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Arboricultural & Ecological Consultancy
Chartered Arboriculturalists & Environmentalists

Arboricultural Impact Assessment

& Method Statement For Trees At

Harton Village Kindergarten - Revision A



For

Early Learning Partnership

Institute of Chartered Foresters
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1. Introduction

1.1 We are instructed by Early Learning Partnership to provide an updated Arboricultural Impact Assessment and Method Statement for the significant trees located within a specified area adjacent to Harton Village Kindergarten, NE39 6AS. This report is Revision A.

1.2 This report is produced to evaluate the proposed construction of a log cabin with associated infrastructure. The developments juxtaposition with the existing trees is considered.

1.3 We were provided with the following documents:

- Existing plan in digital AutoCAD format
- Proposed development plans in digital AutoCAD format

1.4 This assessment is concerned with recording the species, size and condition of the trees. Recommendations are made where appropriate to establish acceptable levels of safety for the site and also to establish a higher level of arboricultural management.

1.5 The trees are also evaluated for the purposes of British Standard 5837–2012 Trees in relation to design, demolition & construction, with regard to their quality and value. The type and size of the root protection area is calculated and the position of the protective barriers is determined. The remaining contribution or safe useful life expectancy is estimated as an indication of the trees period of retention.

1.6 All observations were from ground level without detailed investigation. No invasive examination or climbing inspections were carried out to confirm visual or audible signs of defect and no tissue or soil samples were taken for laboratory analysis.

1.7 Trees are living organisms whose health and condition may change rapidly and all observations, recommendations and conclusions are based on the status of the tree at the time of inspection. The recommendations contained within this report are valid for a period of one year only.

1.7.1 Both abiotic and biotic factors can alter the health/structural integrity of trees rapidly. No liability can be accepted for any physiological or structural deterioration of the tree occurring after the date of our inspection or that was not evident on the day of inspection. Where this report is relied upon at a later date the reader should be aware that the physiological and structural condition of the surveyed trees may have changed; Re-inspection may lead to significantly different observations, recommendations and conclusions.

1.7.2 Any significant alteration to the site which may affect the trees (demolition activity, construction activity, alterations to infrastructure, level

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changes, hydrological changes, extreme climatic events, etc) will necessitate a re- assessment of the trees.

1.8 This report was prepared for use by our client in accordance with the terms of the contract and for planning purposes only. It is not a substitute for a tree condition, insurance, or mortgage service. Information provided by third parties used in the preparation of this report is assumed to be correct. The contents are copyright and may not be duplicated or used by third parties without the written consent of AllAboutTrees Ltd.

1.9 This Arboricultural Impact Assessment and 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.

1.9.1 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 South Tyneside Council (the Local Planning Authority) on Friday 13th June 2025 that there are restrictions protecting some of the trees on the site. Trees 1-8 are subject to a Tree Preservation Order, details of which may be found overleaf. It is an offence to carry out any tree works to protected trees unless permission is granted by the Local planning Authority.

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TPO Title; TPO No. 304 (2014) Former Library Site, Sunderland Road, South Shields		
Species	TPO Reference Number	AllAboutTrees Reference Number
Cherry (*Prunus*)	1	8
Cherry (*Prunus*)	2	7
Cherry (*Prunus*)	3	6
Cherry (*Prunus*)	4	5
Cherry (*Prunus*)	5	3
Cherry (*Prunus*)	13	1
Cherry (*Prunus*)	22	4
Cherry (*Prunus*)	23	2

2.3.1 This site is not within a Conservation area.

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3. Site Visit & Description

Site location – 54° 58′ 23″ N , 001° 24′ 41″ W
O/S Grid reference- NZ377644GB Grid
What3words - quiet.grant.fallen



Figure 1 - The study area is indicated by the red boundary line as shown on the above image.

3.1 A site visit was undertaken on Wednesday 11th June 2025 by Ted Henderson. The weather was fine with no visibility constraints.

