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BS5837:2012 TREE SURVEY AND ARBORICULTURAL IMPACT ASSESSMENT: 20 Tanza Road, London, NW3 2UB

Dated: 13th March 2023

Our reference: GHA/DS/162320:23

CONTENTS

Arboricultural Impact Assessment

Location: 20 Tanza Road, London, NW3 2UB
Our reference: GHA/DS/162320:22
Client: Retrouvius
Dated: 13th March 2023
Prepared by: Glen Harding MICFor, MSc (Forestry), MArborA
Date of Inspection: 15th December 2022

Instructions

Issued by – Retrouvius

TERMS OF REFERENCE – GHA Trees were instructed to survey the subject trees within and adjacent to 20 Tanza Road, London, in order to assess their general condition and to provide a planning integration statement for the indicative proposed development that safeguards the long term wellbeing of the retained trees in a sustainable manner.

Executive Summary

The proposal for the site is to renovate and extend the existing house. A new garden room will also be built at the rear end of the rear garden. The proposed scheme requires the removal of a small number of relatively insignificant (C category) trees and shrubs, which 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:

- Existing layout plans
- 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 Dense vegetation or climbers (such as ivy) also prohibited full inspections for some trees; this is noted where applicable.

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

1.7 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)

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

1.9 Underground services near to trees will need to be installed in accord with the guidance given in BS5837.

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 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 to 20 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 Tanza Road, a residential through road located in the Hampstead area of north west London.

3.2 Access to the property is currently gained via a driveway to the front 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 Of the eleven individual trees, and groups of trees surveyed, two have been assessed as BS category B, with the remaining trees being assessed as BS 5837 category C.

Category B	2 trees
Category C	9 trees / groups

The Proposal

5.1 The proposal for the site is to renovate and extend the existing house. A new garden room will also be built at the rear end of the rear garden.

5.2 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.

T7, T8 and two sections of G9

6.2 All of the trees to be removed have been given a C 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.

TREE PRUNING TO ACCOMODATE THE PROPOSAL OR ACCESS TO THE SITE

6.4 There is a slight overhang of the new garden structure from the crown of T6. The defining branch structure of this tree is however well clear of the proposed upper building line and therefore building works can progress safely without the need for any facilitation pruning.

6.5 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

6.6 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.

6.7 The RPAs of several trees have been amended to take account of the existing structures (boundary walls / buildings); these adjustments can be seen on the appended plan.

6.8 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.

ASSESSED IMPACT ON RPAS BY PROPOSED STRUCTURES

6.9 The proposed new structures are situated outside of the assessed RPAs of all of the trees proposed for retention, therefore these trees pose no below ground constraints on the new structures or vice versa.

PROPOSED ACCESS TO THE NEW DEVELOPMENT

6.10 The existing driveway and parking area will be retained and there are no plans to upgrade or extend these areas as part of the proposed site works.

INSTALLATION OF SERVICES

6.11 The full details of existing and proposed new services have not been made available at the time of writing.

6.12 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.

6.13 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 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 outline 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.

Tree Protection Measures and Preliminary Method Statement for Development Works

This is a preliminary statement outlining the principal tree protection measures that will be necessary to implement the scheme without adverse harm to trees to be retained. A full site-specific method statement and tree protection plan will be required once the scheme is finalised and approved; this will be devised by GHA Trees, in conjunction with the appointed contractor and project engineer.

8.1 TREE WORK

A list of all tree works that are required (including trees to be removed) is included in the tree table at Appendix B. Where any tree work is needed, this work **MUST** 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. The position of the fence **MUST** be marked out with biodegradable marker paint on site and agreed with appropriate representatives from the LPA and contractor. The fencing **MUST** be erected **prior** to any works in the vicinity of the trees and removed only when all development activity is complete. The protective fencing **MUST** 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 **MUST** 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
Where any additional ground protection is required, these areas **MUST** be covered with a permeable membrane, with 150mm 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 MIXING OF CONCRETE
All mixing of cement / concrete **MUST** be undertaken outside of the RPA of all of the retained trees.

8.5 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.

8.6 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.

8.7 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.

8.8 DISMANTLING PROTECTIVE BARRIERS
Protective barriers must only be completely removed when all machinery, and equipment has left site.

Conclusion

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

9.2 No significant or important trees will be lost to facilitate the proposed scheme.

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

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.

13th March 2023
Signed:

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

Appendix A
TREE PLAN
(see separate PDF)

