and used to demolish the building or carefully remove debris providing this does not disturb the RPA or the aerial portion of the tree
- Appropriate hand tools for manual removing debris include pneumatic or powered breaker, sledgehammer, crow or prying bar, pick, mattock, spade, shovel, trowel, fork or wheelbarrow. Secateurs and hand saw should be available to cut any exposed roots. The debris must be moved across existing hard surfacing or temporary ground protection thereby avoiding compaction of the soil.
- If appropriate the below ground structures should be left in place if their removal was to cause excessive root disturbance

4.2 Service Runs

4.2.1 It is assumed that the existing service runs will be exploited where possible, but if new works are required it is important that they comply with the National Joint Utilities Group (NJUG) 'Guidelines for the planning, installation, and maintenance of utility services in proximity to trees' and BS 5837:2012. The excavation of open trenches by machine will be unacceptable within the protective zone of any of the retained trees.

4.2.2 Wherever possible, services should be routed outside of any retained trees RPA. When this is not possible apparatus should be routed together in a common duct and any inspection chambers sited outside the RPA.

4.2.3 Acceptable techniques for the laying of services in order of preference are:

- **Trenchless-** by use of thrust boring or similar techniques. The pit excavations for starting and receiving the machinery should be located outside of the root protection area. To avoid root damage, the mole should run at a depth of at least 600mm.
  Use of external lubricants on the mole other than water (e.g. oil or bentonite) should be avoided.

Trenchless Solutions For Installation Of Underground Services

Method	Accuracy (MM)	Bore [A] diameter (MM)	Maximum subterranean length (M)	Applications	Not suitable for
Micro tunnelling	<20	100 to 300	40	Gravity-fall pipes, deep apparatus, watercourse/ roadway under crossings	Low-cost projects due to relative expense
Surface-launched directional drilling	≈100	25 to 1200	150	Pressure popes, cables including fibre optic	Gravity fall pipes, e.g. drains and sewers [B]
Pipe ramming	≈150	150 to 2000	70	Any large-bore pipes and ducts	Rocky and other heavily obstructed soils
Impact moling [C]	≈50 [D]	30 to 180 [E]	40	Gas, water and cable connections, e.g. from street to property	Any application that requires accuracy over distances in excess of 5m.

(A) Dependent upon strata encountered
(B) Pit-launched directional drilling can be used for gravity fall pipes up to 20m in subterranean length
(C) Impact moling (also known as thrust-bore) generally requires soft, cohesive soils.
(D) Substantial inverse relationship between accuracy and distance
(E) Figures given relate to single pass: up to 300mm bore achievable with multiple passes

4.2.4 If trenchless insertion is not feasible the alternatives are detailed below in order of preference.

- **Broken trench-** by using hand dug trench sections together with trenchless techniques. It should be limited to practical access and installation around or below the roots. The trench must be dug by hand (see following comments re continuous trenching) and only be long enough to allow access for linking to the next section. The open sections should be kept as short as possible.

- **Continuous trench-** the trench is excavated by hand and retains as many roots as possible. The surface layer is removed carefully and hand digging of the trench takes place. No roots over 2.5cm diameter or clumps of smaller roots (including fibrous) should be severed. The bark surrounding the roots must be maintained. Cutting of roots over 2.5cm diameter should not be attempted without the advice of the Project Arboriculturalist.

If roots have to be cut, a sharp tool (defined as spade, narrow spade, fork, breaker bar, secateurs, handsaw, post hole shoveller, hand trowel) should be used.

Backfilling

4.2.5 Reinstatement of street works must comply with the code of practice New Roads and Streetworks Act 1991 (Specification for the reinstatement of openings in highways), but where tree roots are involved, backfilling should be carefully carried out to avoid direct damage to retained roots and excessive compaction of the soil around them.

4.2.6 The backfill should incorporate an inert granular material mixed with top soil or sharp sand (not builder's sand) around the retained roots. This will allow a measure of compaction for resurfacing whilst creating an aerated zone around the roots.

