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Arboricultural & Ecological Consultancy
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Arboricultural Method Statement

For Trees On

Land Adjacent To Tollgate House,

Bedlington




For

Mr Harjit Singh Deol



Document Verification



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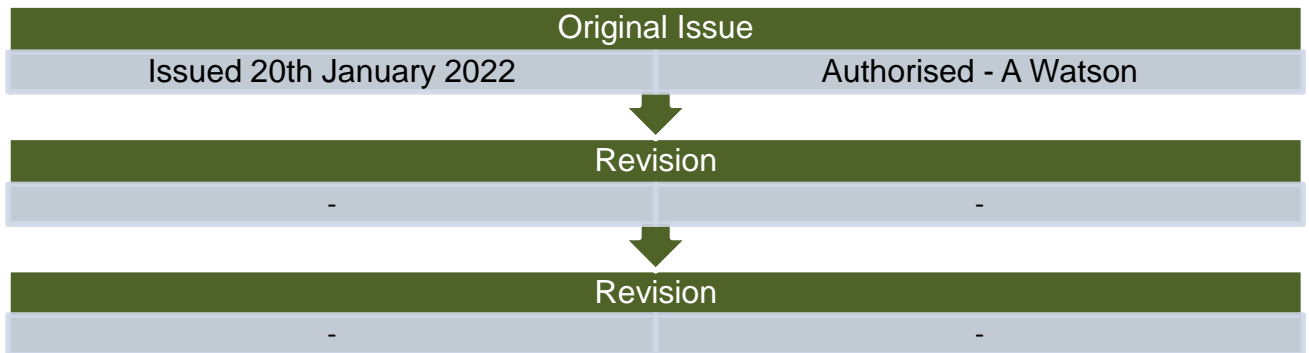


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1. Introduction

1.1 We are instructed by Mr Harjit Singh Deol to provide an Arboricultural Method Statement (AMS) regarding the protection and management of the significant trees located within a specified area adjacent to Tollgate House, Bedlington.

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 20th January 2022.

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.

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, 3-7, 9-14
- Groups 3, 6, 7, 8
- Elements of groups 1 and 10

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. Groups (or sections of) to be removed have had their coloured infill and RPA removed / altered with a broken black ring placed adjacent to the group label.

3.1.2 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.

3.1.3 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 though a number of the mature trees within the site display characteristics found favourable to bats and as such caution must be exercised.

3.2.5 When carrying out tree works it is essential that the contractor or other competent person carries 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 No nesting birds were present at the time of inspection though 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 a vertical and horizontal framework of scaffold tubing which is adequately braced to resist impacts. The vertical scaffold tubes need to be placed at a distance not exceeding 3m apart and driven securely into the ground for a minimum depth of 0.6m. Care should be taken when locating the vertical poles to avoid underground services and, in the case of the bracing poles, also to avoid any structural roots. The weldmesh or Heras panels need to be a minimum 2.0m tall and are securely attached to the scaffold framework with wire or scaffold clamps. The wire or scaffold clamps should be secured on the inside of the barrier to avoid easy dismantling. Panels on rubber or concrete feet are not resistant to impact and should not be used.

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.

