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Arboricultural and Planning Integration Report: 32 Kingsend, Ruislip, HA4 7DA

19th December 2022

Ref: GHA/DS/124160:22

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Arboricultural Report

Location: 32 Kingsend, Ruislip, HA4 7DA
Ref: GHA/DS/124160:22
Client: Mrs B G Ackland
Date: 19th December 2022
Prepared by: Glen Harding MICFor, MSc (Forestry), MArborA
Date of Inspection: 29th July 2020

Please note that abbreviations introduced in (brackets) *may be used throughout the report.*

Instructions

Issued by – Mrs B G Ackland

TERMS OF REFERENCE – GHA Trees were instructed to survey the subject trees within and adjacent to 32 Kingsend, Ruislip, in order to assess their general condition and to provide a planning integration statement for the indicative proposed development that safeguards the long term well being of the retained trees and plans tree planting in a sustainable manner.

Executive Summary

The proposal for the site is to demolish the existing house and then construct a new apartment block on a similar though slightly large footprint. The existing access will be moved to the west to a more central position and new parking areas created. The proposed scheme requires the removal of a small number of relatively insignificant trees and shrubs, which, subject to some well-planned new planting, will not significantly impact the local or wider landscape. The retained trees require protection in accordance with industry best practice and BS 5837: 2012 – Trees in relation to design, demolition and construction – recommendations, in order to ensure their longevity.

Documents Supplied

The client supplied the following documents:

1. Topographical survey
2. Existing layout plans
3. Proposed layout plans

Scope of Survey

1.1 The survey is concerned with the arboricultural aspects of the site only.

1.2 A qualified Arboriculturist undertook the report and site visit and the contents of this report are based on this. Whilst reference may be made to built structure or soils, these are only opinions and confirmation should be obtained from a qualified expert as required.

1.3 Trees in third party ownership were surveyed from within the subject property, therefore a detailed assessment was not possible and some (if not all) measurements were estimated. Where the stem location of a third party tree has been estimated, this is noted on the plan.

1.4 No discussions took place between the surveyor and any other party.

1.5 The trees were inspected on the basis of the Visual Tree Assessment method expounded by Mattheck and Breleor (The body language of tree, DoE booklet Research for Amenity Trees No. 4, 1994)

1.6 The survey was undertaken in accord with British Standard 5837: 2012 – Trees in relation to design, demolition and construction – recommendations.

1.7 Underground services near to trees will need to be installed in accord with the guidance given in BS5837 together with the National Joint Utilities Group Booklet 4: 2007 Guidelines for the planning, installation and maintenance of utility services in proximity to trees (NJUG4).

1.8 The client's attention is drawn to the responsibilities under the Wildlife and Countryside Act (1981).

Survey Method

2.1 The survey was conducted from ground level with the aid of binoculars if needed.

2.2 No tissue samples were taken nor was any internal investigation of the subject trees undertaken.

2.3 No soil samples were taken.

2.4 The height of each subject tree was estimated using a clinometer and recorded to the nearest half metre.

2.5 The stem diameter for each tree was measured in line with the requirements set out in BS 5837: 2012 – Trees in relation to design, demolition and construction – recommendations.

2.6 The crown spreads were measured with an electronic distometer and recorded to the nearest half metre. Where the crown radius was notably different in any direction this has been noted on the Plan (appendix A) and within the tree table (Appendix B). The crowns of those trees that are proposed for removal, or trees where the crown spread is deemed insignificant in relation to the proposed development are not always shown on the appended plan; however their stem locations are marked for reference.

2.7 The Root Protection Area (RPA) for each tree is included in the tree table, both as an area, and as the radius of a circle.

2.8 The crown clearance was measured using a clinometer and recorded to the nearest half metre. Where it is significantly lower in one direction, this is noted within the tree table at appendix B.