4.2.7 Roots and in particular fine roots, are vulnerable to desiccation on exposure to air. The roots are at greatest risk when there are rapid fluctuations in the air temperature around them (especially winter diurnal temperatures). It is vitally important that the roots are covered with sacking whilst the trench is open. The sacking should be removed once the trench is backfilled.

5. Arboricultural Supervision

5.1 The following programme of supervision is proposed to assist in the preservation and protection of the retained trees during all aspects of the proposed development.

5.2 The supervision arrangements must be sufficiently flexible to allow for the supervision of all sensitive works as they occur. The Arboricultural Consultant's initial role is to liaise with the developer and the council to ensure that the appropriate protective measures are in place before any works commence on site and once the site is active monitor compliance with the Arboricultural conditions and advise on any tree problems that may arise.

Action	Programming	Extent of supervision	Nature of supervision
Pre-commencement meeting with site manager & Council tree officer	Before any site activity commences	Meeting on site Review any updates to the proposal Confirm extent of tree works and protective barrier position.	Site meeting & letter or email confirming results of meeting distributed to relevant parties.
Tree works undertaken Finalising tree protection barrier installation and other tree protection measures	Before any plant enters site or demolition/construction work commences.	Confirm position of the protective barriers and other tree protection measures have been installed and comply with the Tree Protection Plan (TPP) Provide photographs indicating completed tree protection	Site meeting & letter or email confirming results of meeting distributed to relevant parties.
Installation of services within root protection areas (if required)	Prior to installation of surfacing or services & during installation of surfaces and services	Meeting with contractor prior to installation and during installation of surfacing and services to ensure compliance with AIA	Site meeting & letter or email confirming results of meeting distributed to relevant parties.
Removal of protective barriers and other tree protection measures	Once construction activities have finished	Meeting with contractor for briefing before removal commences	Site meeting & letter or email confirming results of meeting distributed to relevant parties.

5.3 Site Management

5.3.1 It is the developer's responsibility to ensure that the details of the Arboricultural method statement and any agreed amendments are known and understood by all relevant site personnel. Copies of the agreed documents must be kept on site at all times and the site manager or other appropriate person must brief all personnel who could impact the trees on the specific tree protection requirements.

5.3.2 This should form part of the site induction procedure and be written into the appropriate site management documents.

For and on behalf of
AllAboutTrees Ltd

Andrew Watson FLS MICFor CBiol MRSB FArborA CEnv LCGI
-Chartered Arboriculturalist & Registered Consultant

Appendix 1

Tree No.	Species Common Name *Latin Name*	Height (M)	Crown Spread (M) N	 S	 E	 W	Trunk Diameter (MM)	No. Of Stems	Height Of Lower Canopy (M)	First Significant Branch Position (M)	Age	Physiological Condition	Structural Condition	Root Protection Area Radii (M)	Estimated Remaining Contribution (Years)	Tree Quality Assessment	Comments	Maintenance	Bat Roost Potential	Ultimate Size For Species (M) Height	 Spread	Priority
1	Common Alder *Alnus glutinosa*	8.5	3	3	2.5	3	306	3	2.5	2.5 SW	Middle aged	Poor	Fair	3.7	<10	U - Unsuitable for retention	In decline. Multiple stems below 1.5m. Minor/small diameter deadwood retained in canopy. Low bud/leaf density. Oversails access. Limited live foliage.	This tree is in conflict with the proposed design and will need to be removed to facilitate the development.	None	8.5	7	A
2	Field Maple *Acer campestre*	8	4	4	3	4	280	1	2	2.5 NW	Middle aged	Fair	Fair	3.4	40+	A - High	No major visible defects.	This tree is retainable and will be adequately protected by the position of the protective barrier as indicted by the blue line on the TPP. No tree works required at the present time.	None	15	12	-
3	Swedish Whitebeam *Sorbus intermedia*	5.5	1	2	2	1.5	150	1	2	2.5 NW	Middle aged	Fair	Fair	1.8	10+	C - Low	Leans to the southeast. Mechanical damage to lower stem. Crown distorted due to group pressure.	This tree is retainable and will be adequately protected by the position of the protective barrier as indicted by the blue line on the TPP. No tree works required at the present time.	None	10	7	-
4	Italian Alder *Alnus cordata*	10	3	2.5	2.5	2	250	1	2.5	2.5 S	Middle aged	Poor	Fair	3	<10	U - Unsuitable for retention	In decline. Deadwood. Dieback in crown. Low bud/leaf density.	Remove and replace as part of site management.	None	10	7	A