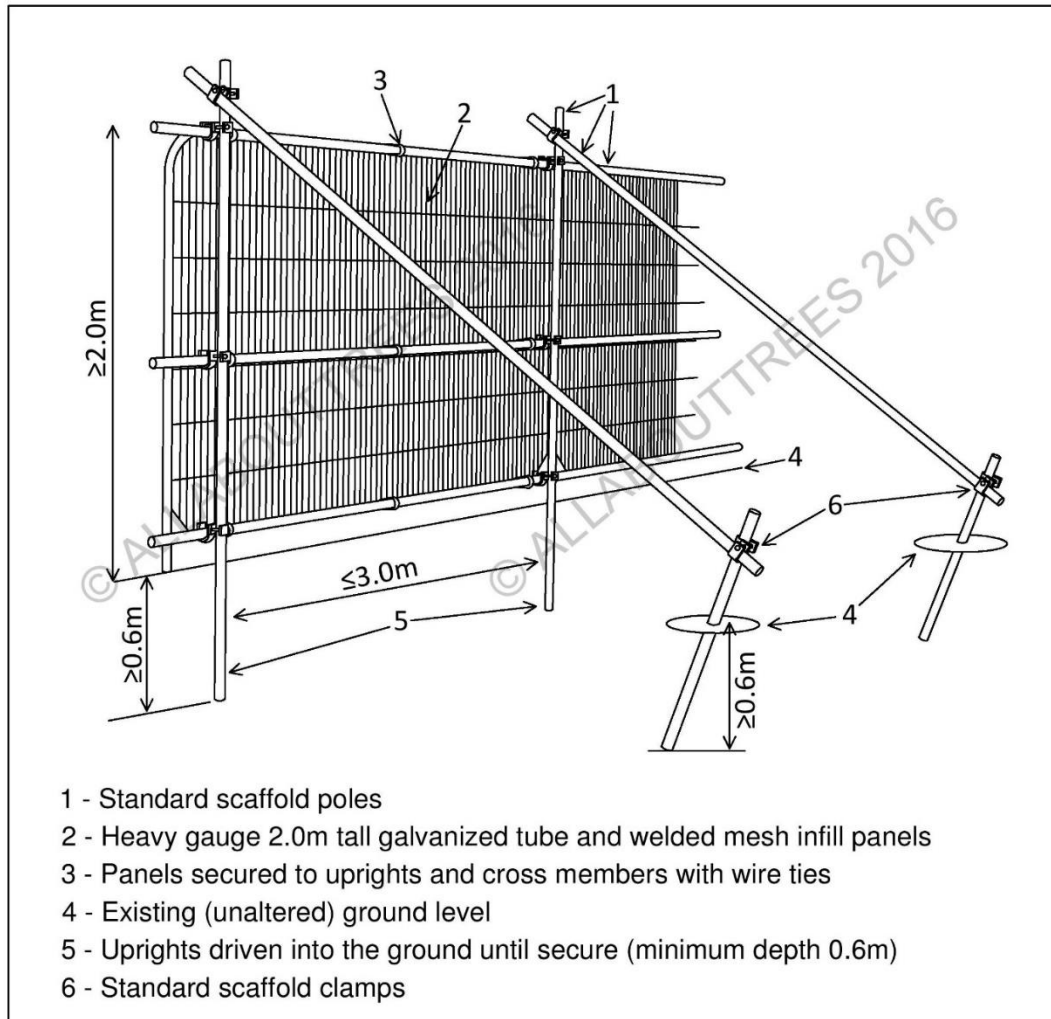


Figure 1 - Protective barrier specification



Figure 2 - Actual barrier erected on site

3.4 Ground Protection Areas Within Tree's Root Protection Areas

3.4.1 In some cases (adjacent to groups 2, 9 and 10 it will be necessary to provide access within the root protection area of the trees to create space the working areas. To prevent damage occurring to the trees, the following technique should be observed. The areas requiring this protection are marked in hatched orange on the tree protection plan.

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 root protection area. 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