2.9 All of the trees that were inspected during the site visit are detailed on the plan at Appendix A; this plan was produced in colour and **MUST** only be scanned or reproduced in colour. The trees on this plan are categorised and shown in the following format:

COLOUR CODING AND RATING OF TREES:

Category A – Trees of high quality with an estimated remaining life expectancy of at least 40 years. Colour = light green crown outline on plan.

Category B – Trees of moderate quality with an estimated remaining life expectancy of at least 20 years. Colour = mid blue crown outline on plan.

Category 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. Colour = uncoloured crown outline on plan.

Category U – Those in such a condition that they cannot realisitically be retained as living trees in the context of the current land use for longer than 10 years. Colour = red crown outline on plan.

All references to tree rating are made in accordance with BS 5837: 2012 – Trees in relation to design, demolition and construction – recommendations', Table 1.

The Site

3.1 The site is located on Kingsend, a residential through road located in Ruislip.

3.2 Access to the property is currently gained via a driveway to the front (south) of the site.

The Subject Trees

4.1 The details of the subject trees are set out in the Schedule at Appendix B.

4.2 The overall quality of the trees is fair.

4.3 Of the eleven individual trees, and groups of trees surveyed, one has been assessed as BS 5837 category B, nine have been assessed as BS category C, with the remaining tree being assessed as BS 5837 category U.

Category B	1 tree
Category C	9 trees / groups
Category U	1 tree

The Proposal

5.1 The proposal for the site is to demolish the existing house and then construct a new apartment block on a similar though slightly large footprint.

5.2 The existing access will be moved to the west to a more central position and new parking areas created.

5.3 The proposed location of the above structures can be seen on the appended plan.

Arboricultural Impact Assessment

PROPOSED TREE REMOVAL / RETENTION:

6.1 The following trees are proposed for removal as part of the new development, as these specimens could not be effectively retained as they are located within the outline of the new structures, or located too close to make their retention feasible / sustainable.

T1, T2, T3, G5, T6, T7 and T11

6.2 All of the trees to be removed have been given either a C or U category grading in accordance with BS 5837. It is therefore felt that these trees should not act as a limitation on the effective use of the site, or impose any significant constraints on the layout (see table 1 BS5837).

6.3 The assessed grading (as per BS5837 table 1) of each of the trees to be removed, as well as any relevant comments on their condition can be seen in the tree table at appendix B.

6.4 T11 is the most notable tree for removal. This tree has been the subject unsympathetic past management as it has been previously crown reduced and also pollarded at 7m, where there is significant decay present at the old pruning wounds. The tree is also suffering from leaf blotch, leaf miner and bacterial canker with black exudates at the base of the tree. Whilst prominent in the rear garden, this tree is of limited amenity in the wider context as it is barely visible from Kingsend. The loss of this tree (and the other trees listed in 6.1) will be compensated for by significant new planting on the northern and eastern boundary as noted below.

The photo below shows T11 in July 2020 when it is clear there are areas of major dieback in the crown; this is not usual for a tree of this species at this time of year. Therefore, it is concluded that this tree is now in the onset of decline.

TREE PRUNING TO ACCOMODATE THE PROPOSAL OR ACCESS TO THE SITE

6.5 The implementation of the proposal does not lead to the requirement to prune any of the retained trees, or shrubs.

6.6 There is no part of the new structure which will have tree canopies (from trees to be retained) overhanging it and the building works can progress safely without the need for any facilitation pruning.

ASSESSMENT OF RETAINED TREES ROOT PROTECTION AREAS

6.7 Section 4.6.3 of BS 5837: 2012 states that the Root Protection Area (RPA) of each tree should be assessed by an arboriculturalist considering the likely morphology and disposition of the roots, when known to be influenced by past or existing site conditions.

6.8 Following the assessment described in section 6.5, the RPAs have all been drawn as notional circles as there are no existing site structures (visible from the available access) which are assessed to have the potential to significantly affect tree root morphology.