3.2 Harton Village Kindergarten is a purpose built nursery located within Harton Village, South Shields.

3.3 Access to the site is gained via the car parking area located to the south of the property or via a footpath that bisects an attractive avenue of mature Japanese flowering cherry trees

3.4 The study area encompasses the mature cherry tree group, a secure children's play and a linear group of middle aged trees located adjacent to the northern site boundary within the curtilage of a neighbouring property.

3.5 The study area is relatively flat with no apparent drainage issues.

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4. Arboricultural Impact Assessment

4.1 The trees have been surveyed on site and plotted on the site plan.

4.2 All significant trees have been inspected and some of the smaller specimens have been included for accuracy. Individual recommendations are included within Appendix 1 of this report.

4.3 Root Protection Areas (RPAs)

4.3.1 The British Standard Root Protection Areas (RPAs) are indicated by the red circles surrounding the trunk position of the trees on the associated plans. These indicative circles do not take into consideration site specific conditions such as the presence of buildings, roads, footpaths, topography, underground utility services etc. and are representative of typical root morphology where said structures are not encountered.

4.3.2 In some examples we would modify the shape of the RPA to account for site specific conditions, for example if the tree were growing next to a large retaining wall and the root plate was obviously asymmetric. In other examples, where multiple factors may affect the size and spread of the root system, attempting to provide an appropriately modified RPA amounts to little more than guess work.

4.3.3 Generally speaking, tree roots will proliferate in areas where the soil bulk density will allow root growth and where nutrient, moisture and oxygen availability is high. The only way to truly quantify the spread of the tree's root systems is with detailed investigation. In some examples ground penetrating radar may be used. In other circumstances the investigation may need to be invasive (though carried out as sympathetically as possible).

4.4 Existing Trees

4.4.1 We have surveyed 8x trees and 2x groups. The surveyed vegetation has been categorised in accordance with the criteria specified by BS5837 (see appendix 2 II) for further detail. The table below indicates into which categories the surveyed vegetation has been placed.

Tree Category Rating	Tree, Group or Hedge Reference
A – High	-
B – Moderate	Trees 1-4, 6 & 7 Group 1
C – Low	Trees 5 & 8 Group 2
U – Unsuitable For Retention	-

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4.5 Tree Works

4.5.1 It will not be necessary to remove any vegetation to facilitate the proposals.

4.5.2 The canopy of tree 8 will require minor pruning works to establish a 1.5m offset from the position of the proposed cabin.

4.6 Retained Trees

4.6.1 Trees to the south of the cabin (trees 1-7) are afforded protection by the existing metal railing fence and consequently barriers are not required for these trees.

4.6.2 Group 2 and tree 8 will be protected during works with the use of a protective barrier. The barrier also excludes the majority of the RPA associated with trees 7 & 8 from the working area. This must be erected as per the specification in section 5 of this document and erected in the position indicated by the blue line on the Tree Protection Plan (**TPP**).

4.6.3 Group 1 is located north of group 2 and will be adequately protected during works by both the protective barrier as well as the existing boundary wall.

4.6.4 Ground protection was recommended in the original issue of this report. On review of the historic street view imagery (see figures 2 & 3) and the proposals, this is no longer considered necessary, providing access onto the unmade ground is limited to pedestrian only.

4.7 Hand Excavation

4.7.1 The proposed cabin sits within the RPA of tree 8 and a degree of excavation will be required to facilitate this. A review of historic google street view imagery shows the ground level to have been raised around this tree. The works required to allow for the new cabin will remove a portion of the made ground, restoring it back to the original level. This is unlikely to have any significant detrimental effect on the tree though eight years have passed following the raising of the ground. The tree may have extended root growth into the made ground. As such, all excavation in the area indicated by the magenta hatching on the TPP must be done so in accordance with the guidance provided in section 5 of this document.

4.7.2 Disturbance to underlying roots will be further minimised by using a screw jack pile system to provide a foundation for the cabin.

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Figure 2 – Image taken from March 2010 Google Street View showing tree with original ground level



Figure 3 – Image taken from March 2017 Google Street View showing new cabin, retaining wooden walls and made ground.

