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# Arboricultural and Planning Integration Report: 5 Nicholas Way, Northwood, HA6 2TR

12th May 2021

Ref: GHA/DS/135660:21

**CONTENTS**

# Arboricultural Report

Location: 5 Nicholas Way, Northwood, HA6 2TR
Ref: GHA/DS/135660:21
Client: DDA
Date: 12th May 2021
Report Prepared by: Glen Harding MSc (Forestry), MArborA
Date of Inspection: 11th March 2020

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

**Instructions**

**Issued by – DDA**

**TERMS OF REFERENCE – GHA Trees were instructed to survey the subject trees within and adjacent to 5 Nicholas Way, Northwood, 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 in a sustainable manner.**



**Executive Summary**

The proposal for the site is to demolish the existing house and then construct a new detached dwelling. The existing access from Nicholas Way will be retained and reused for the purposes of the new development. 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

DDA supplied the following documents:

1. Existing layout plans
2. Proposed layout plans

## Scope of Survey

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

1.2 The planning status of the subject property was not investigated in detail.

1.3 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.

1.4 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.

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

1.6 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)

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

1.8 Pruning works will be required to be in accord with British Standard 3998 – 2010 (Tree Work - Recommendations).

1.9 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).

1.10 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 40 years. Colour = mid blue crown outline on plan.

Category C – Trees of low quality with an estimated remaining life expectancy of at least 40 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 Nicholas Way, a residential through road located to the south west of Northwood.

3.2 A good tree cover is present on the site itself as well as adjacent sites, with many semi-mature and mature trees of both native and exotic origin characterising the local area.

3.3 Access to the property is currently gained via a driveway to the front (west) 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 T12 has been deleted however the remaining trees have not been renumbered.

4.3 Of the sixteen individual trees, and groups of trees surveyed, one has been assessed as BS 5837 category A, six have been assessed as BS category B, with the remaining nine trees / groups being assessed as BS 5837 category C.

| | |
|---|---|
| Category A | 1 tree |
| Category B | 5 trees / groups |
| Category C | 9 trees / groups |

## The Proposal

5.1 The proposal for the site is to demolish the existing house and then construct a new detached dwelling.

5.2 The existing access from Nicholas Way will be retained and reused for the purposes of the new development.

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.

T5, G8, T9, T10, G11 and some of W13

W13 is to be thinned to remove low value trees – trees for removal to be marked and agreed with the tree officer.

6.2 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.

TREE PRUNING TO ACCOMODATE THE PROPOSAL OR ACCESS TO THE SITE

6.3 G16 will be crown lifted to a height of 6m over the site to improve clearances; this is minor work that would be required regardless of the proposed development.

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

ASSESSMENT OF RETAINED TREES ROOT PROTECTION AREAS

6.5 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.

6.6 The RPA of G16 has been amended to take account of the existing house as can be seen on the appended plan.

6.7 The other RPAs have been drawn as notional circles, as there are no structures within their RPAs that have been assessed to significantly impact the root layout.

6.8 A portion of the proposed new structure would be situated within a small section of the assessed Root Protection Areas of G16 as can be seen on the appended plan. The construction design process has shown consideration of this issue (of working within the RPA) by specifying the use of specialised footings; these footings will ensure minimal root disturbance occurs near these trees.

**In order to arrive at a suitable foundation design (which minimises root disturbance within the RPAs of nearby retained trees), site specific and specialist advice regarding footings should be sought from an Engineer, in close discussion with the projects Arboriculturalist. See also appendix D.**

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

PROPOSED ACCESS TO THE NEW DEVELOPMENT

6.10 Where sections of the new driveway are within the RPA of retained trees, an "up and over" style 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.

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 Some minor lateral pruning of the retained trees and shrubs may be required in the medium term, however any such work would not have a significant impact on the health or amenity value of these trees. The work proposed to T12 will need repeating every 5 years to ensure a satisfactory relationship is retained with this tree and the new house.