6.9 The proposed new building(s) are situated outside of the assessed RPA's of all of the trees proposed for retention, therefore these trees pose no below ground constraints on the new buildings or vice versa.

6.10 The new driveway within a small section (18% and thus within acceptable limits) of the RPA of T4, a no-dig construction will be necessary, to ensure that all existing ground levels are retained in their current form, as well as ensuring that satisfactory moisture and oxygen can be obtained from the underlying soil by any tree roots in this area. A design for this proposed access route must be drawn up by a structural engineer, in close co-ordination with the retained arboriculturalist. A preliminary method statement has been included at section 8 of this document.

INSTALLATION OF SERVICES

6.11 The installation of underground apparatus and drainage systems with the use of mechanical excavators will undoubtedly sever any roots that may be present and can change the hydrology and structure of the nearby soil in a way that will adversely affect the health of any nearby trees. Particular care should therefore be taken when assessing the layout of new services and consideration **MUST** be given to the methods of installation of **ALL** underground apparatus.

6.12 New services should be routed to avoid all RPAs of retained trees on site and within nearby sites. From an assessment of the subject site, undertaken in conjunction with the project architect, there is no reason to assume this isn't possible. Inspection chambers must also be sited outside the RPAs of any nearby trees.

Post Development Pressure

FUTURE TREE AND STRUCTURE RELATIONSHIPS

7.1 The retained trees are at a satisfactory distance from the proposed new building, and highly unlikely to give rise to any inconvenience.

7.2 Regular inspections of the retained trees by a suitably qualified Arboriculturalist and subsequent remedial works will ensure that the trees are maintained in a suitable manner, to exist in harmony with the new structures and its occupants for many years to come.

REMEDIATION / REPLACEMENT PLANTING AND SOFT / HARD LANDSCAPING

7.3 An assessment of suitable planting sites within the proposed development area confirms that the loss of trees discussed in section 6.1 can be addressed by the planting of new trees that would complement the existing landscape. The new trees that have been specified are detailed below; the plan at appendix A shows the proposed locations.

Code on plan	**Species**	**Size**
NT1	Field maple (*Acer campestre Streetwise*)	16/18cms girth
NT2	Pin oak (*Quercu palustris*)	16/18cms girth
NT3	Pin oak (*Quercu palustris*)	16/18cms girth
NT4	Pin oak (*Quercu palustris*)	16/18cms girth
NT5	Himalayan birch (*Betula utilis Jacquemontii*)	16/18cms girth
NT6	Himalayan birch (*Betula utilis Jacquemontii*)	16/18cms girth
NT7	Hornbeam (*Carpinus betulus*)	16/18cms girth

Tree Stock & Nursery Specification:

- The new trees must be as those classified in section 7.1 of BS 3936 – Nursery Stock Part 1: Specification for Trees and Shrubs.

- A suitably qualified and experienced Arboriculturalist should select all trees and shrubs from a reputable Nursery / Tree supplier.

Timing of Planting:

Tree planting should be undertaken in the appropriate planting season between 1st November and 31st March, a suitable time for the commencement of these works will be agreed between GHA Trees and the owner of the site, in agreement with the Local Planning Authority.

Planting & Young Tree Protection:

- A representative from GHA Trees should meet with the tree-planting contractors on site to explain the scope of the planting scheme and ensure all work is done in line with industry best practice.

- All trees are to be planted by suitably experienced persons using appropriate planting equipment and techniques.

- Trees should be planted no deeper than the nursery mark and 'soil firmed' to ensure satisfactory interaction between the roots and the soil.

- All tree roots are to covered and protected until such time that they are to be planted.

- All new trees will be supported using two wooden stakes and hessian tree ties.

Aftercare & Watering:

- The new specimens that are to be planted will require watering during dry periods. This should be done either early in the morning or late evening to allow the trees to gain full benefit. The timing and frequency of such watering will be dependant on climatic variations.