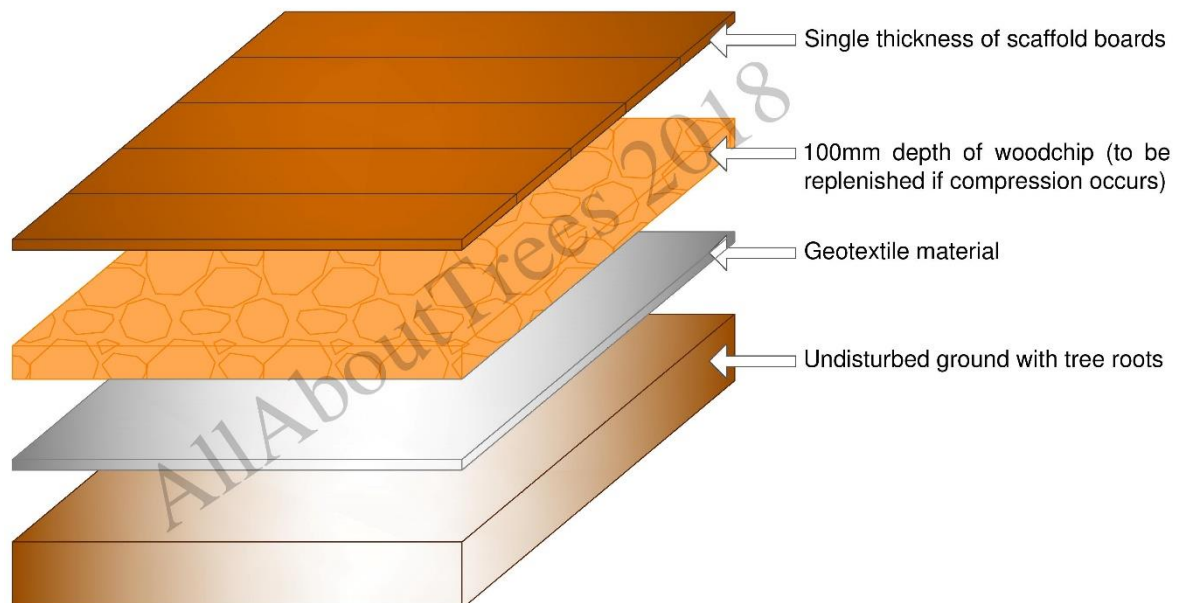


Figure 3

Ground Protection Suitable For Pedestrian Operated Plant Up To A Gross Weight of 2t

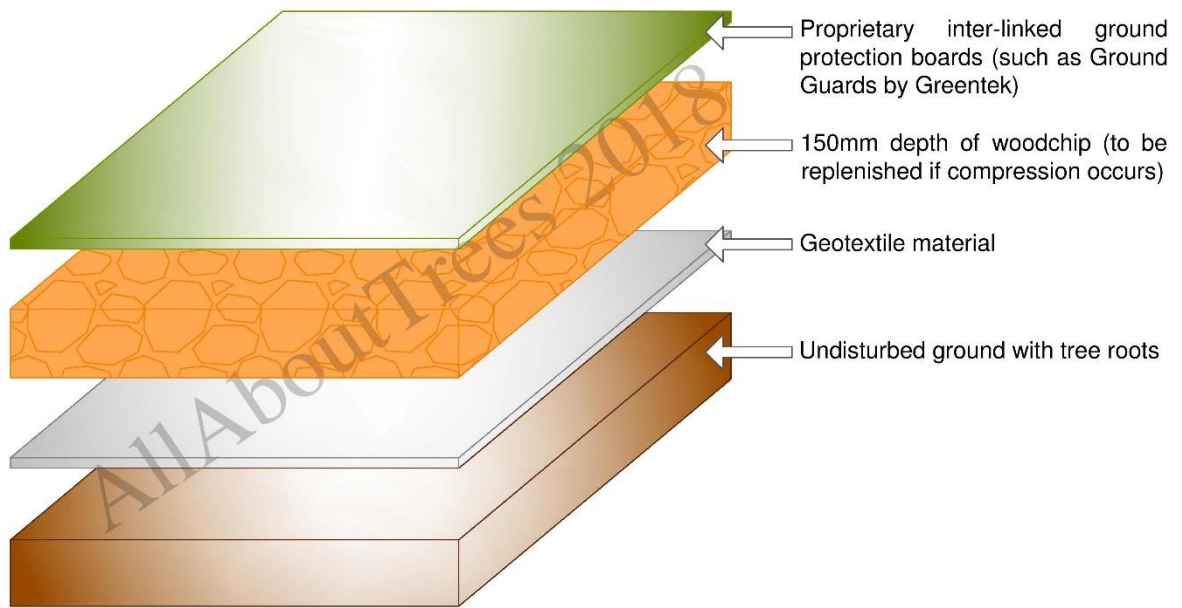


Figure 4

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).

