

# Marcus Foster Arboricultural Design & Consultancy

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## Arboricultural Survey Impact Assessment & Method Statement Report (BS5837:2012)

<u>Site</u>

3 Gainsborough Gardens London NW3 1BJ

<u>Client</u>

Architecture for London

Date of Report:

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Report Reference:

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Report Prepared by:

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## 1.0 Instructions

1.1 This report has been commissioned by Architecture for London to survey, assess and provide an Arboricultural Impact Assessment and Method Statement for the trees sited within close proximity of proposed development works at 3 Gainsborough Gardens, London, NW3 1BJ.

## 2.0 Introduction

2.1 A site visit was conducted on 27th July 2022 to survey and assess the trees. The weather at the time of inspection was bright and mild with trees in late summer mode.

2.2 The tree survey, report and recommendations have been compiled for the 6 no. trees and 3 no. trees (T1-T3) surveyed within the site and neighbouring sites where relevant.

2.3 The details of the subject trees are set out in the tree survey table in *Appendix A*. The trees were surveyed on the date and time shown above and the tree survey assessment information for the tree describing size, condition and surroundings are found within this appendix.

2.4 The trees located within the site are shown in site plans T001-T003, Appendix B, and these correspond to the tree survey results table, Appendix A. Photographs of the trees can also be found in Appendix C.

2.5 This report and the opinions within it have been produced by Marcus Foster, a qualified arboriculturist and Professional Member of the Arboricultural Association with over 20 years experience and holding a National Diploma in Arboriculture, the Arboricultural Association's Technicians Certificate, Professional Tree Inspection Certificate (LANTRA) as well as a degree in History and Society. Work experience within the industry includes work as a Contracts Manager for an Arboricultural Association Approved Company, a Local Authority Tree Preservation Officer and an independent Arboricultural Consultant. As a consultant many of projects undertaken are in the inner London Boroughs of Islington, Hackney, Westminster, Camden, Southwark and RBKC, making Marcus Foster familiar with the most recent requirements of development and constraints on urban trees.

## 3.0 Survey Details and Scope

3.1 The site survey included the 3 no. trees (T1-T3) as shown in the survey, *Appendix A*, and also highlighted on the site plans, *Appendix B*.

3.2 The trees and hedges were surveyed from ground level from within their site location. The diameter of the trunks have been measured using a DBH tape at 1.5m height. The height of the trees have been estimated.

3.3 The following information was recorded for each tree and is shown in the Tree Schedule included in *Appendix A*:

- Number: an identity number which cross-references locations shown on the plan in Appendix A with the schedule in Appendix B.
- Species: listed by common names
- Tree Height: height in metres (m)
- Tree Spread: spread in metres (m)
- Stem diameter: measured in millimetres (mm) and taken at 1.5m above ground level
- Age Class: Y (young); EM (early-mature); M (mature); OM (overmature)
- · Vigour: G (good); F (fair); P (poor); D (dead)
- · Structural Condition: G (good); F (fair); P (poor); D (dead)
- · General Condition Specific comments relating to each tree
- Estimated Remaining Contribution (years)
- BS5837 Category Grading
- Protection Distance m2 Area (where applicable BS5827: 2012)
- Protection Distance Radius (where applicable BS5827: 2012)

3.4 Information recorded in the tree survey, *Appendix A* is expanded in the report findings and preliminary recommendations have been made in *Section 5*.

3.5 Findings as shown within *Appendix A* and assessed within *Section 5* are also highlighted within *Appendix B* which incorporates the Tree Constraints Plan (TCP) - drawing T002 addressing areas where arboricultural solutions are required. The Tree Protection Plan (TPP) - drawing T003 provides outline tree protection measures.

## 4.0 Survey Limitations

4.1 No soil excavations have been carried out.

4.2 This report only considers the trees and conditions at the time of inspection. As the inspection was only visual no guarantee can be given concerning the condition of the wood at present in any of the trees inspected and furthermore that no future problems or deficiencies may arise.

4.3 The survey has been undertaken as a survey of the trees without prior influence of the development and implicating factors.

4.4 No invasive tools were used during this site survey.

4.5 It should be noted that vegetation including shrubs within this / the neighbouring sites have not been included in the survey as none were within close or relevant proximity .

4.6 The survey has been undertaken from within the site only.

4.7 No additional documentation unrelated to the property or development has been referred to for the trees or the property for the compilation of this report.