- The trees will be kept free from weed and grass competition, with elimination of all weeds within a 0.5m radius of the main stems for the first three growing seasons.

- All support guys are to be monitored and adjusted to allow the tree to grow freely. Stakes will only be removed when the trees no longer require them and having become sufficiently established.

Pruning Requirements for new Trees / Hedges:

- The new trees will not require any regular management.

Tree Protection Measures and Preliminary Method Statement for Development Works

8.1 TREE PRUNING / REMOVAL

A list of all tree works that are required (including trees to be removed) is included in the tree table at Appendix B. Pruning / removal has only been specified for the following reasons:

- Where work is necessary to implement the proposed scheme.
- Where works are required for safety reasons.
- Where work is required to improve tree form, or improve the appearance of overgrown areas of the site.

Where any tree work is needed, this work will be in accordance with British Standard 3998 – 2010 (Tree Work - Recommendations).

8.2 TREE PROTECTION BARRIERS

It is essential for the future health of the trees to be retained on site, that all development activity is undertaken outside the root protection zone of these

trees, whenever this is practical. The position of the proposed protective fencing for the site is shown on the plan 'Appendix A' by a pink line. The position of the fence is to be marked out with biodegradable marker paint on site and agreed with appropriate representatives from the LPA and contractor. The fencing will be erected **prior** to any works in the vicinity of the trees and removed only when all development activity is complete. The protective fencing will be as that shown in BS 5837 (see Appendix C). The herras panels must be joined together using a minimum of two anti-tamper couplers which must be installed so they can only be removed from the inside of the fence. The panels should supported by stabilizer struts, which must be installed on the inside and secured to the ground using pins or appropriate weights.

The Fence must be marked with a clear sign reading:

"Construction Exclusion Zone – No Access"

8.3 BOUNDARY TREATMENTS

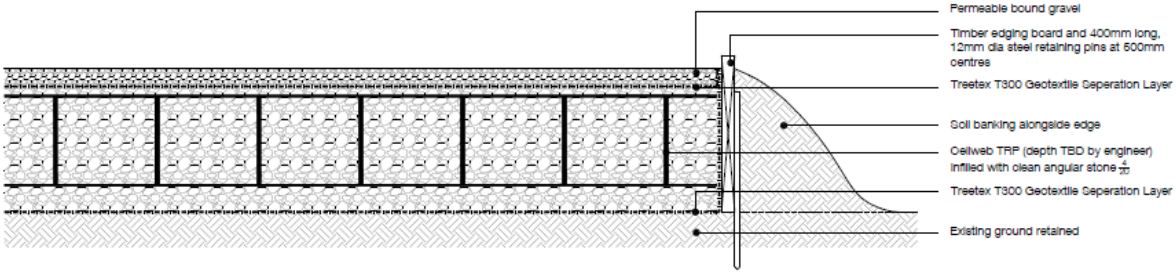
Boundary fencing installation / upgrades MUST be undertaken as part of the soft landscaping phase and MUST be installed ONLY when all machinery that is on site for the main build has permanently left the site (NB. If needed, boundary fencing can also be installed prior to the commencement of site works, i.e.. before any machinery has been bought onto the site). Where sections of new / upgraded fencing are located within the RPA of ANY tree that is to be retained, this work MUST be undertaken by hand using hand tools only. The locations of the new fence upright posts will be finalised following trial digs to confirm there are no major (over 25mm) roots present; if any such roots are found, the location must be altered. If any smaller roots are found, these can be cut using sharp hand sharp tools to leave a 'clean' cut, in order to minimise the risk of infection by decay pathogens. The post holes within the RPAs should then be lined with plastic sheeting before any concrete or cement is placed into the hole, in order that there is no risk of leaching into the nearby soil as the mixture dries.

8.4 NO DIG SURFACING CONSTRUCTION METHOD IN ACCORDANCE ARBORICULTURAL PRACTICE NOTE 12 AND BS: 5837

The sections of the new driveway that are within the RPA's of the retained trees **MUST** be constructed as follows (see **blue** hatching on appended plan for locations).