**7.3 The trees on site are protected by Tree Preservation Orders (TPOs). These designations will ensure that the local planning authority retain full control over all future works to these trees, ensuring any future occupants are unable to undertake any inappropriate works to these trees.**

7.4 The BS3998: 2010 – Recommendations for Tree Work discusses and endorses various methods of pruning that can alleviate the minor inconveniences trees

can cause, whilst retaining them in a healthy condition. Methods such as crown reductions (section 13.4) partial or whole, crown lifting (section 13.5) and crown thinning (section 13.6) can be used to both increase light to properties, as well as improve clearances from buildings. Trees in towns are often sited in close proximity to buildings; however residents concerns can be readily appeased with the implementation of regular, well-planned, sensitive pruning.

7.5 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

7.6 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. It is proposed to plant a small number of new oak trees to replace the poorly formed oaks proposed for removal.

7.7 All new pathways and soft landscaping areas within the Root Protection Areas (RPA's) of the retained trees should be designed using no-dig, up and over construction and in close co-ordination with the retained Arboriculturalist using porous materials.

## 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 GROUND PROTECTION – LIGHTWEIGHT ACCESS ONLY

An area of the site will require ground protection to ensure that soil erosion or excessive compaction does not occur. The areas where this protection is required are outlined in orange hatching on the appended plan. This area will be covered with a permeable membrane, with 100mm layer of compressible woodchip overlaying it; an 18mm marine ply boards will then be secured on top of the woodchip to allow a 1.5tonne mini-digger to access the area without causing major compaction or soil erosion.

8.4 IMPLEMENTATION OF THE NEW BUILDING ON A "RAFT STYLE" FOUNDATION WITH ASSOCIATED PILES / PADS (**See also appendix D**)

- **NOTE: any excavations in the RPAS 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.**

- The locations of the supporting piles / pads is easily changeable, and the exact locations for them will be confirmed following hand excavated, trial digs of the top 1000mm of each potential hole (this is where the majority of roots exist).

- Hand tool excavations will only be undertaken by fully briefed site personnel. This operation will be done slowly and carefully to ensure the retention and protection of any roots that are discovered that are in excess of 25mm. These roots **MUST** then be covered and protected using damp hessian whilst further excavation commences; hessian must be left in situ until backfilling commences and re-wetted if needed to avoid root desiccation. **NOTE: OPERATIVES MUST CHECK FOR THE PRESENCE OF ANY EXISTING UNDERGROUND SERVICES PRIOR TO THE COMMENCEMENT OF SUCH WORK.**

- Any roots discovered in these trial pits in excess of 25mm diameter will immediately signal the requirement for a change of pit location.

- These trial digs will be attended by the retained arboriculturalist and site manager who will agree the final locations of the piles / pads.

- Ground protection as that detailed above should be placed over the working area whilst the deeper piling / excavation of the final locations commences, with the use of a closely supervised lightweight rig and / or hand tools. This will alleviate the possibility of excessive compaction or erosion within the RPA's.

- Once the trial holes are excavated to the correct depth, care must then be taken to ensure the new piles / pads are installed so as to avoid any roots present. **Any roots that require pruning (those less than 25mm diameter) should be cut using sharp tools to leave a 'clean' cut, in order to minimise the risk of infection by decay pathogens.**

- Once the piles / pads are installed, the excavated holes must then be backfilled and the soil compacted using hand tools only, to ensure not air pockets are left as these can be damaging to tree roots.

8.5 REMOVAL / DEMOLITION OF THE EXISTING STRUCTURES

Prior to the new buildings construction commencing, some existing structures located within retained trees RPAs will need to be removed,

Removal of lightweight structures (patios etc..):

- If the fencing detailed in section 8.2 requires relocation, this must be moved to the edge of the structures which are to be removed, in order to protect the adjacent trees and their surrounding soil.

- The top surfaces must be removed by hand, using hand tools only.

- The removed material must be stored outside of the RPA of all of the retained trees whilst work commences.

- Their sub bases bases must be broken up using a small, lightweight "kango" drill into pieces that can be lifted by hand and removed.

- If during the work, any roots from the retained trees are discovered in excess of 25mm, the retained arboriculturalist must be contacted immediately to assess the roots and arrange subsequent working methods that will cause no damage to the tree(s).