Appendix B
TREE TABLE

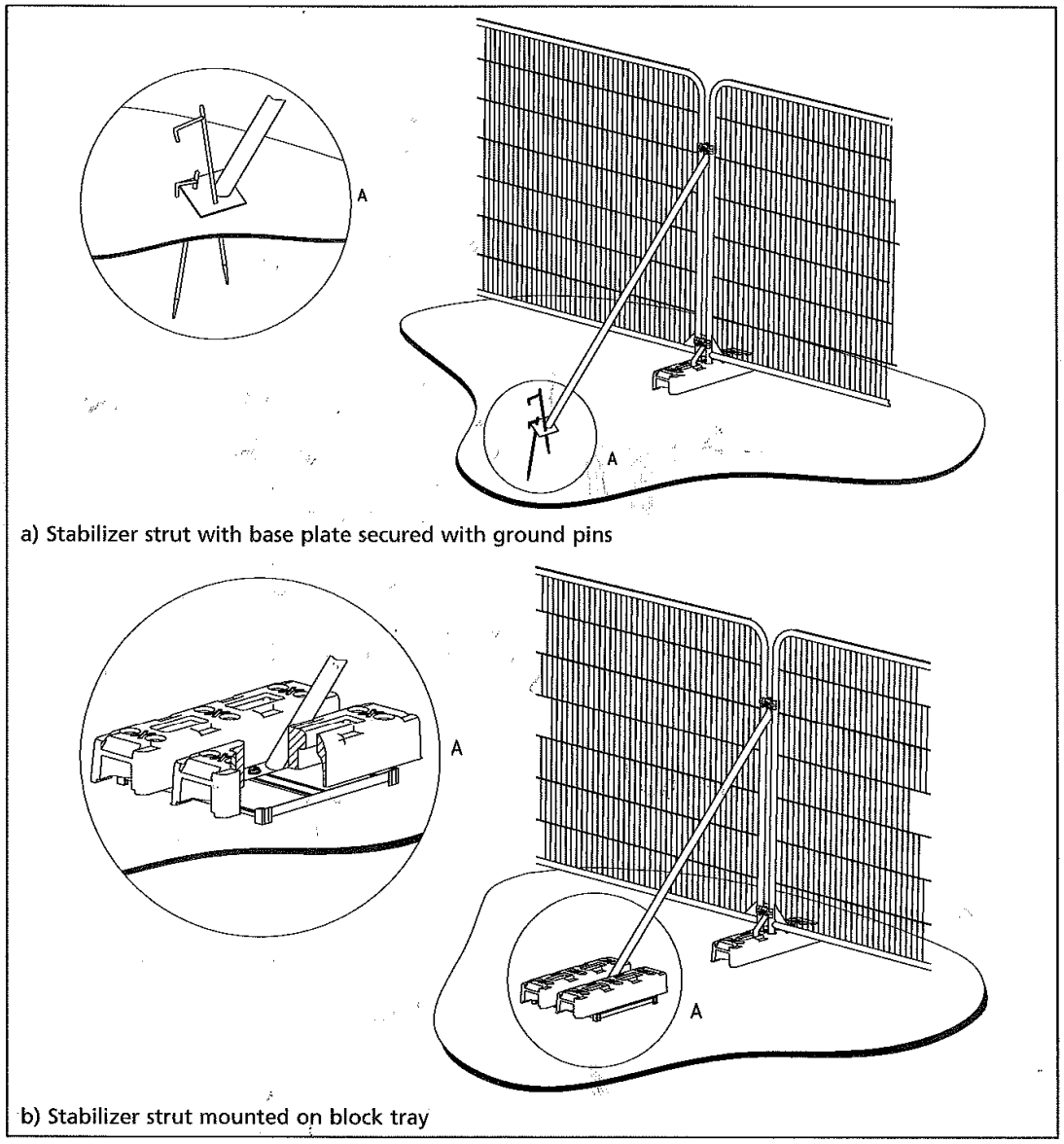
Tree Number	Tree Name (species)	Ht (m)	Calculated Stem Diameter (mm)	Number of Stems	Root Protection Area (Radius, m)	N (m)	E (m)	S (m)	W (m)	Age Class	Clearance (m)	Estimated life expectancy	BS Category	Comments / Recommendations
T1	Lime	14	240	1	2.88	4.4	4.4	4.4	4.4	M	2, first branch 3	20-40	B1	Street tree.
T2	Palm	6	200	1	2.40	2	2	2	2	M	3	10-20	C1	Off site - full inspection not possible. Some measurements estimated.
T3	Bay	8	200	1	2.40	2.5	2.5	2.5	2.5	M	2	10-20	C1	Off site - full inspection not possible. Some measurements estimated.
T4	Fig	7	200	1	2.40	0	3	3	1	M	3	10-20	C1	Off site - full inspection not possible. Some measurements estimated.
T5	Holly	9	260	2	3.12	3	3	3	3	M	4	10-20	C1	Off site - full inspection not possible. Some measurements estimated.
T6	Acer ssp	5	228	4	2.74	3	2.2	2.5	3	M	2.5	10-20	C1	Off site - full inspection not possible. Some measurements estimated.
T7	Prunus	9	150	1	1.80	1	1.5	2	2	M	4	10-20	C1	Small tree of limited value in the wider landscape. Recommend: to be removed.
T8	Buddleah	5	227	3	2.73	4.5	0.5	0	3	M	2	10-20	C1	Heavy lean to west. Small shrub of limited value in the wider landscape. Recommend: to be removed.

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
G9	Mixed shrubs - various species	4 to 7	100	1	1.20	as plan				M	0	10-20	C2	Small shrubs of limited value in the wider landscape. Recommend: section to be removed.
T10	Sycamore	14	447	5	5.37	4	4	4	4	M	4	20-40	B1	Off site - full inspection not possible. Some measurements estimated.
T11	Fig	6	150	1	1.80	2	4	3	2	M	2	10-20	C1	Off site - full inspection not possible. Some measurements estimated.

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
TREE FENCING DETAIL

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