## 5.0 Tree Survey Summary

5.1 The trees have been surveyed in accordance with BS5837: 2012 'Recommendations for trees in relation to construction' (BS5837: 2012) and have been rated as follows:

#### Category 'A' trees

Trees of high quality with an estimated remaining life expectancy of at least 40 years. Trees have been categorised as 'A' trees for one of the following reasons:

- Mainly arboricultural qualities
- Mainly landscape qualities
- Mainly cultural values including conservation

Within the Site Plan (Appendix B) those trees rated as 'A' category trees have a **green** outline as denoted within the site plan key / survey.

#### N/A

#### Category 'B' trees

Trees of moderate quality with an estimated remaining life expectancy of at least 20 years. Trees have been categorised as 'B' trees for one of the following reasons

- Mainly arboricultural qualities
- Mainly landscape qualities
- Mainly cultural values including conservation

Within the Site Plan (Appendix B) those trees rated as 'B' category trees have a **blue** outline as denoted within the site plan key.

#### **T2**

#### Category 'C' trees

Trees of low quality with an estimated remaining life expectancy of at least 10 years or young trees with a stem diameter below 150mm. Trees have been categorised as 'C' trees for one of the following reasons

- Arboricultural qualities unremarkable trees of very limited merit
- Mainly landscape qualities
- Trees with no material conservation or cultural value

Within the Site Plan (Appendix B) those trees rated as 'C' category trees have a **grey** outline as denoted within the site plan key.

#### T1, T3

#### Category 'U' trees

Trees in such a condition that they cannot realistically be retained as living trees in the context of the current land use for longer than 10 years.Within the Site Plan (Appendix B) those trees rated as 'U' category trees have a **red** outline as denoted within the site plan key.

#### N/A

5.2 The trees have been surveyed taking into account condition, general health and form without the development process influencing the survey. In addition they have also been surveyed taking account of amenity value that is offered in relation to both the landscape and surrounding buildings and streetscape. This report outlines the impact that the proposed development will have on the overall treescape and landscape; it provides recommendations to ensure that long-term amenity value for the area is retained.

5.3 The report has been written with close reference to the British Standard Guidance, British Standard 5837: 2012 'Recommendations for trees in relation to construction' (BS5837: 2012), which addresses the juxtaposition between trees and structures. The Arboricultural Impact Assessment highlights areas where the trees will require protection which should be addressed within the Arboricultural Method Statement (AMS) and/or Tree Protection Plan (TPP) specific to the site and proposed scheme, and corroborating with all construction and landscape method statements as relevant.

5.4 The report specifies precautions which shall be taken when working close to retained trees. Important terms include:

#### **Root Protection Area (RPA)**

The area defined as requiring protection from development from retained trees within BS5837 (2012). Using a calculation provided within BS5837 a radius distance is provided based on a measurement of the main stem taken at 1.5m height.

#### **Construction Exclusion Zone (CEZ)**

This is the RPA where no construction activity should occur and damage is prevented by either installing fencing to restrict access or installing ground protection that allows limited access above the ground, while protecting the rooting environment below.

Due to site constraints and the encroaching nature of development for an area within the RPA outside the CEZ where works are proposed, works must be carried out with care to minimise any impact on the tree rooting environment.

#### **Tree Protection Plan (TPP)**

The document which defines the extent and methodology of tree protection for the entire development process. This should be referred to AT ALL TIMES by the principal contractor and shall ensure safe protection of all retained trees on site.

#### **Precautionary Area**

An area where works must be undertaken with direct consultation with methodology as specified within the AMS report and / or scheme of Arboricultural supervision

#### 6.0 Findings and Discussion:

#### Site Overview

6.1 The 3 no. trees (T1-T3) located within close proximity of the proposed development works are sited within 3 Gainsborough Gardens, London, NW3 1BJ; no neighbouring trees have the potential to be impacted by the development proposal.

6.2 The following statutory checks have been made in relation to the trees and their status within London Borough of Camden (LBC):

CONSERVATION AREA STATUS South Hampstead Conservation Area

#### TREE PRESERVATION ORDER (TPO) STATUS

TPO protection check has not been undertaken. BS5837 does not draw any distinction between trees subject to statutory protection, such as a Tree Preservation Order , and those trees without. This is principally because a detailed planning consent overrides any TPO protection

6.3 The following extracted map confirms the Conservation Area status and overview of treescape as shown within the LB Camden - Hampstead CA:



Extract from:

https://ssa.camden.gov.uk/connect/analyst/mobile/#/main?mapcfg=CamdenConservation&lang=en-gb

6.4 The underlying soil to this area is classified as 'clayey loam to silty loam' within the UK Soil Observatory - <u>www.ukso.org</u> - a medium to heavy soil mix as confirmed below:



6.5 The presence of a clay element within the soil is significant in terms of both tree protection and foundation design. Clay soils can experience substantial volume changes when vegetation extracts moisture from the ground and are prone to compaction when wet. Any foundations should also be designed in accordance with the recommendations contained within NHBC Chapter 4.2 (National House Building Council, 2010) and should account for the possibility of both subsidence and heave.