Tree No.	Species Common Name *Latin Name*	Height (M)	Crown Spread (M) N	 S	 E	 W	Trunk Diameter (MM)	No. Of Stems	Height Of Lower Canopy (M)	First Significant Branch Position (M)	Age	Physiological Condition	Structural Condition	Root Protection Area Radii (M)	Estimated Remaining Contribution (Years)	Tree Quality Assessment	Comments	Maintenance	Bat Roost Potential	Ultimate Size For Species (M) Height	 Spread	Priority
5	Common Alder *Alnus glutinosa*	6	2.5	2	3	2	200	1	2	2.5 S	Middle aged	Fair	Fair	2.4	20+	B - Moderate	Burrs on lower stem.	This tree is in conflict with the proposed design and will need to be removed to facilitate the development.	None	18	9	A
6	Common Alder *Alnus glutinosa*	8.5	3.5	4	4.5	2.5	320	2	2	2 S	Middle aged	Fair	Fair	3.8	20+	B - Moderate	Minor/small diameter deadwood retained in canopy. 2x codominant stems at ground level. Service wires pass through canopy.	This tree is in conflict with the proposed design and will need to be removed to facilitate the development.	None	18	9	A
7	Rowan *Sorbus aucuparia*	8.5	3	3	3.5	3	280	1	1.5	2 NW	Middle aged	Fair	Fair	3.4	20+	B - Moderate	Minor/small diameter deadwood retained in canopy.	This tree is retainable and will be adequately protected by the position of the protective barrier as indicted by the blue line on the TPP. Minor encroachment on RPA. No tree works required at the present time.	None	12	8	-
8	Cherry *Prunus serrulata*	1.5	0.5	1	1	1	40	1	0.5	1.3 NE	Young	Fair	Fair	0.5	40+	C - Low	Commemorative tree. Young tree with stake – planted recently.	This tree is in conflict with the proposed design and will need to be removed to facilitate the development.	None	12	12	A
9	Norway Maple *Acer platanoides*	11	2.5	4.5	5	5	369	2	2	2.5 SW	Middle aged	Fair	Poor	4.4	20+	C - Low	Stem divides below 1.5m; included bark present at fork union. Branches encroaching upon building.	This tree is retainable and will be adequately protected by the position of the protective barrier as indicted by the blue line on the TPP. Prune to provide 2.5m clearance from the adjacent building.	None	18	13	B
10	Western Balsam Poplar	19.5	5	5.5	6	5	600	1	2.5	2.5 NE	Middle aged	Fair	Fair	7.2	20+	B - Moderate	Deadwood. Diameter estimated due to dense basal growth.	This tree is retainable and will be adequately protected by the position of the	Low	25	15	B