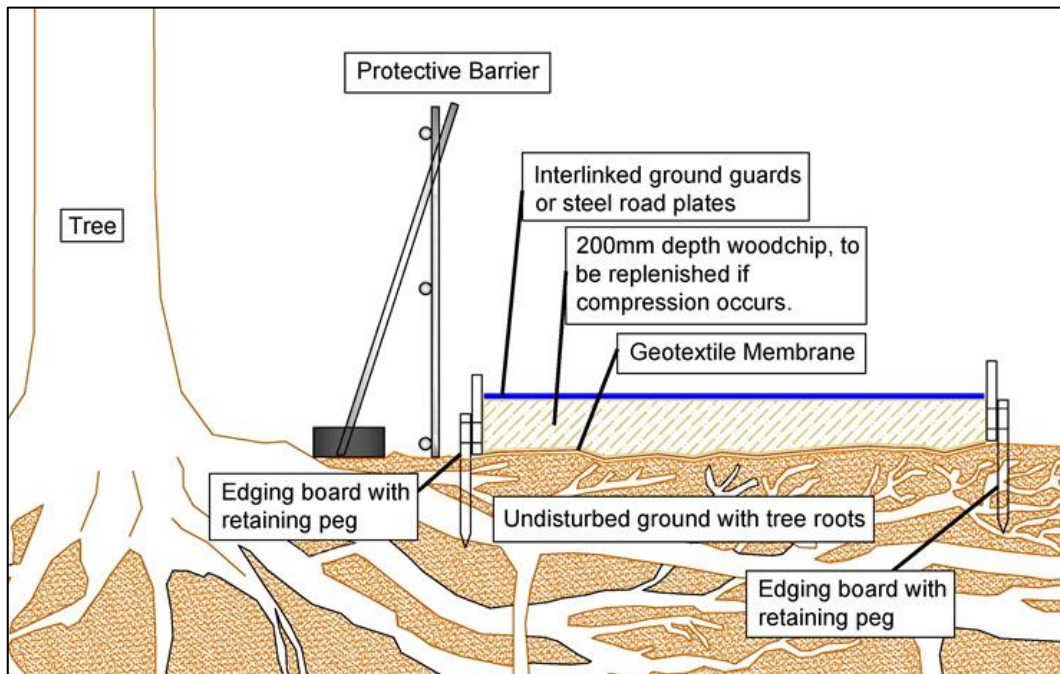


Figure 5

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. Construction Methodology

4.1 Landscaping & Installation Of Fencing

4.1.1 The landscaping works and installation of the fencing requires the removal of the protective barrier to allow access. As such, these works must be undertaken at the end of the project when all other construction activity has been completed.

Proposed Landscaping

4.1.2 As part of the development a landscaping scheme will be implemented to complement the proposed design. This is likely to involve preparation of topsoil to allow for the subsequent turfing / seeding. Care will need to be taken when within the RPA of any retained tree to prevent damage to the underlying root system. The following methodology should be adhered to when working within the RPA of any retained tree:

- Access within RPAs limited to pedestrian only.
- The turf layer can be removed, if necessary, with the use of a turfing iron.
- Any stones over 50mm / debris to be removed by hand.
- Subsequent ground preparation limited to raking with springbok rake.
- Grass turf or seed laid.

Fencing

4.1.3 The garden boundary fences will encroach upon the RPA of multiple trees. All holes excavated for the boundary fence must be done so with the use of hand tools only (spade, fork, mattock, pick etc). It will not be acceptable to use a machine to dig the post holes. Any roots encountered must be severed with a clean cut with the use of secateurs. Roots over 25mm diameter must not be severed without prior consultation with the project Arboriculturist.