6.6 For the purposes of this report, reference has been made to the following plans for the proposed development:

Architecture for London EX SIDE ELEV EX 3 Gainsborough Gardens PR 3 Gainsborough Gardens

6.7 The site comprises a semi-detached residential dwelling with hard and soft landscapes laid to the front and rear. Development proposals include rear garden excavations and general refurbishment works.

6.8 The summary of arboricultural impact which shall be assessed is as follows:

•Loss of 1 no. 'C' category tree

•Potential compaction and damage of the retained trees in relation to the development and landscape process

•Potential damage to canopies of the retained trees surrounding the site during development and landscape process

•The use of and storage of materials and chemicals on site within close proximity of the trees

6.9 The trees and the impact from the proposed development are evaluated within this section to determine overall arboricultural impact from the proposed development. Where trees are retained the Root Protection Area (RPA) for each tree is evaluated in relation to proposed development works. The following is assessed within this section:

(i) Where tree protection measures are deemed appropriate these are highlighted

(ii) No mitigation for tree loss is relevant due to retention of all trees / shrubs

#### Tree Survey Notes in Relation to Development

#### Tree T1 - Rear of property

6.10 Tree T1, Magnolia (*Magnolia x soulangeana*) is sited within raised topography limited rear garden location. The tree has the following key attributes:

- Exposed anchorage roots to south within hard landscape steps.
- Cyclically managed historically in relation to property; reduction points at 3-8m height, currently lapsed 2 years
- Crown growing within 1.5m of northern elevation / over existing ground floor structure by 3.0m branch lengths

6.11 The following extracted elevation (existing) demonstrates the main constraints of location, proximity to property and topography as highlighted above:



Extract from Architecture for London - EX SIDE ELEV

6.12 The proposed development requires loss of this 'C' Category tree. The loss is justified based on the following:

- Poor location of T1
- Limited amenity value of tree with requirement to cyclically prune the species which results in excessive regenerative growth
- Robust replacement scheme applicable for loss of tree

6.13 To mitigate and enhance the green infrastructure of the site replacement tree proposals shall provide an important landscape feature for the development. Within proposed scheme a 1:1 ratio of replacement to cover loss shall be applied. The replacement planting proposal / plan shall incorporate a species mix in accordance with the following:

- Climate change resilience
- Pest and disease resilience
- Future occupancy consideration for rear gardens
- Implementation scheme to BS8545 (Trees: From Nursery to Independence in the Landscape, 2014)
- Aftercare and establishment programme

### Trees T2 & T3 - Front of property

6.14 The 2 no. Trees at the front have the following key attributes:

-T2 - prominent newly planted (within past 10 years) Indian bean tree (*Catalpa bignonoides*) with developing form and potential to develop - T1 a Winter flowering cherry (*Prunus subhirtella* 'Autumnalis') - young with developing form

- No incursion to development site for either tree

6.15 The trees shall remain unaffected by development proposals but have the potential to be impacted by the construction process.

6.16 The following tree protection measures shall be carried out during construction works as outlined within drawing an AMS and T003 (TPP) to ensure retention for the long term of trees T2-T3:

### TREE PROTECTION FENCING

Tree protection fencing shall enclose the main stem and soft landscape tree pit

### FACILITATIVE TREE WORKS

Tree works shall lift low canopy; works specification included within Section 9 - Schedule of Works

### Summary of Arboricultural Impact

6.17 The proposed development requires tree protection measures and mitigation for the implementation of development as follows:

Tree Protection applicable to the following trees: T2 & T3 Mitigation applicable for the removal of the following trees: T1

6.18 The tree protection measures shall ensure that the development does not detrimentally impact the amenity value and canopy cover of the front of the site. In summary the arboricultural impact as outlined within drawing T003 - Tree Protection Plan (TPP): require the following tree protection measures

- (i) TREE PROTECTION FENCING
- (ii) GROUND PROTECTION

6.19 A landscape scheme with mitigation for loss of removed trees and shrubs shall include replacement planting to provide long term canopy cover; this shall ensure that the development does not detrimentally impact the amenity value and canopy cover of the site but enhances for the long term.

### 7.0 Arboricultural Method Statement

7.1 The following tree protection measures require close adherence AT ALL TIMES as outlined within this report. The measures are outlined within Tree Protection Plan (TPP) - drawing T003.