Tree No.	Species Common Name *Latin Name*	Height (M)	Crown Spread (M) N	 S	 E	 W	Trunk Diameter (MM)	No. Of Stems	Height Of Lower Canopy (M)	First Significant Branch Position (M)	Age	Physiological Condition	Structural Condition	Root Protection Area Radii (M)	Estimated Remaining Contribution (Years)	Tree Quality Assessment	Comments	Maintenance	Bat Roost Potential	Ultimate Size For Species (M) Height	 Spread	Priority
	Populus trichocarpa																Inspection of basal area hindered by dense basal growth. Nest in canopy.	protective barrier as indicted by the blue line on the TPP. Minor encroachment on RPA. Crown clean to remove the deadwood. Remove basal growth.				
11	Western Balsam Poplar *Populus trichocarpa*	7.5	4	0	4	1	110	1	2	2.5 N	Middle aged	Fair	Fair	1.3	20+	C - Low	Leans to the northeast. Asymmetric crown spread; canopy distorted due to group pressure.	This tree is retainable and will be adequately protected by the position of the protective barrier as indicted by the blue line on the TPP. No tree works required at the present time.	None	20	9	-
12	Sycamore *Acer pseudoplatanus*	10.5	2.5	1.5	4	3.5	200	1	2.5	2.5 S	Middle aged	Fair	Fair	2.4	40+	B - Moderate	Crown distorted due to group pressure.	This tree is retainable and will be adequately protected by the position of the protective barrier as indicted by the blue line on the TPP. No tree works required at the present time.	None	22	12	-
13	Sycamore *Acer pseudoplatanus*	8	1.5	2.5	2	2.5	200	1	2	2.5 W	Middle aged	Dead	Dead	2.4	<10	U - Unsuitable for retention	Moribund tree, nearing death. Negligible tufts of live growth on stem.	Remove and replace as part of site management.	None	22	4	A
14	Sycamore *Acer pseudoplatanus*	6	1	1	1	2	120	1	2	2.5 NW	Young	Fair	Fair	1.4	40+	C - Low	No major visible defects.	This tree is retainable and will be adequately protected by the position of the protective barrier as indicted by the blue line on the TPP. No tree works required at the present time.	None	22	13	-
15	Sycamore	10	3.5	3.5	3.5	4	410	1	1.5	2 N	Middle aged	Poor	Poor	4.9	<10	U - Unsuitable	Located in neighbouring property. Located outside site boundary.	Remove and replace as part of site management.	None	22	8	A

Tree No.	Species Common Name *Latin Name*	Height (M)	Crown Spread (M) N	 S	 E	 W	Trunk Diameter (MM)	No. Of Stems	Height Of Lower Canopy (M)	First Significant Branch Position (M)	Age	Physiological Condition	Structural Condition	Root Protection Area Radii (M)	Estimated Remaining Contribution (Years)	Tree Quality Assessment	Comments	Maintenance	Bat Roost Potential	Ultimate Size For Species (M) Height	 Spread	Priority
	Acer pseudoplatanus															for retention	Remote assessment, some dimensions estimated. In decline. Deadwood. Dieback in crown.					
16	Common Alder *Alnus glutinosa*	12	2.5	3	3.5	3.5	291	2	5.5	5.5 W	Middle aged	Fair	Fair	3.5	20+	B - Moderate	Located in neighbouring property. Located outside site boundary. Remote assessment, some dimensions estimated. 2x codominant stems at ground level.	This tree is retainable and will be adequately protected by the position of the protective barrier as indicted by the blue line on the TPP. No tree works required at the present time.	None	18	10	-
17	Sycamore *Acer pseudoplatanus*	5.5	2.5	2	2.5	2	190	1	2.5	2.5 S	Young	Fair	Fair	2.3	40+	B - Moderate	Bark wounding on lower stem.	This tree is retainable and will be adequately protected by the position of the protective barrier as indicted by the blue line on the TPP. Exposed RPA beneath existing path which will serve as ground protection. No tree works required at the present time.	None	22	11	-
18	Sycamore *Acer pseudoplatanus*	7.5	3	3.5	3.5	3	230	1	3	3 S	Middle aged	Fair	Fair	2.8	40+	B - Moderate	No major visible defects.	This tree is retainable and will be adequately protected by the position of the protective barrier as indicted by the blue line on the TPP. Exposed RPA beneath existing path which will serve as ground protection.	None	22	13	-