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4.8 Wildlife Habitats

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

Bats

4.8.2 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.)*

4.8.3 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.

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

4.8.5 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 we should be contacted so that our licenced Ecologist can advise further.

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Birds

4.8.6 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

4.8.7 No nesting birds were present at the time of inspection though the trees are capable of supporting nesting activity. An appropriate level of caution must be exercised.

4.8.8 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.

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5. Arboricultural Method Statement

5.1 Order Of Operations

5.1.1 The following is provided as to the optimal order of operations from an arboricultural perspective:

- Site to be managed as per the guidance in section 5.2 of this document.
- Reduce canopy of tree 8 to provide 1.5m clearance from the proposed cabin. Carry out pruning works as specified in appendix 1 of this document. The tree works should wherever possible be carried out in accordance with BS3998:2010 Tree Work – Recommendations and contractors undertaking the work must comply with the legal obligations to wildlife (see section 4.8).
- Establish site compound and storage in accordance with section 5.4 of this document.
- Erect protective barrier in the position indicated by the blue line on the TPP and as per the specification which forms section 5.5 of this document.
- Undertake construction works:
    - Guidance for excavation inside the RPA of retained trees forms section 5.6 of this document.
    - Guidance for installation of services within RPAs (if required) is provided in section 5.7 of this document.
- Following completion of construction works the protective barriers can be removed.

5.2 Site Management

5.2.1 It will be the responsibility of the site manager (or appointed person) to brief and induct all personnel entering site, particularly those who will conduct work in proximity of retained trees. A copy of this document and the associated Tree Protection Plan must be available and readily accessible to all entering the site.

5.2.2 The site manager (or appointed person) will be responsible for daily management of the site and protection of retained trees. The site manager will liaise with the project arborist as required for all tree related matters. Prior notice of any activity which has potential to impact on the retained trees must be made to the project arborist.

5.2.3 Any damage incurred to retained trees, or to tree protection measures, will be documented by the site manager (or appointed person) and reported to the project arborist. Works must cease in the affected area until the project arborist has been able to assess the situation and appropriate recommendations implemented (if required).

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5.2.4 If the need for additional arboricultural works are identified beyond those approved during the planning process the project arborist must be informed as soon as practicable. Appropriate advice will be provided as to the suitable course of action, dependent upon the additional works required.

5.2.5 It is the responsibility of the site manager (or appointed person) to ensure all planning conditions are adhered to. A programme of arboricultural monitoring is provided in section 6 of this document.

5.3 Tree Works

5.3.1 The canopy of tree 8 will require minor pruning works to establish a 1.5m offset from the position of the proposed cabin.

5.3.2 Details of any other 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.

5.4 Location of Site Compound & Storage Areas

5.4.1 The contractor's site compound, storage & parking areas must be limited to the existing hard standing in the site.

5.4.2 Cement mixing or washing points must be situated outside of the root protection areas. 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.

5.5 Root Protection Area & Barrier Specification

5.5.1 Trees on development sites are prone to damage during the course of demolition and construction works. Retained trees need to be protected in line with British Standard 5837–2012 Trees in relation to design, demolition & construction.

5.5.2 This usually involves identifying a construction exclusion zone around the tree which should remain undisturbed with appropriate protective barriers preventing access to this Root Protection Area for the duration of the project.

5.5.3 The minimum root protection areas (measured in a radius from the centre of the tree to the protective barrier) are outlined for each individual tree and the barrier layout is indicated on the plan.

5.5.4 The exact root spread of an individual tree is difficult to quantify, but in general, the bulk of a trees roots are situated in the upper 600mm of the soil with the finer absorbing roots prevalent in the upper 250mm.

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5.5.5 Dependent on soil conditions and the species of the tree, the root plate may extend radially for distances in excess of the height of the tree.

5.5.6 In the case of development sites, the root protection area is designed to prevent any significant long-term damage to the tree by protecting the root plate and to some extent the lower branches of the tree.

