

**GHA trees
3a Robin Parade
The Broadway
Farnham Common
BUCKS
SL2 3QL**



**t: 01753 643760
e: gha.trees@virgin.net
www.ghatrees.co.uk**

**Glen Harding
TECH CERT (ARBOR. A)**

**Arboricultural and Planning Integration Report
At:
35 Heath Drive, London, NW3**

RECEIVED
24 AUG 2007

GHA trees arboricultural consultancy

CONTENTS

Section	Subject	Page
	Instructions	3
	Executive Summary	3
	Documents Supplied	4
	Scope of Survey	4
	Survey Method	5
	The Site	6
	Subject Trees	6
	The Proposal	6
	Planning Integration	7
	Post Development Pressure	9
	Tree Protection Measures and Method Statement for Development Works	9
	Conclusion	11
	Recommendations	11
Appendix A	Site Plan	
Appendix B	Tree Table	
Appendix C	Extract from BS5837 – Protective Fencing	
Appendix D	Extract from BS5837 – Ground Protection	

Arboricultural Report

Location: 35 Heath Drive, London, NW3
Ref: GHA/DS/143:07
Client: Proietti Associates
Date: 22nd February 2007
Report Prepared by: Glen Harding Tech Cert (Arbor.A)
Date of Inspection: Saturday 17th February 2007

Please note that abbreviations introduced in [Square brackets] may be used throughout the report.

Instructions

Issued by – Mariano Proietti, Proietti Associates, 16 Crane Avenue, Isleworth, Middlesex, TW7 7JL.

TERMS OF REFERENCE – To survey the subject trees 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.

The writer retains the copyright of this report and its content is for the sole use of the client(s) named above. Copying of this document may only be undertaken in connection with the above instruction. Reproduction of the whole, or any part of the document without written consent from GHA Trees is forbidden. Tree work contractors, for the purpose of tendering only, may reproduce the Schedule for tree works included in the appendices.

Executive Summary

The site is currently unused whilst in the process of redevelopment. The proposed scheme does not require the removal of any significant trees, only the small fruit trees to the rear which will be replaced with new trees and shrubs. All of the retained trees can be protected in accord with industry best practice and BS 5837: 2005.

Documents Supplied

Mariano Proietti of Proietti Associates Supplied the following documents:

291/01 - EXISTING LOCATION PLAN, 291/02 - EXISTING FLOOR PLANS & ELEVATIONS, 291/03 - PROPOSED FLOOR PLANS & ELEVATIONS & 291/04 - EXISTING & PROPOSED SITE PLAN

Scope of Survey

- 1.1 The survey is concerned with the arboricultural aspects of the site only.
- 1.2 The planning status of the trees 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 No discussions took place between the surveyor and any other party.
- 1.5 Trees in third party properties were surveyed from within the subject property, therefore a detailed assessment was not possible and some (if not all) measurements were estimated.
- 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: 2005 Trees in relation to construction – Recommendations [BS5837].
- 1.8 Pruning works will be required to be in accord with British Standard 3998:1989 Tree work [BS3998].
- 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 10: 1995 Guidelines for the planning, installation and maintenance of utility services in proximity to trees [NJUG10].
- 1.10 The survey does not cover the arrangements that may be required in connection with the laying or removal of underground services.
- 1.11 Where hard surfacing may be required in close proximity to trees, BS5837 : 2005 and the principles of Arboricultural Practice Note 1: Driveways Close to Trees (AAIS) 1996 [APN1] with regards to "no dig" surfacing will be employed, although incorporating improvements with the construction methods.
- 1.12 Reference is made to the National House Building Council Standards, 2003, chapter 4.2: Building near trees [NHBC].