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 meeting with tree works contractor	Prior to commencement of tree works	Meeting on site to confirm tree works specification and method of working	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 <i>Latin Name</i>	Height (M)	Crown Spread (M)				Trunk Dia (MM)	No. Of Stems	Height Of Lower Canopy (M)	First Sign Branch (M) (Position)	Age	Physiological Condition	Structural Condition	Root Prot Area Radii (M)	Estimated Remaining Contribution (Years)	Tree Quality Assessment	Comments	Maintenance	Bat Roost Potential	Ultimate Size For Species (M)		Priority
			N	S	E	W														Height	Spread	
1	Hawthorn <i>Crataegus monogyna</i>	2.5	1.5	1.5	1.5	1.5	90	1	0.5	0.5 S	Middle aged	Fair	Fair	1.1	10+	C - Low	Beginning to include mesh fence.	This tree is in conflict with the design proposals and will need to be removed to facilitate the development.	None	10	7	A
2	Sycamore <i>Acer pseudoplatanus</i>	7.5	1.5	2.5	2	1.5	140	1	1	2 N	Middle aged	Fair	Fair	1.7	40+	C - Low	Asymmetric crown spread. Mesh fence included at base.	This tree is retainable and will be adequately protected by the position of the protective barrier as indicated by the blue line on the TPP. Clip metal free of stem as far as possible.	None	22	14	B
3	Elder <i>Sambucus nigra</i>	5	0	4	1	2	170	1	1.5	2.5 S	Mature	Fair	Fair	2	10+	C - Low	Located in the neighbouring property outside the site boundary. Remote assessment, some dimensions estimated. Deadwood. Asymmetric crown spread; canopy distorted due to group pressure.	This tree is in conflict with the design proposals and will need to be removed to facilitate the development.	None	8	6	A
4	Elder <i>Sambucus nigra</i>	6	1.5	3.5	3	2	250	1	1	2 SE	Mature	Fair	Fair	3	10+	C - Low	Located in the neighbouring property outside the site boundary.	This tree is in conflict with the design proposals and will need to be removed to facilitate the development.	None	10	7	A

Tree No.	Species Common Name <i>Latin Name</i>	Height (M)	Crown Spread (M)				Trunk Dia (MM)	No. Of Stems	Height Of Lower Canopy (M)	First Sign Branch (M) (Position)	Age	Physiological Condition	Structural Condition	Root Prot Area Radii (M)	Estimated Remaining Contribution (Years)	Tree Quality Assessment	Comments	Maintenance	Bat Roost Potential	Ultimate Size For Species (M)		Priority
			N	S	E	W														Height	Spread	
																Remote assessment, some dimensions estimated. Stem diameter estimated as a single value. Multiple stems from ground level. Broken / hanging branches in crown. Deadwood. Crown distorted due to group pressure.						
5	Wild Cherry <i>Prunus avium</i>	8	1	3	2	2.5	130	1	1.5	2 S	Middle aged	Fair	Fair	1.6	40+	C - Low	No major visible defects. Crown distorted due to group pressure.	This tree is in conflict with the design proposals and will need to be removed to facilitate the development.	None	17	10	A
6	Wild Cherry <i>Prunus avium</i>	8	1	2.5	2.5	1	110	1	3	3 S	Young	Fair	Fair	1.3	40+	C - Low	No major visible defects. Crown distorted due to group pressure.	This tree is in conflict with the design proposals and will need to be removed to facilitate the development.	None	17	10	A
7	Elder <i>Sambucus nigra</i>	4	0.5	2.5	2	2.5	180	1	0	0.5 SW	Mature	Fair	Fair	2.2	10+	C - Low	Stem diameter estimated as a single value. Multiple stems from ground level. Broken / hanging branches in crown.	This tree is in conflict with the design proposals and will need to be removed to facilitate the development.	None	8	6	A