5.5.7 The barrier should be erected prior to work commencing on site and should remain until construction activities have been completed. The root protection area should be considered essential and should not be removed or altered without prior recommendation by an Arboriculturalist and approval of the local planning authority.

5.5.8 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. Where space allows the panels must be supported by stabiliser struts mounted on a block tray.

5.5.9 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.

5.5.10 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.

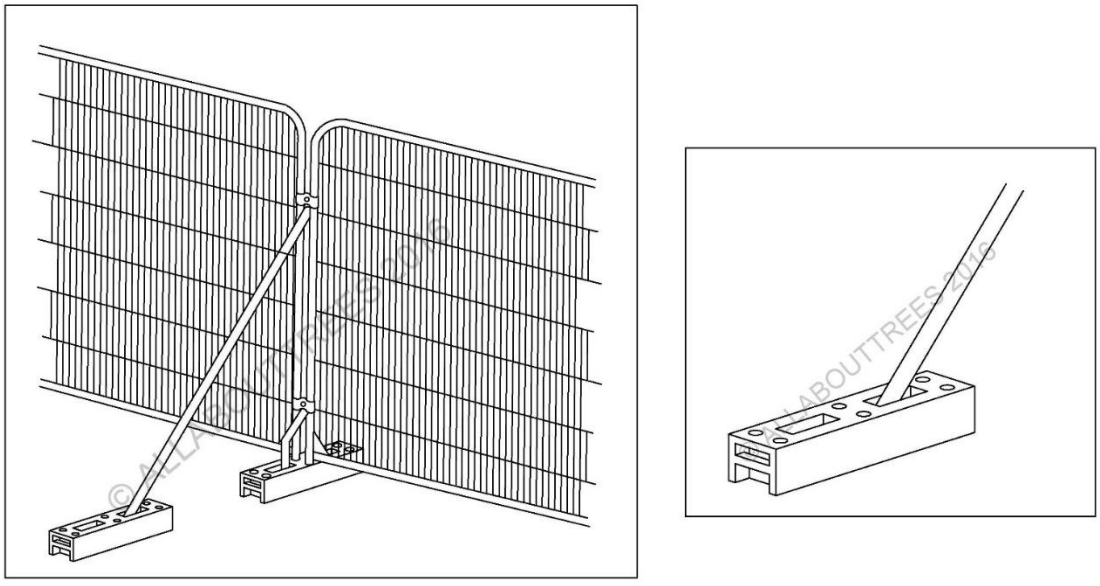


Figure 4 - Stabiliser strut mounted on block tray.

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Figure 5 – An example of a barrier erected on a site

5.6 Excavation Inside Root Protection Areas

5.6.1 It will not be acceptable to excavate with the use of a machine in the area indicated by the magenta hatching due to potential for tearing and ripping roots. All excavation is this area must be done so by hand with roots pruned as required. The following principles must be followed:

- Protective measures to be in place prior to commencement of works.
- Site operatives to remain mindful of adjacent vegetation at all times and employ utmost care to avoid inadvertent damage.
- All excavation to be carried out with the use of hand tools. This can include spade, pick, mattock, fork, etc.
- Excavation to be kept to the bare minimum required.
- If appropriate below ground structures should be left in place if their removal was to cause excessive root disturbance.
- It is possible roots will be encountered. A pair of secateurs and a hand saw must be available to cut any exposed roots. The root must be cleared of excess soil for the cut to be made and should, where possible, be cut off back to sound root material with a clean cut. Where possible the root should be cut back to a root branch point.
- No roots above 25mm diameter to be severed without prior removal by AllAboutTrees.

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- Following any pruning the exposed roots must be wrapped in clean and dry hessian sacking to prevent desiccation and to protect them from rapid temperature changes. Prior to backfilling (which should take place as quickly as possible all hessian sacking must be removed.
- If at any time the contractors require further assistance our office can and should be contacted on 01388 710481. If the issue cannot be solved over the phone an AllAboutTrees representative will attend site.