Below is a diagram detailing the makeup of the new drive and also a typical cross the installation methodology is included below this diagram.

No dig drive makeup



Typical section:

METHODOLOGY:

- Eradication of all existing ground vegetation **MUST** be undertaken using a translocated herbicide. Any product used for this purpose **MUST** be selected to ensure that it will not have an adverse affect on the health of the retained trees, and carried out by a suitably trained operative.

- Any major protrusions within the soil **MUST** be removed, such as large rocks or existing tree stumps. Any holes **MUST** be filled with sharp sand.

- Lay a geotextile membrane over the entire area(s) to be protected, ensuring a one 1m overlap where necessary. All new surfacing **MUST** be positioned at least 500mm from tree stems or buttress roots.

- Construction of the edging of the area is to be implemented with the use of vertical steel pegs driven into the ground at intervals of 500mm with side supports firmly attached. **CHECK FOR UNDERGROUND SERVICES PRIOR TO THE COMMENCEMENT OF SUCH WORK.**

- The three dimensional cellular confinement system (e.g cellweb or similar) must be cut to size and placed within the pre-prepared area. This area **MUST** now be filled with a no-fines aggregate infill. This **MUST** then be compacted to avoid the possibility of future "rutting".

- Lay a final layer of the geotextile membrane on top of this surface.

- A porous material can now be placed on top to complete the construction.

- Graded top soil will be used to bring the adjacent grassed areas to the same level as the new driveway.

N.B. An engineer will prepare the exact specification in agreement with the retained Arboriculturalist.

8.5 SITE HUTS, WELFARE FACILITIES AND STORAGE OF EQUIPMENT, MATERIALS AND CHEMICALS

All site huts will be positioned outside of the retained trees RPAs.

8.6 MIXING OF CONCRETE

All mixing of cement / concrete must be undertaken outside of the RPA of all of the retained trees.

8.7 USE CRANES, RIGS AND BOOMS

Precautionary measures must be observed to avoid contact of any retained trees when manoeuvring cranes rigs or booms into position.

8.8 INCOMING SERVICES, DRAINAGE AND SOAKAWAYS

New services **MUST** be routed to avoid all RPAs of retained trees on site and within nearby sites. From an assessment of the subject site, undertaken in conjunction with the project architect, there is no reason to assume this isn't possible. Inspection chambers **MUST** be sited outside the RPA.

8.9 ON SITE SUPERVISION

Regular site supervision is essential to ensure all potentially damaging activities near to trees are correctly supervised. A pre start meeting will occur to ensure all parties are aware of their responsibilities relating to tree protection on site; this will include a site induction for key personnel.

8.10 OTHER TREE PROTECTION PRECAUTIONS

- **NO** level alterations will occur within the RPA of any tree to be retained.
- **NO** fires lit on site within 20 metres of any tree to be retained.
- **NO** fuels, oils or substances with will be damaging to the tree shall be spilled or poured on site.
- **NO** storage of any materials within the root protections zone.

8.11 HARD / SOFT LANDSCAPING NEAR RETAINED TREES

All new pathways and hard landscaping areas within the Root Protection Areas (RPA's) of the retained trees should be designed using no-dig, up and over construction techniques, and be specified in close co-ordination with the retained Arboriculturalist. Porous materials should also be used when surfacing near the trees. No machinery will be used for this work, which must all be done by hand.

Conclusion

9.1 Subject to precautionary measures as detailed above, the proposal will not be injurious to trees to be retained.

9.2 There will be no appreciable post development pressure, and certainly none that would oblige the council to give consent to inappropriate tree works.

9.3 New trees and shrubs can be planted following approval from the Local Planning Authority to ensure a sustainable tree stock for the future.