Survey Method

- 2.1 The survey was conducted from ground level with the aid of binoculars.
- 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.
- 2.5 The stem diameters [SD] were measured in centimetres at 1.5 metres above ground level for single stems, and just above the root flare for multistemmed trees. Where access was difficult the diameters were estimated and marked as such on the Schedule of Trees.
- 2.6 The crown spreads were measured with an electronic distometer. Where the crown radius was notably different in any direction this has been noted in the tree table (Appendix B).
- 2.7 The Root Protection Area (RPA) for each tree is included in the tree table.
- 2.8 All of the trees that were inspected during the site visit are detailed on the plan at Appendix A. Please note that the attached plan is for indicative purposes only, and that the trees are plotted at approximate positions. The trees on this plan are categorised and shown in the following format: COLOUR CODING AND RATING OF TREES:

Category A – Those of a high quality and value: in such a condition as to be able to make a substantial contribution (a minimum of 40 years is suggested). Colour = light green crown outline on plan.

Category B – Those of a moderate quality and value: those in a condition as to be able to make a significant contribution (a minimum of 20 years is suggested). Colour = mid blue crown outline on plan.

Category C – Those of low quality and value: currently in adequate condition to remain until new planting could be established (a minimum of 10 years is suggested), or young trees with a stem diameter below 150mm. Colour = uncoloured crown outline on plan.

Category R – Those in such a condition that any existing value would be lost within 10 years and which should, in the current context, be removed for reasons of sound arboricultural management. Colour = red crown outline on plan.

All references to tree rating are made in accordance with British Standard 5837 'Trees in relation to construction – Recommendations' 2005, Table 1 (section 4.3.1).

The Site

- 3.1 The site is located on Heath Drive; a small residential road located to the North of West Hampstead, adjacent to the busy A41, Finchley Road.
- 3.2 A limited tree cover is present on the site itself, however many adjacent properties are densely vegetated, with many semi-mature and mature trees of both native and exotic origin characterising the area. Council owned street trees are a prominent feature within the local landscape.
- 3.3 Useful screening vegetation currently exists on the Eastern Boundary.
- 3.4 Access to the site is gained via a narrow driveway from Heath Drive.

The Subject Trees

- 4.1 The details of the subject trees are set out in the Schedule at Appendix B. The overall quality of the trees is good.
- 4.2 The main arboricultural landscape presence relating to the proposed development is line of mature and middle aged trees on the Eastern Boundary,
- 4.3 The mature beech tree to the North of the aforementioned line of trees is a highly prominent feature in the local and wider landscape, providing useful screening from properties to the North east and vice versa.
- 4.4 All of the trees within this group appeared of good health and normal vigour, from a limited inspection.
- 4.5 The remaining trees on the site are small and relatively insignificant, of no particular merit within the local or wider landscape.