### 7.2 Tree Works

7.2.1 Tree Works included within Schedule of Works - Section 9 - shall be undertaken at pre-commencement stage.

### 7.3 Tree Protection Fencing

7.3.1 Protection of the trees highlighted for retention must be implemented as explained below and as specified within the TPP - drawing T003:

To provide Construction Exclusion Zone (CEZ) Specified as Basal Shuttering - seeTPP & Appendix E

7.3.2 These measures must remain for the entire construction process in order to provide a comprehensive barrier from the trees

- •The area surrounding the trees must be surrounded by protective fencing as outlined in TPP T003
- •The protective fencing used must be suitable for the purpose of excluding construction activity and appropriate to the degree and proximity of work taking place around the retained trees.
- •This barrier must remain rigid and complete during the entire construction process. Protection is not required surrounding entire trees where boundary treatments intervene in RPA's as the remainder of the root plate will remain unaffected by virtue of being located within the neighbouring properties
- •Once the Exclusion Zone has been protected by fencing all weather notices as included in *Appendix D* must be put onto the barrier warning that the area is a construction exclusion zone.
- •No heavy plant shall come into contact with any part of the canopies of the trees.

•No building materials or chemicals shall be stored within the tree protection zone as indicated on the TPP

7.3.3 The site notice as included in *Appendix D* summarising the above information must be visible at all times for employees working within the site.

## 7.4 Ground Protection

7.4.1 For ground protection the existing hard standing must be retained at all times during the development process within the RPA of retained trees.

## 7.5 **Fires**

7.5.1 There must UNDER NO CIRCUMSTANCES be fires within this site.

## 7.6 Storage of Construction site related materials, plant and spoil

7.6.1 A designated storage area must be confirmed at pre-commencement stage which is located outside of the RPA of retained trees. Strict adherence to this area must be made to this area and any amendment would require written consent from the tree officer.

## 7.7 Site Welfare & Site Office

7.7.1 Site welfare and the site office must be confirmed at pre-commencement stage which is located outside of the RPA of retained trees. Strict adherence to this area must be made to this area and any amendment would require written consent from the tree officer.

### 7.8 Installation of utility services

7.8.1 If for any reason installation and/or amendment of utility services within the RPA of trees is required the consulting arboriculturist and Local Authority must be notified prior to any ground tree protection / fencing and barrier removal and the following details adhered to:

- Trenching for the installation of underground services severs any tree roots present and can have a detrimental impact on the structural integrity of affected trees. When services are required to pass through a Tree Protection Area / CEZ, detailed plans showing proposed routes should be drawn up in conjunction with the consulting arboriculturist to avoid long term problems for related trees.

- The preferable method for trenching is to use a 'Air Spade' or similar to remove soil with compressed air, therefore minimising damage to roots in the process. Should hand dug excavations be required within the RPA this shall only be undertaken with arboricultural supervision.

7.8.2 Further reference can be made to National Joint Utilities Group (Volume 4, Issue 2) for guidance but any approach must be approved by both the consulting arboriculturist and Local Authority tree officer.

## 8.0 Communication, Monitoring and Compliance

8.1 In ensuring that all Tree Protections Specifications as highlighted within this AMS are closely adhered to at all times, it is important to set out for the long term of the development, communication details for key individuals and tasks that require monitoring.

8.2 For all tree protection measures these must be considered as sacrosanct and should not be removed or altered without prior written consent from the Local Authority tree officer and/or consulting arboriculturist.

8.3 The local authority arboriculturist will have free access to the site and forward any concerns / recommendations directly to the consulting arboriculturist.

8.4 The following individuals and organisations are central to the delivery of the scheme in relation to the tree protection measures it requires:

#### **CONSULTING ARBORICULTURIST**

Name - Marcus Foster MArborA Telephone - 07812024070 Contact - Marcus Foster Email - mail@marcus-foster.com

### LONDON BOROUGH OF CAMDEN - TREE OFFICER

Name - Arboricultural Services - London Borough of Camden Telephone - 020 7974 5939 Contact - Nick Bell - Tree Officer Email - nick.bell@camden.gov.uk

## 9.0 Tree Works Schedule

9.1 Any tree work shall be carried out to BS 3998; 2010 Recommendations for Tree Work.

9.2 Tree works to be confirmed at pre-commencement meeting

TREE WORKS SCHEDULE: 3 Gainsborough Gardens, London, NW3 1BJ											
Tree No.	Common Name	BS5837 Category	Tree Works	Reasons for works							
T1	Magnolia	С	Fell to ground level and ground out stump Provide replacement planting	To facilitate development							
T2	Indian bean tree	В	Crown lift to 2.5-3.0m pruning sub 25mm diameter branches to this height only	In line with good arboricultural practice							

#### NOTE: Wildlife & Habitat Protection Guidelines

The tree work specifications included within this report do not provide an exemption from the requirements to comply with the Wildlife and Countryside Act 1981, the Habitats Regulations 1994 and the Countryside and Rights of Way Act 2000, or any acts offering protection to wildlife. Of particular note is the protection offered to bats, birds and their nests, whilst being built or in use. It must be noted that failure to comply with the Acts may result in a criminal prosecution.