Tree No.	Species Common Name *Latin Name*	Height (M)	Crown Spread (M) N	S	E	W	Trunk Diameter (MM)	No. Of Stems	Height Of Lower Canopy (M)	First Significant Branch Position (M)	Age	Physiological Condition	Structural Condition	Root Protection Area Radii (M)	Estimated Remaining Contribution (Years)	Tree Quality Assessment	Comments	Maintenance	Bat Roost Potential	Ultimate Size For Species (M) Height	Spread	Priority
																		No tree works required at the present time.				
19	Young's Weeping Birch *Betula pendula 'Youngii'*	4	3	2	4	1	150	1	1	2.5 S	Middle aged	Fair	Fair	1.8	20+	C - Low	Leans to east. Ivy climbing the stem. Minor/small diameter deadwood retained in canopy.	This tree is retainable and will be adequately protected by the position of the protective barrier as indicted by the blue line on the TPP. No tree works required at the present time.	None	10	7	-
20	Spindle *Euonymus europaeus*	4	1.5	1	2	1	144	2	0.5	0.5 NE	Middle aged	Fair	Fair	1.7	20+	C - Low	Ivy climbing the stem; extensive ivy prohibits a thorough inspection of all aerial parts.	This tree is retainable and will be adequately protected by the position of the protective barrier as indicted by the blue line on the TPP. Sever ivy.	None	8	7	C
21	Spindle *Euonymus europaeus*	5	3	2	2	1.5	270	1	0.5	0.5 E	Middle aged	Fair	Fair	3.2	20+	C - Low	Leans to the northeast. Ivy climbing the stem; extensive ivy prohibits a thorough inspection of all aerial parts.	This tree is retainable and will be adequately protected by the position of the protective barrier as indicted by the blue line on the TPP. Ground protection required in the area indicated by the orange hatching. Sever ivy	None	8	8	C
22	Young's Weeping Birch *Betula pendula 'Youngii'*	4	1.5	3	2	1	180	1	0.5	2 N	Middle aged	Fair	Fair	2.2	20+	C - Low	Ivy climbing the stem.	This tree is retainable and will be adequately protected by the position of the protective barrier as indicted by the blue line on the TPP. No tree works required at the present time.	None	10	6	-
23	Spindle *Euonymus europaeus*	6	3.5	2	3	1.5	211	4	1	2 E	Middle aged	Fair	Fair	2.5	20+	C - Low	Multiple stems below 1.5m. Ivy climbing the stem.	This tree is retainable and will be adequately protected by the position of the	None	10	7	-

Tree No.	Species Common Name *Latin Name*	Height (M)	Crown Spread (M) N	 S	 E	 W	Trunk Diameter (MM)	No. Of Stems	Height Of Lower Canopy (M)	First Significant Branch Position (M)	Age	Physiological Condition	Structural Condition	Root Protection Area Radii (M)	Estimated Remaining Contribution (Years)	Tree Quality Assessment	Comments	Maintenance	Bat Roost Potential	Ultimate Size For Species (M) Height	 Spread	Priority
																	Crossing / rubbing branches.	protective barrier as indicted by the blue line on the TPP. No tree works required at the present time.				
24	Silver Birch *Betula pendula*	10	2.5	2	3	2	140	1	2	2 E	Young	Fair	Fair	1.7	40+	C - Low	No major visible defects.	This tree is in conflict with the proposed design and will need to be removed to facilitate the development.	None	18	9	A
25	Smoke tree *Cotinus coggygria 'Royal Purple'*	2.5	1	1	1	1	90	1	1	1 N	Mature	Fair	Fair	1.1	20+	C - Low	No major visible defects.	This tree is in conflict with the proposed design and will need to be removed to facilitate the development.	None	5	4	A
26	Silver Birch *Betula pendula*	9	2	2	2.5	2	130	1	2.5	2 N	Young	Fair	Fair	1.6	20+	C - Low	No major visible defects.	This tree is retainable and will be adequately protected by the position of the protective barrier as indicted by the blue line on the TPP. No tree works required at the present time.	None	18	8	-
Hedges																						
1	Blackthorn Hawthorn *Prunus spinosa, Crataegus monogyna*	2	-	-	-	-	70	1	-	-	Middle aged	Fair	Fair	0.8	20+	C - Low	No major visible defects. Tidy and maintained.	This hedge is retainable and will be adequately protected by the position of the protective barrier as indicted by the blue line on the TPP. No tree works required at the present time.	None	10	8	-
2	Hawthorn Ash *Crataegus monogyna, Fraxinus excelsior*	2.5	-	-	-	-	70	1	-	-	Middle aged	Fair	Fair	0.8	20+	C - Low	No major visible defects. Tidy and maintained. Self-set ash in hedge – unlikely to survive due to ash dieback.	A section of this hedge is in conflict with the proposed design and will need to be removed to facilitate the development. The remainder is retainable and will be adequately protected by the	None	10	8	A