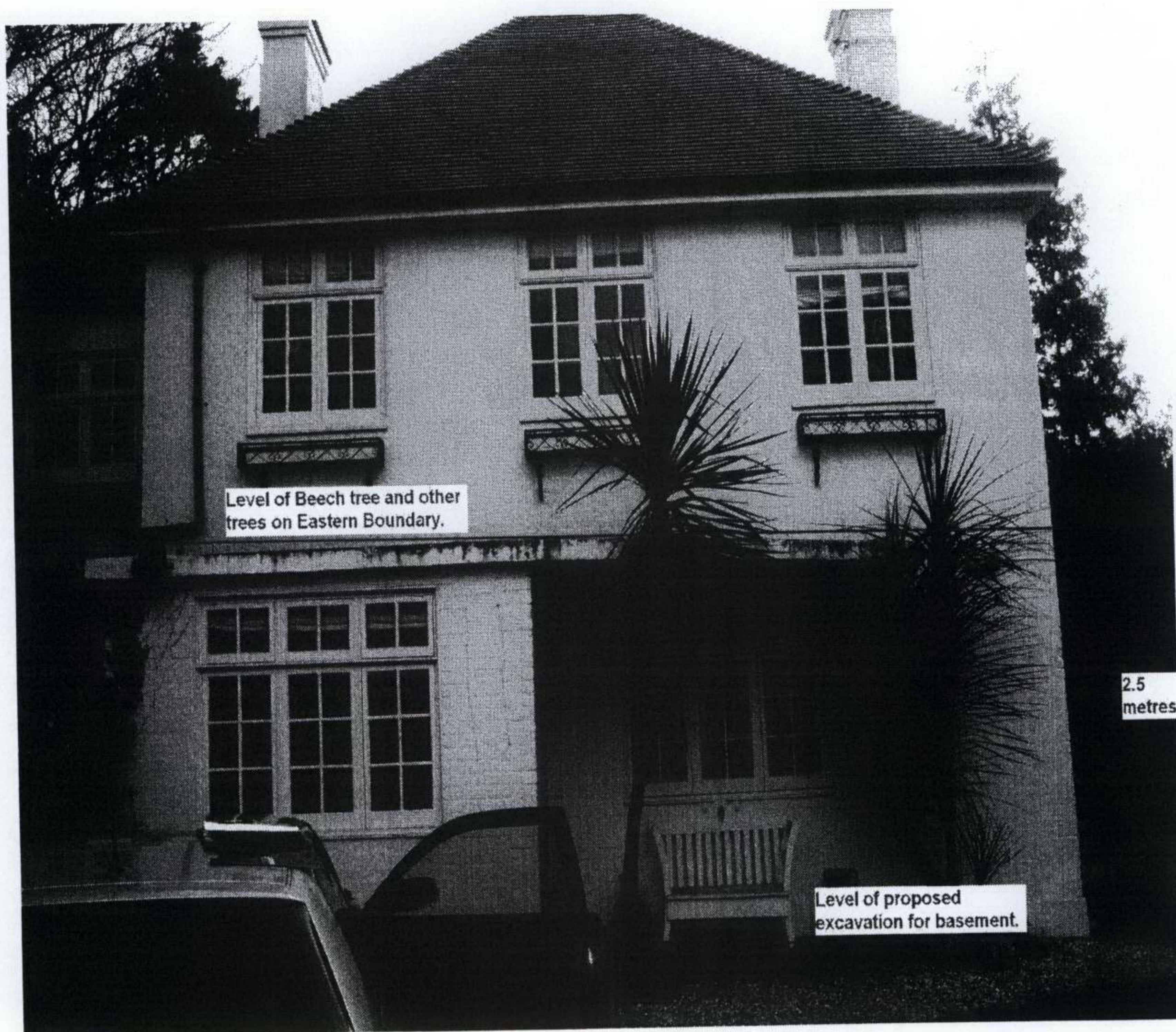
The Proposal

- 5.1 The proposal for the site is to build a new, two-storey building on a similar, but slightly smaller footprint to that of the existing, with an associated basement being built below the existing ground level.
- 5.2 The footings for the new basement will be constructed by underpinning the existing ground floor foundations to provide adequate stability for the whole of the new building.
- 5.3 The existing side extension to the East of the existing building will be re-built on the same footings as the existing to avoid any root damage in this area.
- 5.4 The raised bed on the Eastern boundary will be retained in its current position with some minor repair works being undertaken to the retaining wall to ensure structural integrity for the future use of the site.

- 5.5 The proposed location of the above structures can be seen on the attached plan, however the lightweight structures such as the bin store(s) and paths etc... may be liable to minor change as construction commences, in agreement between the Local Planning Authority and the applicant.

Planning Integration

- 6.1 The ground levels of this site are a critical factor in determining the possibility of any damage to the retained trees rooting systems. From a plan perspective, the proposed building is within the root protection area (RPA) of many of the retained trees on the Eastern side. It is of note however that the Beech tree T1, as well as the rest of the trees in this group grow at approximately 2.5m above the level where foundations are to be constructed. The height differential combined with other factors such as the existing building and retaining walls would mean that it is highly unlikely that any roots from these trees are present in this area. The picture below shows the height differentials discussed above:



- 6.2 BS 5837 : 2005 states that the 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. The property to the east from where the trees originate has a large grassed area which would appear to be the most likely location for the growth of the majority of these trees roots. The majority of the new building to the East, where the trees are present is sited in a similar location to the existing building; therefore no significant roots could exist in this location.
- 6.3 The encroachment into the RPA of the mature Beech will be less than the 20% offset that is allowed in BS 5837: 2005 paragraph 5.2.4 section a) for open grown trees. Whilst the tree may not be considered open grown, the factors discussed above should allow it to be concluded that the tree will not be harmed by the proposed development. This is also true of the remainder of the trees in this group.
- 6.4 The recommendations for tree retention have been made with due consideration to BS 5837 : 2005 section 3.1.1 and Annex A.4.3:

3.1.1

"Trees can occupy a substantial part of a new development and because of their potential size can have a major influence on the planning and use of the site. Existing trees of good quality and value can greatly enhance new development, such as by providing an immediate appearance of maturity. However trees can also be a constraint. Layouts sited poorly in relation to retained trees, or the retention of trees of an inappropriate size or species may be resented by future occupiers and no amount of legal protection will ensure their retention and survival. To avoid such problems and to ensure a harmonious relationship between trees and structures, careful planning and expert advice is needed on their juxtaposition".

Annex A.4.3

"Where a tree preservation order exists prior to planning permission being granted it should not normally be a block to effective use of the site. It serves to deter damage to or clearance of trees prior to planning permission being granted and provides a means of enforcing their protection during development work".

- 6.5 All new parking bays, 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.
- 6.6 The existing access route will be suitable for the level of construction traffic required on a development of this size, and the hard surface will provide adequate protection against tree root damage.

Post Development Pressure

- 7.1 Shading diagrams in accordance with BS 5837: 2005 section 5.3.1 conclude that a portion of the building to the East will be in shade throughout parts of the day caused by the line of broadleaf trees on the Eastern boundary. The building design has shown due consideration to this potential problem by specifying additional windows and light wells in other areas of the building to compensate for any reduced natural light. It is also of note that that existing building has been located in a similar location to that of proposed structure where the previous occupants enjoyed a satisfactory juxtaposition between the trees and their house for many years.
- 7.2 Any new trees that are planted will be selected to ensure they do not become a nuisance and that the level of routine maintenance is low.
- 7.3 The soil type may require the guidance of NHBC as far the building foundations are concerned. Clearly the planting schedule must be available to assist with foundation design, but any potential for subsidence damage in the future will be designed out.
- 7.4 In consideration of these matters, there will be no appreciable post development pressure, and certainly none that would oblige the council to give consent to inappropriate tree works.

Tree Protection Measures and Method Statement for Development Works

8.1 TREE PROTECTION BY FENCES

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. The position of the proposed protective fencing for the site is shown on the plan 'Appendix A' by a brown line. 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 similar to that in BS 5837 Figure 2 shown at Appendix C, however it is of note that existing fencing is already present in some areas which should be more than adequate for the level of construction activity in this area, especially when considering the nature of the site and the gradients.

The Fence must be marked with a clear sign reading:

"Construction Exclusion Zone – Keep Out".

8.2 THE DEMOLITION OF THE EXISTING BUILDING

Prior to the new buildings construction commencing, parts the existing structure will need to be removed. Some of the existing building is within the RPA of the retained trees. This section of the demolition work must all be undertaken by hand with the supervision of the retained arboriculturalist and / or the site manager. The removed material must be stored outside of the RPA of all of the retained trees whilst work commences.

This work should be undertaken during predominantly dry weather to avoid the possibility of any soil erosion. The existing driveway will provide access to the

working area to dispose of those aforementioned sections of concrete base and brickwork as they are removed.

8.3 GROUND PROTECTION

Where the edge RPA is close to building works ground protection will be installed as per figure 3 of BS5837. The areas where this is required are outlined in orange on the plan. The details of the proposed construction method can be seen at Appendix D, an extract from BS5837.

8.4 TREE PRUNING

Where any tree work is required, this work will be in accordance with British Standard 3998 : 1989 – Recommendations for tree work, section 13.5. The requirement for such work may be ongoing, however will not have a significant impact on the landscape. A list of tree works required included in the tree table at Appendix B.

8.5 STUMP GRINDING

All root removal within the Root Protection Area (RPA) of retained trees will be carried by a mechanical stump grinder.

8.6 TREE PLANTING

Any new 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.

8.7 SITE CONSTRUCTION ACCESS

All contractor access will be gained using the existing hard standing access driveway.

8.8 CONTRACTOR CAR PARKING

Adequate parking for contractor vehicles exists on the driveway as well as Heath Drive.