Tree No.	Species Common Name <i>Latin Name</i>	Height (M)	Crown Spread (M)				Trunk Dia (MM)	No. Of Stems	Height Of Lower Canopy (M)	First Sign Branch (M) (Position)	Age	Physiological Condition	Structural Condition	Root Prot Area Radii (M)	Estimated Remaining Contribution (Years)	Tree Quality Assessment	Comments	Maintenance	Bat Roost Potential	Ultimate Size For Species (M)		Priority
			N	S	E	W														Height	Spread	
																Minor/small diameter deadwood retained in canopy. Metal fence included in stems. Messy looking.						
8	Elder <i>Sambucus nigra</i>	5	2	2	2	2.5	220	3	0.5	1 SE	Middle aged	Fair	Fair	2.6	10+	C - Low	Multiple stems from ground level. Abuts fence.	This tree is retainable and will be adequately protected by the position of the protective barrier as indicated by the blue line on the TPP. No tree works required at the present time.	None	10	6	-
9	Ash <i>Fraxinus excelsior</i>	10	5	5.5	6	5.5	600	1	2	2.5 SW	Middle aged	Fair	Fair	7.2	10+	C - Low	Some dimensions estimated due to access constraints. Multiple stems from ground level. No sign of ash dieback at present time though likely to become apparent in coming years. Broken / hanging branches in crown. Deadwood. Regenerative growth from coppiced stool.	This tree is in conflict with the design proposals and will need to be removed to facilitate the development.	None	23	15	A
10	Cider Gum	11	2.5	4.5	7.5	3	383	3	0.5	1 SW	Middle aged	Fair	Fair	4.6	20+	B - Moderate	Multiple stems from ground level.	This tree is in conflict with the design	None	18	11	A

Tree No.	Species Common Name Latin Name	Height (M)	Crown Spread (M)				Trunk Dia (MM)	No. Of Stems	Height Of Lower Canopy (M)	First Sign Branch (M) (Position)	Age	Physiological Condition	Structural Condition	Root Prot Area Radii (M)	Estimated Remaining Contribution (Years)	Tree Quality Assessment	Comments	Maintenance	Bat Roost Potential	Ultimate Size For Species (M)		Priority
			N	S	E	W														Height	Spread	
	<i>Eucalyptus gunnii</i>															Asymmetric crown spread. Tear wounds in canopy.	proposals and will need to be removed to facilitate the development.					
11	Cider Gum <i>Eucalyptus gunnii</i>	13	2.5	2.5	4	3.5	340	1	0.5	2 SE	Middle aged	Fair	Fair	4.1	20+	B - Moderate	Broken / hanging branches in crown. Crown distorted due to group pressure.	This tree is in conflict with the design proposals and will need to be removed to facilitate the development.	None	18	10	A
12	Cider Gum <i>Eucalyptus gunnii</i>	10	3	1.5	3.5	1	197	2	2	2.5 SE	Middle aged	Fair	Fair	2.4	20+	B - Moderate	Stem divides below 1.5m. Crown distorted due to group pressure.	This tree is in conflict with the design proposals and will need to be removed to facilitate the development.	None	18	9	A
13	Cider Gum <i>Eucalyptus gunnii</i>	13	3	1.5	4	0	250	1	2	2.5 E	Middle aged	Fair	Fair	3	20+	B - Moderate	Leans to the northeast. Broken / hanging branches in crown. Crown distorted due to group pressure.	This tree is in conflict with the design proposals and will need to be removed to facilitate the development.	None	18	8	A
14	Horse Chestnut <i>Aesculus hippocastanum</i>	6	3	3	3.5	2	200	1	1	1 W	Middle aged	Fair	Fair	2.4	40+	B - Moderate	No major visible defects.	This tree is in conflict with the design proposals and will need to be removed to facilitate the development.	None	20	16	A
Tree Groups																						
1	Sycamore <i>Acer pseudoplatanus</i>	3.5	-	-	-	-	60	1	-	-	Young	Fair	Fair	0.7	40+	C - Low	3x young sycamore growing among bramble scrub.	Part 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	None	22	20	A