5.7 Service Runs

5.7.1 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.

5.7.2 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.

5.7.3 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.

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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

5.7.4 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.

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Backfilling

5.7.5 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.

5.7.6 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.

5.7.7 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.

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6. Arboricultural Supervision

6.1 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.

6.2 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 measures.	E-mail confirming results of meeting distributed to relevant parties.
Tree works undertaken Finalising tree protection barrier installation	Before construction work commences.	Confirm position of the protective barriers have been installed and comply with the Tree Protection Plan (TPP) Provide photographs indicating completed tree protection	E-mail confirming results of meeting distributed to relevant parties.
Excavation inside RPA for cabin foundation Installation of services within root protection areas (if required)	Prior to installation of surfacing or services & during installation of surfaces and services	Communication with contractor prior to installation and during installation of surfacing and services to ensure compliance with AIA	E-mail confirming results of meeting distributed to relevant parties.
Removal of protective barriers	Once construction activities have finished	Communication with contractor for briefing before removal commences	E-mail confirming results of meeting distributed to relevant parties.

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7. Conclusion

7.1 The canopy of tree 8 will need to be pruned to provide 1.5m clearance from the proposed cabin.

7.2 By using the protective elements dictated by British Standard 5837, no significant damage should take place to retained vegetation and tree cover should flourish in the longer term.

7.3 It is anticipated that all of the retained trees can be incorporated into the site design; however, it is vital that the ultimate size and spread of the trees should be considered when retaining trees near to the building and that shading and light penetration should also be considered when positioning the windows in the building.

7.4 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.