8.9 INCOMING SERVICES AND SOAKAWAYS

Existing services and soakaways will be used.

8.10 ON SITE SUPERVISION

A detailed supervision programme can be devised, ensuring that Arboricultural supervision is present at the appropriate periods during construction.

8.11 OTHER TREE PROTECTION PRECAUTIONS

- No fires lit on site within 20 metres of any tree to be retained.
- No fuels, oils or substances which will be damaging to the tree shall be spilled or poured on site.
- No storage of any materials within the root protection zone.

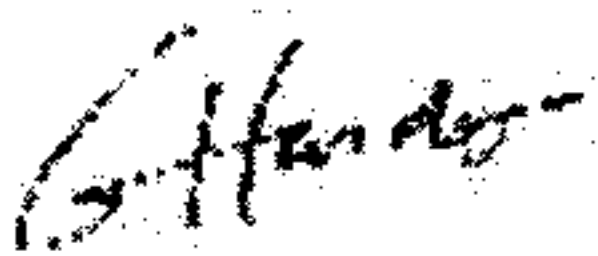
Conclusion

- 9.1 I conclude that the proposed construction, subject to precautionary measures as detailed above, will not be injurious to trees to be retained, and will not require the removal of any large numbers of healthy or significant trees.
- 9.2 New trees can be planted following approval from the Local Planning Authority to ensure a sustainable tree stock for the future.

Recommendations

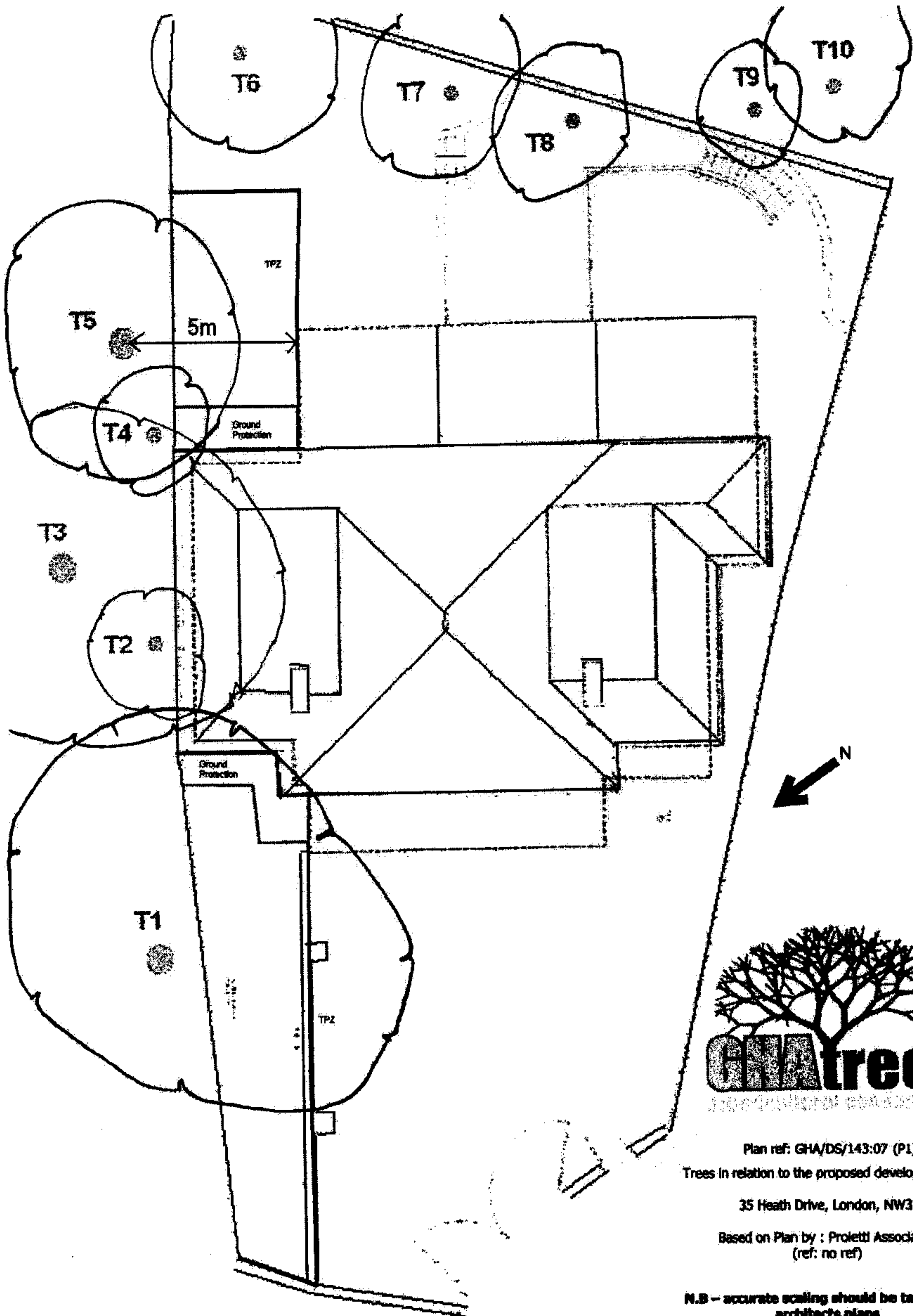
- 10.1 The site works should progress as follows to ensure the healthy retention of the trees.
- a. Installation of all tree protection measures.
 - b. Construction.
 - c. Soft landscaping.
- 10.2 Site supervision – An individual e.g. the Site Agent, must be nominated to be responsible for all arboricultural 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.
- 10.3 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.