Removal of heavier structures:

- If the fencing detailed in section 8.2 requires relocation, this must be moved to the edge of the structures which are to be removed, in order to protect the adjacent trees and their surrounding soil.

- These existing structures and their sub-bases can be removed using a 360 excavator**.** The machine must work from outside the RPA. The machine must start work at the points nearest to any retained trees, working backward away from each tree so that the remaining hard surfacing can be used to support the load of the machine and protect the ground. **(NOTE: the size of any such machine should be checked before starting works, to ensure a) the existing surface will support the machines load and b) that there is sufficient crown clearances to avoid any potential for crown damage**). This work **must** be undertaken utilising a banksman.

- The removed material must be stored outside of the RPA of all of the retained trees whilst work commences.

- Care must be taken to avoid damage to the soil beneath these structures. If any roots are exposed, these should be covered immediately and the retained arboriculturalist must be contacted immediately to assess the roots and arrange subsequent working methods that will cause no damage to the tree(s).

8.6 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.

8.7 DELIVERY AND STORAGE OF BUILDING MATERIALS

Due to the limited on-site storage space, it may be necessary for bulk deliveries to be split into smaller deliveries. The use of a "just in time" delivery method can also be adopted to reduce the time materials are stored on site before use.

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

All site huts will be positioned outside of the retained trees RPA's.

8.9 MIXING OF CONCRETE

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

8.10 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.

8.11 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.

8.12 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.

The key personnel relating to this project are:

| Name | Position | Contact number / email: |
|---|---|---|
| Glen Harding | Retained arboriculturalist | 07884 056 025<br>Or<br>info@ghatrees.co.uk |
| TBC | Local authority Arboricultural Officer | TBC |
| TBC | Site manager | TBC |

8.13 OTHER TREE PROTECTION PRECAUTIONS

- 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.

8.14 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.

8.15 TREE PLANTING

Some proposed locations for new trees can be seen on the architect's plans. Any new oak trees should be of a minimum 14/16 cm girth and purchased from a reputable nursery. Tree planting should be undertaken between the months of November and March by a suitably experienced contractor. The scheme should include the implementation of an aftercare package to include: weed management, tree hydration, stake and tie maintenance, replacement of any failures, mulching and formative pruning.

8.16 DISMANTLING PROTECTIVE BARRIERS

Protective barriers must only be completely removed when all machinery, and equipment has left site. A minimum of seven days notice must be given to the local planning authority prior to dismantling works begin.

## Conclusion

9.1 In conclusion, the principal arboricultural features within the site can be retained and adequately protected during development activities.

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

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

9.4 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.

12th May 2021
Signed:

Glen Harding 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 | Oak | 18 | 490 | 1 | 5.88 | 5 | 5 | 5 | 5 | M | 8 (east) | 20-40 | B1 | No significant defects noted during inspection. |
| T2 | Oak | 16 | 510 | 1 | 6.12 | 4 | 5 | 6 | 6 | M | 8 (east) | 20-40 | B1 | Some minor deadwood noted in upper crown. |
| T3 | Oak | 12 | 350 | 2 | 4.20 | 2 | 4 | 6 | 0 | M | 5 (south) | 10-20 | C1 | Poor overall form. |
| T4 | Cedar | 22 | 800 | 1 | 9.60 | 10 | 10 | 5 | 10 | M | 6 | 40+ | A1 | Off site - full inspection not possible. |
| 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 | Oak | 18 | 490 | 1 | 5.88 | 5 | 5 | 5 | 5 | M | 8 (east) | 20-40 | B1 | No significant defects noted during inspection. |
| T2 | Oak | 16 | 510 | 1 | 6.12 | 4 | 5 | 6 | 6 | M | 8 (east) | 20-40 | B1 | Some minor deadwood noted in upper crown. |
| T3 | Oak | 12 | 350 | 2 | 4.20 | 2 | 4 | 6 | 0 | M | 5 (south) | 10-20 | C1 | Poor overall form. |
| T4 | Cedar | 22 | 800 | 1 | 9.60 | 10 | 10 | 5 | 10 | M | 6 | 40+ | A1 | Off site - full inspection not possible. |
| T5 | Oak | 14 | 410 | 2 | 4.92 | 2 | 3.5 | 3 | 3 | M | 8 | 10-20 | C1 | Sparse canopy. Poor overall form. Recommend: to be removed. |
| T6 | Oak | 14 | 380 | 1 | 4.56 | 2 | 5 | 6 | 6 | M | 6 (south) | 10-20 | C1 | One sided crown. |
| T7 | Lawson cypress | 16 | 481 | 2 | 5.77 | 1.5 | 1.5 | 1.5 | 1.5 | M | 4 | 10-20 | C1 | Sparse canopy. |