# **Appendices**

# Appendix A

Tree Survey Schedule (BS5837:2012)

# 3 Gainsborough Gardens London NW3 1BJ

Colour Key: BS5837: 2012 (see Section 3.6)



#### BS5837:2012 TREE SURVEY 3 Gainsborough Gardens, London, NW3 1BJ BS5837 Tree Schedule (BS5837:2012) - 27.07.22

Tree No	Species	Height (m)	DBH (mm)	Spread (m) N/E/S/W	Age	Structural Condition	Vitality	BS5837 (2012) Rating	Remaining Contribution (years)	Comments / Structural Condition	Root Protection Area (RPA) m2	Root Protection Area (RPA) Radius (m)
T1	Magnolia	8	240	4 4 4 4	EM	F	G	C1	10 years +	Sited within raised retainer, limited rear garden location. Exposed anchorage roots to south within hard landscape steps. Cyclically managed historically in relation to property; reduction points at 3-8m height, currently lapsed 2 years. Crown growing within 1.5m of northern elevation / over existing ground floor structure by 3.0m branch lengths	26.06	2.9
Т2	Indian bean tree	6	140	2 3 3 3 3	SM	G	G	B1	20 years +	Sited at frontage; low crown to 1.5m over driveway. Developing form	8.87	1.7
ТЗ	Winter flowering cherry	4	80	2 2 2 2	SM	F	G	C1	10 years +	Sited at frontage; ornamental, low spreading habit	2.9	1.0

AIA/MF/0118/22: BS5837:2012 AIA+AMS Tree Report Site: 3 Gainsborough Gardens, London, NW3 1BJ Prepared for: Architecture for London Date: September 2022

# Appendix B

Existing Tree Survey (T001) Tree Constraints Plan (T002) Tree Protection Plan (T003) (BS5837:2012)

3 Gainsborough Gardens London NW3 1BJ

Colour Key: BS5837: 2012 (see Section 3.6)









# <u>Appendix C:</u> <u>Tree Survey Photographs</u>

Site Photographs for:3 Gainsborough Gardens, London, NW3 1BJ



Tree T1 viewed to the east from upper rear garden



Tree T1 viewed to the east from ground level of property



Canopy of Tree T1 viewed to the east against northern elevation



Lower level (ground floor) of rear garden area



Tree T2 viewed to south at front of property



Tree T3 viewed to south at front of property



Tree T2 viewed to north at front of property

July 2022\_MFoster

AIA/MF/0118/22: BS5837:2012 AIA+AMS Tree Report Site: 3 Gainsborough Gardens, London, NW3 1BJ Prepared for: Architecture for London Date: September 2022

# Appendix D: Tree Protection Notice

Generic Tree Protection Notice (BS5837: 2012):

# Notice to be clearly shown on site where fencing constructed AT ALL TIMES

AVA/MF/0118/22: BS5837:2012 AVA+AMS Tree Report Site: 3 Gainsborough Gardens, London, NW3 1BJ Prepared for: Architecture for London Date: September 2022



# <u>Appendix E</u> <u>Tree Protection Fencing Specifications</u>



## Appendix F: References

- 1. BS5837: British Standard: Trees in relation to construction -Recommendations, British Standard (2012)
- 2. Principles of Tree Hazard Assessment and Management, Lonsdale, D. (Department for Transport, Local Government and the Regions, 1999)
- 3. The Body Language of Trees, Mattheck, C. and Breloer, H. (HMSO, 1994)
- 4. Trees in Britain, Philips, R. (Pan Books, 1978).
- 5. Diagnosis of III Health in Trees, Strouts, R. and Winter, (TSO, 1994)
- 6. National Planning Policy Framework February 2019 Ministry of Housing, Communities and Local Government
- 7. NJUG Guidelines for the Planning, Installation and Maintenance of Utility Apparatus in Proximity to Trees (Issue 2), (November 2007)

PREPARED BY MARCUS FOSTER MArborA END OF REPORT \_ Page 29/29