Tree No.	Species Common Name <i>Latin Name</i>	Height (M)	Crown Spread (M)				Trunk Dia (MM)	No. Of Stems	Height Of Lower Canopy (M)	First Sign Branch (M) (Position)	Age	Physiological Condition	Structural Condition	Root Prot Area Radii (M)	Estimated Remaining Contribution (Years)	Tree Quality Assessment	Comments	Maintenance	Bat Roost Potential	Ultimate Size For Species (M)		Priority
			N	S	E	W														Height	Spread	
																	adequately protected by the position of the protective barrier as indicated by the blue line on the TPP. Remove all bramble and 2x southernmost saplings. Retain 1x sycamore sapling.					
2	Elder Hawthorn <i>Sambucus nigra</i> , <i>Crataegus monogyna</i>	6	-	-	-	-	180	1	-	-	Mature	Fair	Fair	2.2	20+	C - Low	Located in the neighbouring property outside the site boundary. Remote assessment, some dimensions estimated. Broken / hanging branches in crown. Deadwood. Unmanaged hedgerow allowed to grow into small row of trees. Oversailing into site.	This group is retainable and will be adequately protected by the position of the protective barrier as indicated by the blue line on the TPP. Design encroaches on RPA. Ground protection measures required in the area indicated by the orange hatching. Crown clean to remove the deadwood. Remove broken / hanging branches. Crown lift to 3.0m over parking bays. Replant gaps.	None	10	8	B
3	Lilac	6	-	-	-	-	150	1	-	-	Middle aged	Fair	Fair	1.8	20+	C - Low	Located in the neighbouring property outside the site boundary.	This group is in conflict with the design proposals and	None	8	8	A

Tree No.	Species Common Name <i>Latin Name</i>	Height (M)	Crown Spread (M)				Trunk Dia (MM)	No. Of Stems	Height Of Lower Canopy (M)	First Sign Branch (M) (Position)	Age	Physiological Condition	Structural Condition	Root Prot Area Radii (M)	Estimated Remaining Contribution (Years)	Tree Quality Assessment	Comments	Maintenance	Bat Roost Potential	Ultimate Size For Species (M)		Priority
			N	S	E	W														Height	Spread	
	<i>Syringae vulgaris</i>															Remote assessment, some dimensions estimated. Unmanaged cluster of trees, leaning into site. Fair oversail.	will need to be removed to facilitate the development.					
4	Wild Cherry <i>Prunus avium</i>	9.5	-	-	-	-	350	1	-	-	Middle aged	Fair	Fair	4.2	40+	B - Moderate	Located in the neighbouring property outside the site boundary. Remote assessment, some dimensions estimated. 2x trees. Approximately 3.5m from boundary fence. Slight oversail into site.	This group is retainable and will be adequately protected by the position of the protective barrier as indicated by the blue line on the TPP. No tree works required at the present time.	None	17	16	-
5	Elder Hawthorn <i>Sambucus nigra</i> , <i>Crataegus monogyna</i>	4	-	-	-	-	150	1	-	-	Mature	Fair	Fair	1.8	20+	C - Low	Located in the neighbouring property outside the site boundary. Remote assessment, some dimensions estimated. Old unmanaged hedgerow. Minor oversail into site.	This group is retainable and will be adequately protected by the position of the protective barrier as indicated by the blue line on the TPP. No tree works required at the present time.	None	10	8	-
6	Elder Hawthorn <i>Sambucus nigra</i> , <i>Crataegus monogyna</i>	5	-	-	-	-	200	1	-	-	Mature	Fair	Fair	2.4	10+	C - Low	Broken / hanging branches in crown. Deadwood.	This group is in conflict with the design proposals and will need to be	None	10	8	A