| 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| G8 | Cypress | 14 | 340 | 1 | 4.08 | 2.5 | 2.5 | 2.5 | 2.5 | M | 2.5 | 10-20 | C2 | Lapsed hedge. Recommend: to be removed. |
| T9 | Hawthorn | 8 | 260 | 1 | 3.12 | 2 | 2 | 2 | 2 | M | 3 | 10-20 | C1 | Small tree of little value. Recommend: to be removed. |
| T10 | Thuja | 14 | 300 | 1 | 3.60 | 2 | 2 | 2 | 2 | MA | 5 | 10-20 | C1 | Too close to exisitng house. Recommend: to be removed. |
| G11 | Hazel, laurel, holly, cherry | 4 to 8 | 180 | 1 | 2.16 | 2 | 2 | 2 | 2 | MA | 0 | 10-20 | C2 | Overgrown scrub. Recommend: to be removed. |
| T12 | Oak | TREE HAS BEEN REMOVED | | | | | | | | | | | | |
| W13 | Woodland group: oak, hornbeam, thuja | 17 | 580 | 1 | 6.96 | 6 | 6 | 6 | 6 | M | 2 (west) | 20-40 | B2 | No significant defects noted during inspection. Recommend: to be thinned to remove low value trees – trees for removal to be marked and agreed with the tree officer |
| T14 | Thuja | 22 | 700 | 1 | 8.40 | 5 | 5 | 5 | 5 | M | 4 (south) | 20-40 | B1 | Off site - full inspection not possible. |
| T15 | Cypress | 16 | 300 | 1 | 3.60 | 2 | 2 | 2 | 2 | M | 4 | 10-20 | C1 | Off site - full inspection not possible. |
| G16 | Lawson cypress | 22 | 500 | 1 | 6.00 | 4.2 | 4.2 | 4.2 | 4.2 | M | 4 (south) | 20-40 | B2 | Off site - full inspection not possible. |
| T17 | | | 0 | 1 | 0.00 | | | | | | | | | |

KEY :