Thursday 22nd February 2007
Signed:



Glen Harding
For and on behalf of GHA Trees

01753643760 / 07884056025



Plan ref: GHA/DS/143:07 (P1)

Trees in relation to the proposed development at:

35 Heath Drive, London, NW3

Based on Plan by : Proietti Associates
(ref: no ref)

N.B - accurate scaling should be taken from
architects plans
Edited: February 2007

Appendix B

No.	Tree	Height (m)	Multi-stem? (Enter MS)	Trunk / stem count dia. (mm)	Radius of RPA if circle	RPA -Root Protection Area sq.m.	Age Class	Branch spread (radius)	Height of crown clearance (m)	Comments	Estimated remaining contribution	Assessed BS 5837: 2005 Value category
T1	Beech	18		600	7.2	162.86	M	8	5	Minor region of decay at previous pruning points.	20-40	B1
T2	Lawson cypress	4		120	1.44	6.5144	Y	1.5	2	Tree of limited present or future value.	20-40	C1
T3	Box elder	12		400	4.8	72.382	M	6	4	No observable defects were noted at the time of inspection.	20-40	C1
T4	Lawson cypress	10		180	2.16	14.657	M	2	2.5	No observable defects were noted at the time of inspection.	20-40	C1
T5	Horse chestnut	12		350	4.2	55.418	MA	4	5	No observable defects were noted at the time of inspection.	20-40	C1
T6	Malus ssp	8		340	4.08	52.296	M	3.5	4	Tree of limited present or future value. Tree to be removed.	20-40	C1

T7	Malus ssp	5		220	2.64	21.896	M	3	2	Tree of limited present or future value. Tree to be removed.	20-40	C1
T8	Malus ssp	5		240	2.88	26.058	M	4	2	Tree of limited present or future value. Tree to be removed.	20-40	C1
T9	Malus ssp	8		150	1.8	10.179	M	2	3	Tree of limited present or future value.	20-40	C1
T10	Metasequoia	13		220	2.64	21.896	M	4	0	Tree of limited present or future value.	20-40	B1

KEY :