Tree No.	Species Common Name *Latin Name*	Height (M)	Crown Spread (M) N	 S	 E	 W	Trunk Diameter (MM)	No. Of Stems	Height Of Lower Canopy (M)	First Significant Branch Position (M)	Age	Physiological Condition	Structural Condition	Root Protection Area Radii (M)	Estimated Remaining Contribution (Years)	Tree Quality Assessment	Comments	Maintenance	Bat Roost Potential	Ultimate Size For Species (M) Height	 Spread	Priority
																		position of the protective barrier as indicted by the blue line on the TPP. This hedge is retainable and will be adequately protected by the position of the protective barrier as indicted by the blue line on the TPP. No tree works required at the present time.				
3	Hawthorn Elder *Crataegus monogyna, Sambucus nigra*	3.5	-	-	-	-	150	1	-	-	Mature	Fair	Fair	1.8	40+	C - Low	Majority around 2.0m, elder on east end to 3.5m. Slightly untidy.	This hedge is retainable and will be adequately protected by the position of the protective barrier as indicted by the blue line on the TPP. Trim to shape and tidy.	None	10	8	C
Groups																						
1	Blackthorn Rowan Hawthorn Elder Berberis Rose *Prunus spinosa, Sorbus aucuparia, Crataegus monogyna, Sambucus nigra, Berberis thunbergii, Rosa sp*	4.5	-	-	-	-	150	1	-	-	Middle aged	Fair	Fair	1.8	20+	C - Low	4.5m height to south, dropping at around 2.0m from tree 9 to north. Mixed species, linear group. Effective screen. Dominated by blackthorn to north with southern 13.0m mixed.	This group is retainable and will be adequately protected by the position of the protective barrier as indicted by the blue line on the TPP. Trim to shape and tidy.	None	10	8	C
2	Dwarf golden yew, Box honeysuckle	<1.0	-	-	-	-	100	1	-	-	Middle aged	Fair	Fair	1.2	10+	C - Low	Growing in brick built raised bed. Bricks cracked and bed failing in corner.	This group is in conflict with the proposed design and will need to be removed to facilitate the development.	None	3	3	A