7.4.1 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

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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	Japanese cherry *Prunus serrulata 'Kanzan'*	10	5	6	6	6	520	1	2	2.5 W	Mature	Fair	Fair	6.2	40+	B – Moderate	Tree 13 of TPO no. 304 (2014). Electrical junction box at base of south flank. Top grafted at 1.4m Crown lifted in past with wounds in process of occluding.	This tree is retainable and will be adequately protected by the existing metal boundary railings. No tree works required at the present time.	None	12	12	-
2	Japanese cherry *Prunus serrulata 'Kanzan'*	8	5	6	5	4.5	470	1	2	3 NW	Mature	Fair	Fair	5.6	40+	B – Moderate	Tree 23 of TPO no. 304 (2014). Electrical junction box at base of north flank. Top grafted at 1.3m. Tri dominant stems above 1.5m.	This tree is retainable and will be adequately protected by the existing metal boundary railings. No tree works required at the present time.	None	12	12	-
3	Japanese cherry *Prunus serrulata 'Kanzan'*	9.5	4	6.5	6	5	620	1	2	3.5 SE	Mature	Fair	Fair	7.4	40+	B – Moderate	Tree 5 of TPO no. 304 (2014). Electrical junction box at base of south flank. Top grafted at 1.4m. Minor deadwood retained by the canopy. Crossing and rubbing branches.	This tree is retainable and will be adequately protected by the existing metal boundary railings. No tree works required at the present time.	None	12	12	-
4	Japanese cherry *Prunus serrulata 'Kanzan'*	10	8	5.5	6.5	6.5	680	1	2	2 SE	Mature	Fair	Fair	8.2	40+	B – Moderate	Tree 22 of TPO no. 304 (2014). Electrical junction box at base of north flank. Top grafted at 1.4m. Crown lifted in past. Northern extremity of canopy encroaching towards service wires.	This tree is retainable and will be adequately protected by the existing metal boundary railings. No tree works required at the present time.	None	12	12	-
5	Japanese cherry	9.5	4.5	7	6.5	5.5	580	1	2	2.5 S	Mature	Fair	Fair	7	10-20	C - Low	Tree 4 of TPO no. 304 (2014).	This tree is retainable and will be adequately protected	None	12	12	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
	Prunus serrulata 'Kanzan'																Electrical junction box at base of east flank. Top grafted at 1.5m. Unusual stem formation, possibly a result of damage in distant past. Scaffold limb reaches out to south over carpark area. Major deadwood in upper canopy and dieback.	by the existing metal boundary railings. Crown clean/remove deadwood.				
6	Japanese cherry *Prunus serrulata 'Kanzan'*	9	5	5	6.5	4.5	460	1	2	2 S	Mature	Fair	Fair	5.5	20+	B - Moderate	Tree 3 of TPO no. 304 (2014). Electrical junction box at base of north flank. Top grafted at 1.4m. Canker on northeast flank of stem – not structurally significant. Minor deadwood. Small snapped branch in canopy on north flank. Minor deadwood.	This tree is retainable and will be adequately protected by the existing metal boundary railings. Ground protection measures required in the area indicated by the orange hatching. Remove snapped branch.	None	12	12	B
7	Japanese cherry *Prunus serrulata 'Kanzan'*	10	6.5	6	5	3.5	500	1	2	2.5 E	Mature	Fair	Fair	6	40+	B – Moderate	Tree 2 of TPO no. 304 (2014). Mechanical damage to surface buttress roots. Top grafted at 1.5m. Asymmetric crown/crown distorted by group pressure.	This tree is retainable and will be adequately protected by the existing metal boundary railings as well as the protective barrier as indicated by the blue line on the TPP. Excavation with hand tools only in the area indicated by the magenta hatching. Access into the area between the existing fence and the brick boundary wall must be limited to pedestrian only.	None	12	12	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
																		No tree works required at the present time.				
8	Japanese cherry *Prunus serrulata 'Kanzan'*	9	6.5	7	4.5	4.5	610	1	1.5	2 NE	Mature	Fair	Fair	7.3	10+	C - Low	Tree 1 of TPO no. 304 (2014). Ground level appears to have been raised around this tree. A wooden, plastic lined retaining structure abuts the east flank of the playhouse with a 0.5m gap on north and south flanks. Incursion into the root protection area suspected. Top grafted at 1.5m. Multiple stems above 1.5m. Asymmetric crown/crown distorted. Epicormic growth on stem at 1.7m, west flank at site of branch removal. Service wires pass through upper canopy.	This tree is retainable and will be adequately protected by the protective barrier as indicated by the blue line on the TPP. Excavation with hand tools only in the area indicated by the magenta hatching. Access into the area between the existing fence and the brick boundary wall must be limited to pedestrian only. Prune canopy to provide 1.5m clearance from the proposed cabin.	None	12	12	A
Groups																						
1	Japanese cherry, purple crab apple, downy birch, Norway maple, hawthorn, elder *Prunus serrulata 'Kanzan', Malus 'Royalty', Betula pubescens, Norway maple 'Crimson King', Crataegus*	Up to 7.5	-	-	-	-	Up to 300	-	-	-	Middle aged and mature	Fair	Fair	3.6	20+	B – Moderate	Growing within the curtilage of 234 Sunderland Road and located adjacent to the site northern study area boundary. No access, trees remotely surveyed with some measurements estimated. Cherry, crab, birch and Norway maple, planted as individuals and regularly pruned/pollarded/reduced, with multiple stems below 1.5m,	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 as well as the existing brick boundary wall. No tree works required at the present time.	None	20	16	-

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
	monogyna, Sambucus nigra																abnormal growth structure and dense canopies. As the group processes west individuals are replaced by what appears to be an old agricultural hedgerow of hawthorn and elder, long neglected and outgrown. The boundary is a brick retaining wall. The ground levels alter by an estimated 1m – lower within the study area.					
2	Laurustinus, mock orange, bay, dogwood, rowan Viburnum laurustinus, Philadelphus coronarius, Laurus nobilis, Cornus alba, Sorbus aucuparia	Up to 1.5	-	-	-	-	Up to 100	-	-	-	Young	Fair	Fair	1.2	10-20	C – Low	Young tree and shrub group growing within a raised planting area adjacent to the northern boundary. No visible defects.	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	6	-

Appendix 2(I)

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(II) 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



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