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

Crown = the leaf bearing part of the tree

Diameter: MS = Multi-stemmed

Age class: Young (Y), Middle aged (MA), Mature (M), Over mature (OM),

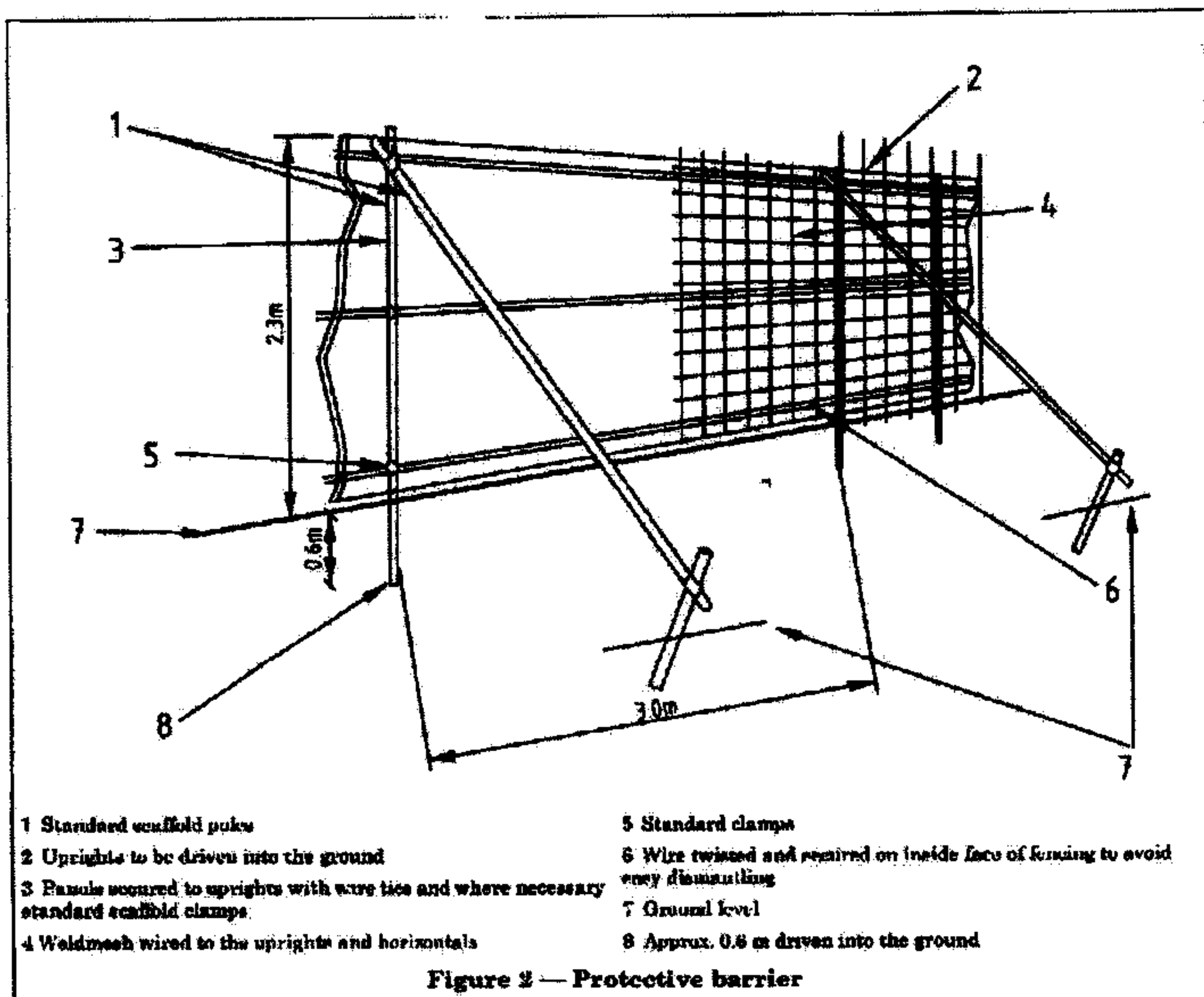
Veteran (V)

Height (Ht): Measured in metres +/- 1m

Priority: Low = within next 12 months, Medium = within next 3-6 months, High = within next month

Extract from British Standard 5837: 2005, Trees in relation to construction

Figure 2. Indicated framework support as the usual method of support for steel mesh panels ('Heras'). Some variation as described in the Report text can be employed if appropriate



Extract from British Standard 5837: 2005, Trees in relation to construction

Figure 3. Scaffolding within the Root Protection Area [RPA]