Tree No.	Species Common Name *Latin Name*	Height (M)	Crown Spread (M) N	S	E	W	Trunk Diameter (MM)	No. Of Stems	Height Of Lower Canopy (M)	First Significant Branch Position (M)	Age	Physiological Condition	Structural Condition	Root Protection Area Radii (M)	Estimated Remaining Contribution (Years)	Tree Quality Assessment	Comments	Maintenance	Bat Roost Potential	Ultimate Size For Species (M) Height	Spread	Priority
	Taxus sp., *Lonicera nitida*																					
3	Mixed shrubs	<3	-	-	-	-	120	1	-	-	Young to mature	Fair	Fair	1.4	10+	C - Low	Linear group acting as understorey to trees. Mixed planting includes pyracantha, dogwood, escallonia, rose, Cotoneaster and ornamental grass among others. Spindle spreading well among the group.	A section of this group is in conflict with the proposed design and will need to be removed to facilitate the development. The remainder is retainable and will be adequately protected by the position of the protective barrier as indicted by the blue line on the TPP. Continue existing management.	None	3	3	A
4	Cotoneaster, Spiraea, Hawthorn, Rose Cotoneaster sp., Spiraea sp., Crataegus monogyna, Rosa sp.	<1.0	-	-	-	-	80	1	-	-	Middle aged	Fair	Fair	1.0	10+	C - Low	Maintained shrubs at tree base. Self-set rose and Hawthorn. No major visible defects.	This group is in conflict with the proposed design and will need to be removed to facilitate the development.	None	10	8	A
5	Cotoneaster, Spiraea, Cotoneaster sp., Spiraea sp.	<1.0	-	-	-	-	80	1	-	-	Middle aged	Fair	Fair	1.0	10+	C - Low	Maintained shrubs at tree base. No major visible defects.	This group is in conflict with the proposed design and will need to be removed to facilitate the development.	None	3	3	A
6	Fuchsia *Fuchsia sp.*	1.1	-	-	-	-	180	1	-	-	Mature	Fair	Fair	2.2	10+	C - Low	Multiple stems at ground level. Hard pruned and showing lots of bare wood. Regenerating well – likely to look a lot nicer in coming months.	This group is in conflict with the proposed design and will need to be removed to facilitate the development.	None	1.5	1.5	A

Appendix 2(1)

Glossary of Terms

1	**Reference number:**	An individual identifying number
2	**Species:**	Species identification is based on visual field observations and lists the common name. In some cases, the botanical name will be used where there is no common alternative. On in-depth surveys the botanical name only may be used
3	**Height:**	Height is estimated to the nearest metre. On computerised surveys this may be within a range of heights. When measured height is required, a clinometer is used to measure to the nearest metre
4	**Diameter:**	Trunk diameter measured at 1.5 metres from ground level to the nearest centimetre. In some surveys this is indicated as a range
5	**Spread:**	Measurement of canopy from the trunk to the nearest metre in four directions, North, South, East, and West in metres
6	**Lower crown Clearance:**	Height in metres of crown clearance above adjacent ground level
7	**Age:**	Either an estimate (or statement if accurately known) of the age of the tree, classified as:
	Y	= Young tree, established tree usually up to one third of expected ultimate height & spread
	MA	= middle aged, usually between one third and two thirds of ultimate height & spread
	M	= Mature, more or less at full height but still increasing in girth & spread
	OM	= Over mature, grown to full size and becoming senescent,
	V	= Veteran tree, individuals surviving beyond the typical age range for the species
8	**Physiological Condition:**	Good = Healthy tree with good vitality, Fair = Moderate health and vitality normal or slightly less for species and age Poor = Poor shape or form - signs of decline in crown, may have structural weakness. Dead = dead or dying tree
9	**Structural Condition:**	Good = No visible structural defects Fair = Only minor structural defects Poor = Defects which may need to be rectified or regularly monitored Remove = Severe defects which may result in immanent failure or collapse
10	**Management Recommendations:**	General comments on the condition of the tree or group and any action required. potential for wildlife habitats
11	**Estimated Remaining Contribution:**	Safe Useful Life Expectancy (SULE): in some cases the age ranges are modified Short: 0 – 10years Medium: 10– 20 Years Intermediate: 20-40 Long: 40 + years
12	**Tree Quality:**	Assessment of tree quality see following cascade chart for details
13	**Priority:**	A - Works to achieve an acceptable level of safety or required to facilitate the development B - Works to achieve higher levels of arboricultural management. C - To improve the aesthetic appearance.
12	**Ultimate Size:**	Taken from Arboriculture Research Note 8490ARB or NHBC Standards Chapter 4.2 as appropriate The Normal Ultimate Height in an Urban Situation in metres**.** Ultimate spread of the Crown in metres.
13	**Root Protection Area:**	The distance at which the protective barrier should be erected measured in radii from the centre of the trunk in metres.
14	**Pruning:**	Pruning shall be defined as the removal of living or dead parts of a plant by the Contractor. Such parts may be soft growth, twigs, branches, limbs or sections of the tree trunk. The cut material may vary from small to large in size.