Recommendations

10.1 Site supervision – An individual e.g. the Site Agent, must be nominated to be responsible for all arboricultural matters on site. This person must:

a. Be present on the site the majority of the time.
b. Be aware of the arboricultural responsibilities.
c. Have the authority to stop any work that is, or has the potential to cause harm to any tree.
d. Be responsible for ensuring that all site personnel are aware of their responsibilities towards trees on site and the consequences of the failure to observe those responsibilities.
e. Make immediate contact with the local authority and / or retained arboriculturalist in the event of any related tree problems occurring whether actual or potential.

10.2 It is recommended, that to ensure a commitment from all parties to the healthy retention of the trees, that details are passed by the architect or agent to any contractors working on site, so that the practical aspects of the above precautions are included in their method statements, and financial provision made for these.

19th December 2022
Signed:

Glen Harding MICFor, MSc (Forestry), MArborA
For and on behalf of GHA Trees

Appendix A

Appendix B

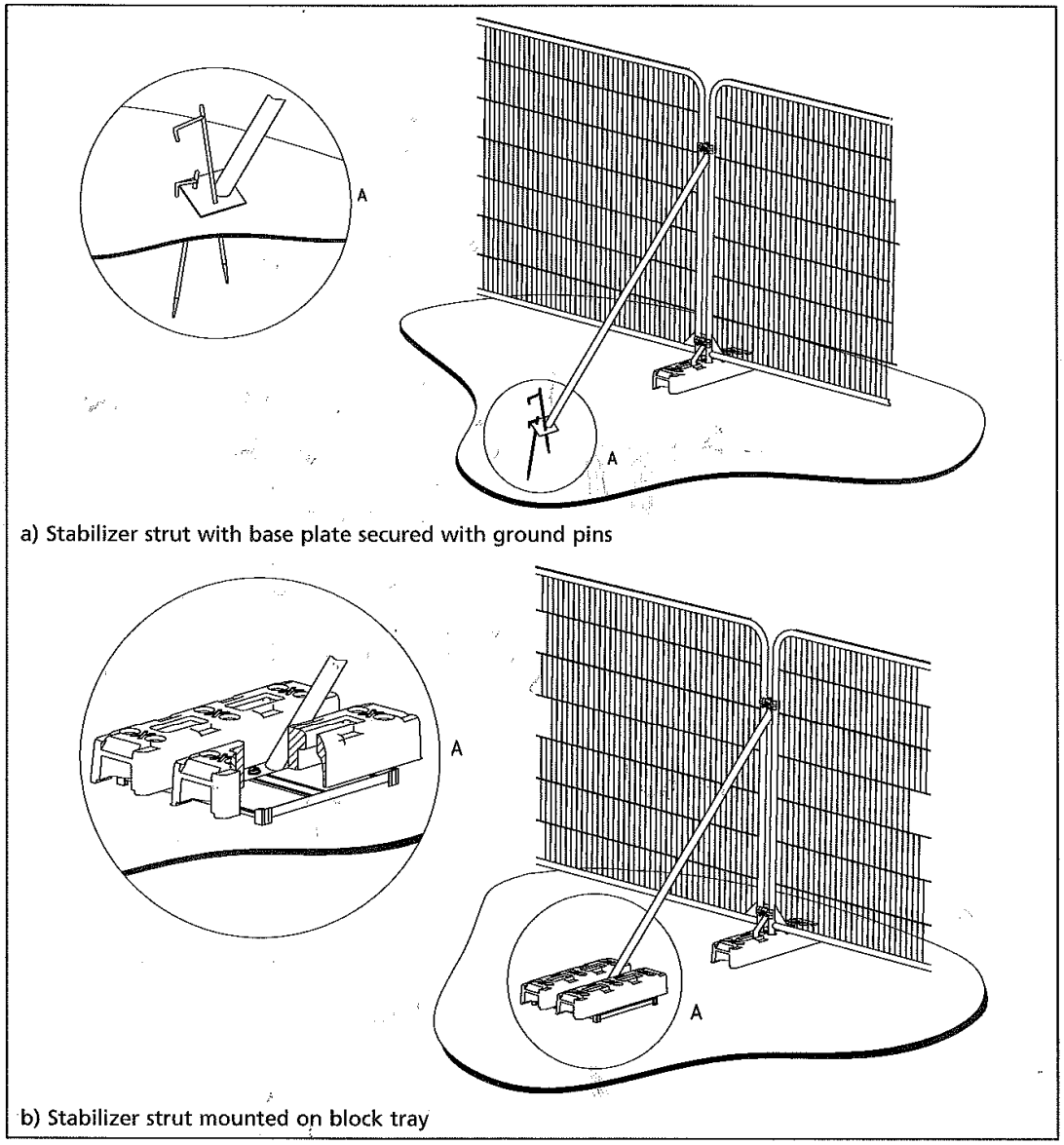
Tree Number	Tree Name (species)	Ht (m)	Calculated Stem Diameter (mm)	Number of Stems	Root Protection Area (Radius, m)	N (m)	E (m)	S (m)	W (m)	Age Class	Clearance (m)	Estimated life expectancy	BS Category	Comments / Recommendations
T1	Laburnum	4	103	5	1.24	2	2	2	2	M	2	10-20	C1	Small tree of little value. Recommend: to be removed.
T2	Purple leaf plum	6	390	1	4.68	2	6	2	0	M	0 east	Less than 10	U	Leans to east from past failure. Recommend: to be removed.
T3	Cypress	8	200	1	2.40	2	2	3	2	M	2	10-20	C1	Small tree of little value. Sparse crown. Damaging driveway. Recommend: to be removed.
T4	Oak	14	710	1	8.52	6	6	6	3	M	6 north and east	20-40	B1	Pruned in past. No notable defects.
G5	Lime, rowan, hazel	6 to 10	160	1	1.92	2	2	2	2	M	3	10-20	C2	Small trees of little value. Recommend: to be removed.
T6	Ash	9	591	2	7.09	2.5	2.5	2.5	2.5	M	3	10-20	C1	Heavily topped in past. Recommend: to be removed.
T7	Prunus	6	141	2	1.70	4	3.5	4	2	M	1.5	10-20	C1	Small tree of little value. Recommend: to be removed.
G8	Laurel, apple, cypress, purple plum and other scrub growth	6 to 9	150	1	1.80	2.5	2.5	2.5	2.5	M	0	10-20	C2	Small trees of little value.