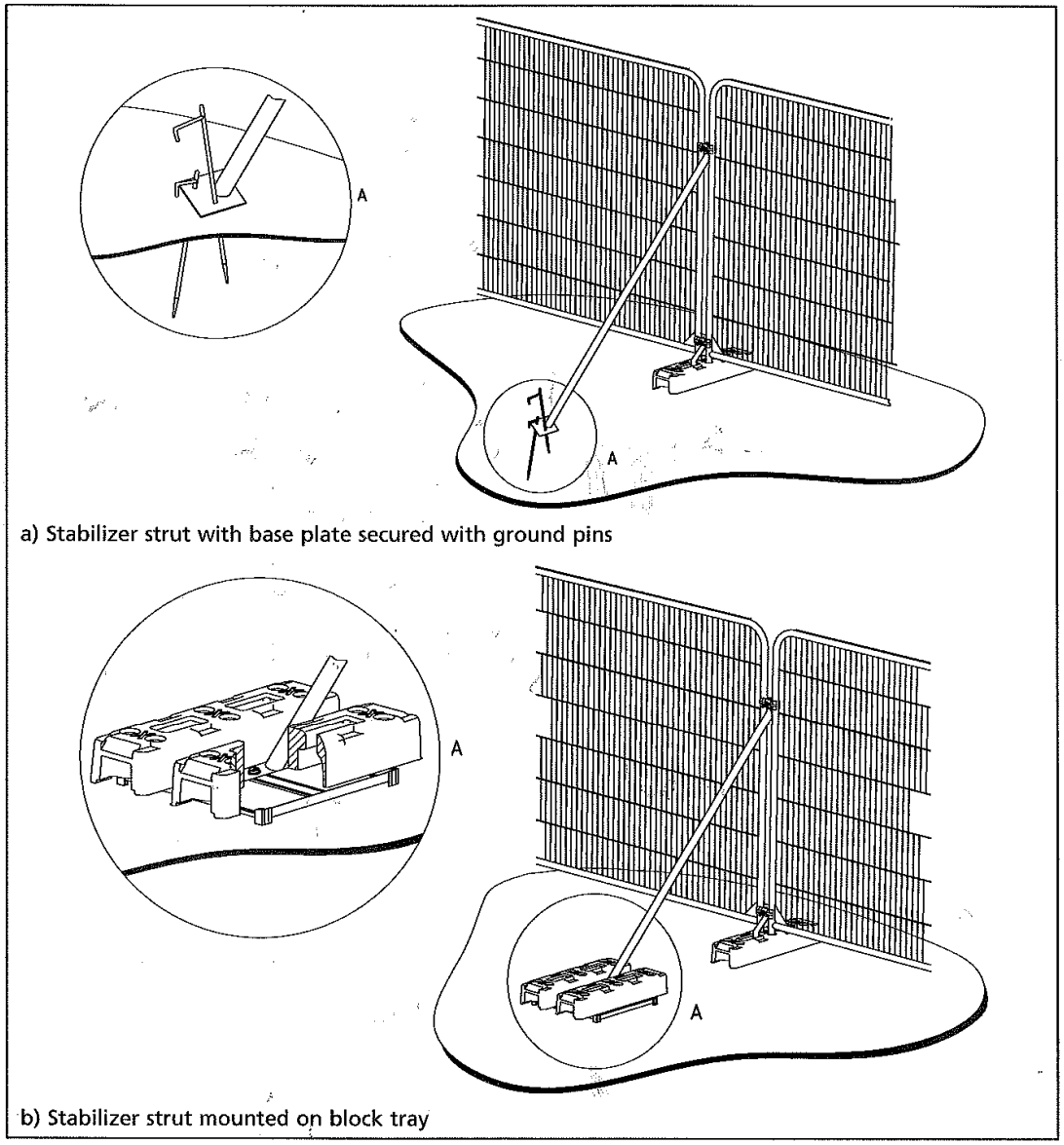
Tree No: (T= individual tree, G= group of trees, W= woodland)