15 Crown Cleaning: Cleaning out is defined as the removal of dead, dying or diseased branchwood, broken branches or stubs left from previous tree surgery operations (see also 16 Deadwooding) together with all unwanted objects, which may include ivy (if specified) and/or other climbing plants, nails, redundant cable bracing, rope swings, tree houses and windblown rubbish from the tree, and any such debris from any cavities within the tree.

16 Deadwood Removal: Dead-wooding shall be defined as the removal of all dead and dying branches and limbs from the tree.

17 Crown Lifting: Crown lifting shall be defined as the removal of all soft growth and branches or parts thereof which are below or which extend below the height specified in the tender documents. It is recognised that the resultant canopy base might not be one single level but might be stepped to allow for different clearances, for example where a tree overhangs both the footway and the road where different height clearances are required.

18 Crown Reduction: Crown reduction shall be defined as the reduction of the complete outline dimension of the canopy, from the tips of limbs and branches to the main trunk, by pruning growth to an acceptable branch, twig or but to leave a flowing silhouette.

Appendix 2(11) Cascade Chart For Assessing Tree Quality

Category and definition Trees to be considered for retention	Criteria – Subcategories			Identification on plan
	1. Mainly arboricultural values	**2. Mainly landscape values**	**3. Mainly cultural values, including conservation**	
Category High = 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 of 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 Moderate = B **Trees of moderate quality** with an estimated remaining life expectancy of at least 20 years	Trees that might be included in category A, but are downgraded because of impaired condition (e.g. presence of significant though remediable defects including unsympathetic past management and storm damage), such that they are unlikely to be suitable for retention for beyond 40 years; or trees lacking the special quality necessary to merit the category A designation	Trees present in numbers, usually growing as groups or woodlands, such that they attract a higher collective rating than they might as individuals; or trees occurring as collectives but situated so as to make little visual contribution to the wider locality	Trees with material conservation or other cultural value	Blue
Category Low = 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	Unremarkable trees of very limited merit or such impaired condition that they do not qualify in higher categories	Trees present in groups or woodlands, but without this conferring on them significantly greater collective landscape value, and/ or trees offering low or only temporary/transient landscape benefits	Trees with no material conservation or other cultural benefits	Yellow
	NOTE Whilst C category trees will usually not be retained where they would impose a significant constraint on development, young trees with a stem diameter of less than 150mm should be considered for relocation			
Category = U Trees unsuitable for retention Those of 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 have a serious, irremediable, structural defect, such that their early loss is expected due to collapse, including those that will become unviable after removal of other U category trees (i.e. where, for whatever reason, the loss of companion shelter cannot be mitigated by pruning) • Trees that are dead or are showing signs of significant, immediate and irreversible overall decline • Trees infected with pathogens of significance to the health and/or safety of other trees nearby (e.g. Dutch elm disease) or very low quality trees suppressing adjacent trees of better quality • Habitat reinstatement may be appropriate (e.g. U category trees used as a bat roost- installation of bat box in nearby tree)			Red

AllAboutTrees

Arboricultural & Ecological Consultancy
Chartered Arboriculturalists & Environmentalists

The Old School
Quarry Lane
Butterknowle
Co Durham
DL13 5LN

Telephone 0191 3739494 / 01388 710481

Email – info@allabouttrees.co.uk
www.allabouttrees.co.uk

Registered in England & Wales No. 5301671
Registered Office: The Old School, Quarry Lane, Butterknowle, Co Durham
DL13 5LN