Tree No.	Species Common Name Latin Name	Height (M)	Crown Spread (M)				Trunk Dia (MM)	No. Of Stems	Height Of Lower Canopy (M)	First Sign Branch (M) (Position)	Age	Physiological Condition	Structural Condition	Root Prot Area Radii (M)	Estimated Remaining Contribution (Years)	Tree Quality Assessment	Comments	Maintenance	Bat Roost Potential	Ultimate Size For Species (M)		Priority
			N	S	E	W														Height	Spread	
																Old unmanaged hedgerow. Messy and overgrown.	removed to facilitate the development.					
7	Leyland Cypress X <i>Cupressocyparis leylandii</i>	12	-	-	-	-	300	1	-	-	Middle aged	Fair	Poor	3.6	10+	C - Low	Group located on site boundary. Affected by storm with number of complete and partial failures evident. Group will be patchy and aesthetically poor once made safe. Retained individuals will be somewhat exposed and liable to further failure.	This group is in conflict with the design proposals and will need to be removed to facilitate the development.	None	18	6	A
8	Cherry Plum Elder <i>Prunus cerasifera,</i> <i>Sambucus nigra</i>	6.5	-	-	-	-	180	1	-	-	Middle aged	Fair	Fair	2.2	20+	C - Low	Deadwood. Crossing / rubbing branches. Unmanaged scrub trees.	This group is in conflict with the design proposals and will need to be removed to facilitate the development.	None	12	8	A
9	Lawson Cypress <i>Chamaecyparis lawsoniana</i>	9	-	-	-	-	180	1	-	-	Middle aged	Fair	Fair	2.2	20+	B - Moderate	Linear group on site boundary. Western individual partially collapsed.	This group is retainable and will be adequately protected by the position of the protective barrier as indicated by the blue line on the TPP. Ground protection measures required in the area indicated by the orange hatching. Remove damaged tree from west extremity of group.	None	18	6	B

Tree No.	Species Common Name <i>Latin Name</i>	Height (M)	Crown Spread (M)				Trunk Dia (MM)	No. Of Stems	Height Of Lower Canopy (M)	First Sign Branch (M) (Position)	Age	Physiological Condition	Structural Condition	Root Prot Area Radii (M)	Estimated Remaining Contribution (Years)	Tree Quality Assessment	Comments	Maintenance	Bat Roost Potential	Ultimate Size For Species (M)		Priority
			N	S	E	W														Height	Spread	
10	Elder <i>Sambucus nigra</i>	6	-	-	-	-	150	1	-	-	Middle aged	Fair	Fair	1.8	20+	C - Low	<p>Multiple stems from ground level.</p> <p>Minor/small diameter deadwood retained in canopy.</p> <p>Unmanaged scrub trees on site boundary.</p>	<p>Part 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 indicated by the blue line on the TPP.</p> <p>Ground protection measures required in the area indicated by the orange hatching.</p> <p>Crown lift to 2.5m to improve usable garden space.</p>	None	10	8	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 imminent 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	
<p><u>Category High = A</u></p> <p>Trees of high quality with an estimated remaining life expectancy of at least 40 years</p>	Trees that are particularly good examples of their species, especially, if rare or unusual, or those that are essential components of groups, or 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
<p><u>Category Moderate = B</u></p> <p>Trees of moderate quality with an estimated remaining life expectancy of at least 20 years</p>	Trees that might be included in category A, but are downgraded because of impaired condition (e.g. presence of significant though remediable defects including unsympathetic past management and storm damage), such that they are unlikely to be suitable for retention for beyond 40 years; or trees lacking the special quality necessary to merit the category A designation	Trees present in numbers, usually growing as groups or woodlands, such that they attract a higher collective rating than they might as individuals; or trees occurring as collectives but situated so as to make little visual contribution to the wider locality	Trees with material conservation or other cultural value	Blue
<p><u>Category Low = C</u></p> <p>Trees of low quality with an estimated remaining life expectancy of at least 10 years; or young trees with a stem diameter below 150mm</p>	Unremarkable trees of very limited merit or such impaired condition that they do not qualify in higher categories	Trees present in groups or woodlands, but without this conferring on them significantly greater collective landscape value, and/ or trees offering low or only temporary/transient landscape benefits	Trees with no material conservation or other cultural benefits	Yellow
<p><u>Category = U Trees unsuitable for retention</u></p> <p>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</p>	<p>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</p> <ul style="list-style-type: none"> • Trees that have a serious, irremediable, structural defect, such that their early loss is expected due to collapse, including those that will become unviable after removal of other 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



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