Tree Number	Tree Name (species)	Ht (m)	Calculated Stem Diameter (mm)	Number of Stems	Root Protection Area (Radius, m)	N (m)	E (m)	S (m)	W (m)	Age Class	Clearance (m)	Estimated life expectancy	BS Category	Comments / Recommendations
T9	Larch	12	220	1	2.64	2.5	2.5	2.5	2.5	MA	4	10-20	C1	No notable defects recorded during inspection.
G10	Sycamore, willow, plum	6 to 12	250	1	3.00	3	3	3	3	MA	4 west	10-20	C2	Off site - full inspection not possible.
T11	Horse chestnut	15	800	1	9.60	7	7	6	5	OM	2 soth and east, 4 north and west	10-20	C1	Subject to unsympathetic past management. Previously crown reduced. Previously pollarded at 7m - decay present at old pruning wounds. Tree suffering from leaf blotch, leaf miner and bacterial canker. Recommend: to be removed.

KEY :
Tree No: (T= individual tree, G= group of trees, W= woodland)
Age class: Young (Y), Middle aged (MA), Mature (M), Over mature (OM), Veteran (V)
Height (Ht): Measured in metres +/- 1m

Appendix C

Figure 3 **Examples of above-ground stabilizing systems**



a) Stabilizer strut with base plate secured with ground pins

b) Stabilizer strut mounted on block tray