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**

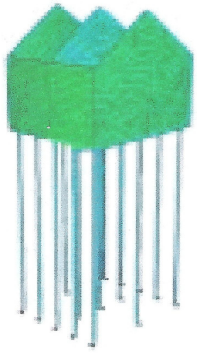



a) Stabilizer strut with base plate secured with ground pins

b) Stabilizer strut mounted on block tray

# Appendix D

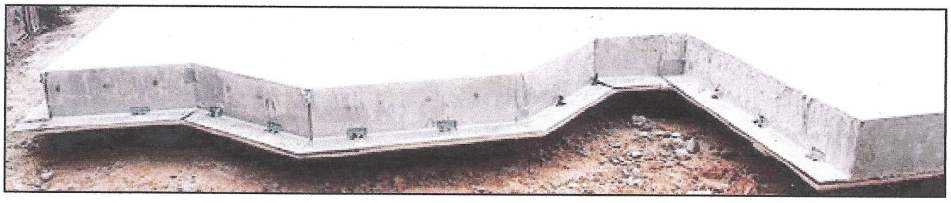
## HouseDeck



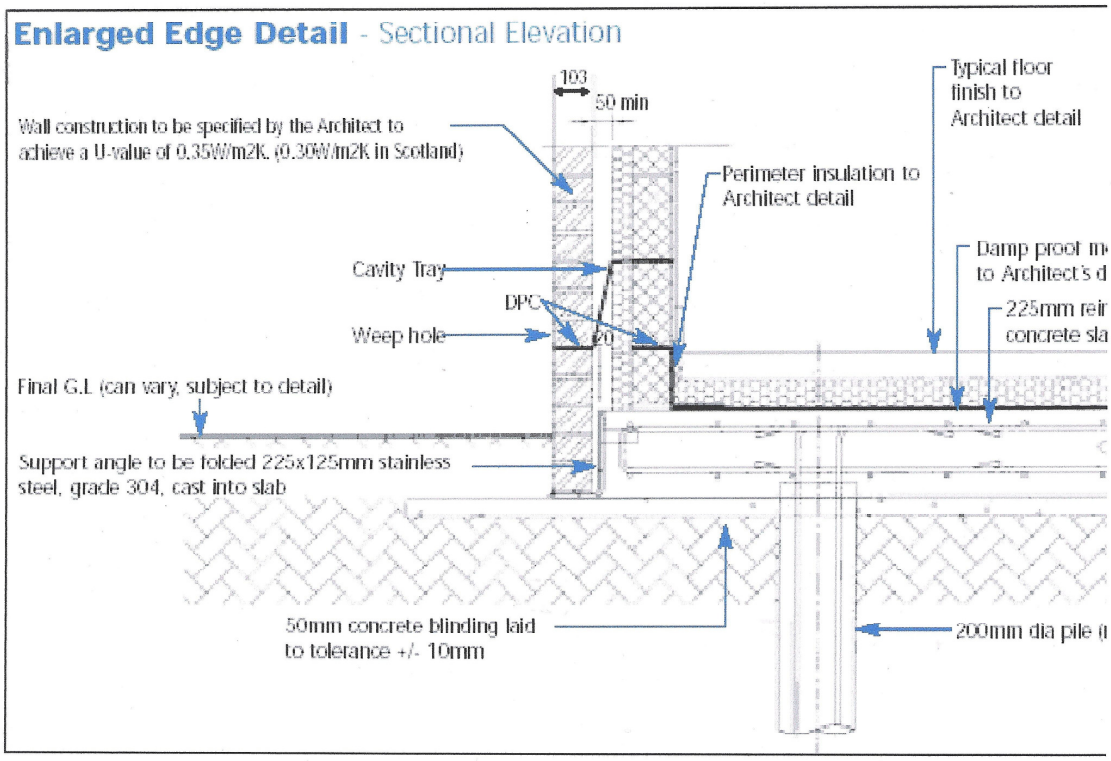
**Housedeck** is a piled raft foundation system offering a range of solutions to suit a wide variety of ground conditions and house design requirements. It is available through the **Abbey Pynford PLC** company, based in Watford, Herts, UK.

It is a system which is very useful for building near **trees** due to its flexibility in pile placement and the fact that the traditional 'trench an fill' method of foundation is not required. It uses a system of small diameter (200-300mm) concrete columns (piles) driven deep into the ground which then support a 'cast concrete cap' which consists of the floor and ground bearing beams. This is reinforced with steel and can also incorporate a stainless steel lip to enable brick elevations to 'sit' to the side of the foundation and thus hide the concrete base.

For use near trees the lack of a foundation trench is advantageous. A typical trench needs to be 1m + in depth and will usually need to be under all elevations. As most tree roots occupy the upper 600mm of soil, mass root severance will often occur. The base of the HouseDeck system sits on the ground surface and uses the piles for support so root severance will be less. Further safeguards can be employed to control excavation in difficult situations by using a method statement to minimise root damage. For example, carrying out initial exploratory excavation to a depth of 1m at those proposed piling positions which are particularly close to the trees. If large roots are encountered then the pile position can be changed slightly.



- A few of the benefits of using HouseDeck.
    - You avoid many problems associated with excavations, unstable ground, bad weather and ground water.
    - As there are no excavations there are no large items of plant required.
    - Housedeck piling rigs are small, maneuverable and designed to work in confined spaces.
    - Housedeck allows you to work closer to trees.


Enlarged Edge Detail - Sectional Elevation
103
50 min
Typical floor finish to Architect detail
Wall construction to be specified by the Architect to achieve a U-value of 0.35W/m2K. (0.30W/m2K in Scotland)
Perimeter insulation to Architect detail
Cavity Tray
DPC
Weep hole
Final G.L (can vary, subject to detail)
Support angle to be folded 225x125mm stainless steel, grade 304, cast into slab
50mm concrete blinding laid to tolerance +/- 10mm
200mm dia pile