

Arboricultural Report

**Assessment of trees in relation to development
for planning purposes**

11 Glenilla Road
London
NW3 4AJ

July 2016

150213-PD-11

TIM M●YA ASSOCIATES



Project	150213 – Glenilla Road, London, NW3 4AJ
Report Type	Arboricultural Report for Planning
Checked by	Gavin Rees
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1 SUMMARY REPORT

- 1.1 This arboricultural report has been commissioned by Abigail Katovsky to provide information to assist all parties involved in the planning process to make balanced judgements with regard to arboricultural features in relation to the proposed development at 11 Glenilla Road, London, NW3 4AJ.
- 1.2 The proposal is for the construction of a basement extension which will follow the the ground floor building footprint above, an extended rear courtyard area at basement level, internal works to the ground floor room layout and an increase in width of the proposed rear kitchen area.
- 1.3 This report includes:
 - an assessment of the trees, their quality and value and constraints to development posed by these;
 - the context and observations of the trees on the site;
 - the planning policies relevant to the consideration of the trees on the site;
 - the impact of the proposed development upon the tree population in and around the site;
 - methods of reducing impacts on trees; and
 - measures to be taken to protect trees during the proposed works.
- 1.4 Trees relevant to these proposals have been assessed in accordance with best practice guidance and planning policy at national and local level.
- 1.5 Relevant impacts and potential issues relating to trees have been considered within this report and factual information is contained in the appendices.
- 1.6 My conclusions are that the proposed development is acceptable in both arboricultural terms and in relation to planning policy as it relates to trees.

2 INTRODUCTION

Instructions

- 2.1 My name is Charles McCorkell; I am an arboricultural consultant dealing with trees in relation to all forms of human activity including the built environment. I am an Associate Member of the Institute of Chartered Foresters, a Professional Member of the Arboricultural Association, and I have a BSc Honours Degree in Arboriculture from the University of Central Lancashire.
- 2.2 This arboricultural report has been commissioned to provide information to assist all parties involved in the planning process to make balanced judgements with regard to arboricultural features in relation to the proposed development.

Scope and limitations

- 2.3 The survey is not an assessment of health and safety of trees and no recommendations for works have been provided, however trees identified as imminently dangerous will have been highlighted in the tree schedule at Appendix B, where appropriate.
- 2.4 The contents of this report are copyright of Tim Moya Associates (TMA) and may not be distributed or copied without TMA's explicit permission. Tim Moya Associates standard Limitations of Service apply to this report and all associated work relating to this site.

Background and documents provided

- 2.5 My report has been prepared with reference to the following supplied information:
- Ordnance Survey Map;
 - Existing Basement and Ground Floor Plans; and
 - Proposed Basement and Ground Floor Plans.

Methodology and guidance

- 2.6 I have referred to *British Standard 5837: Trees in relation to design, demolition and construction (2012)* which provides a methodology for the assessment of trees and other significant vegetation on development sites.

- 2.7 BS 5837 (2012) is intended to assist decision making with regard to existing and proposed trees and sets out the principles and procedures to be applied to achieve a harmonious relationship between existing and new trees and structures that can be sustained for the long term.
- 2.8 The Building Research Establishment (BRE) has also produced several documents between 1998 and 2011 in relation to trees and site layout planning, sunlight, daylight, shading and urban cooling. These documents consider trees and their relationship with buildings and garden usage, including the benefits they bring in terms of welcome shade or urban cooling, advising a balanced approach to these issues in design.

3 OBSERVATIONS AND CONTEXT

Site visit

- 3.1 The site was visited on 29th June 2016, to carry out a survey of the trees that may be impacted by the proposal. Trees on and around the site were inspected from ground level only.

Description of the site

- 3.2 The existing building is a three storey mid-terrace residential building with an existing basement located at the front corner of the property adjacent to No.9 Glenilla Road.
- 3.3 Glenilla Road consists of residential properties within the Belsize Park area of London. To the east is the A502 on which Belsize Park underground station is located, while to the west is Finchley Road.

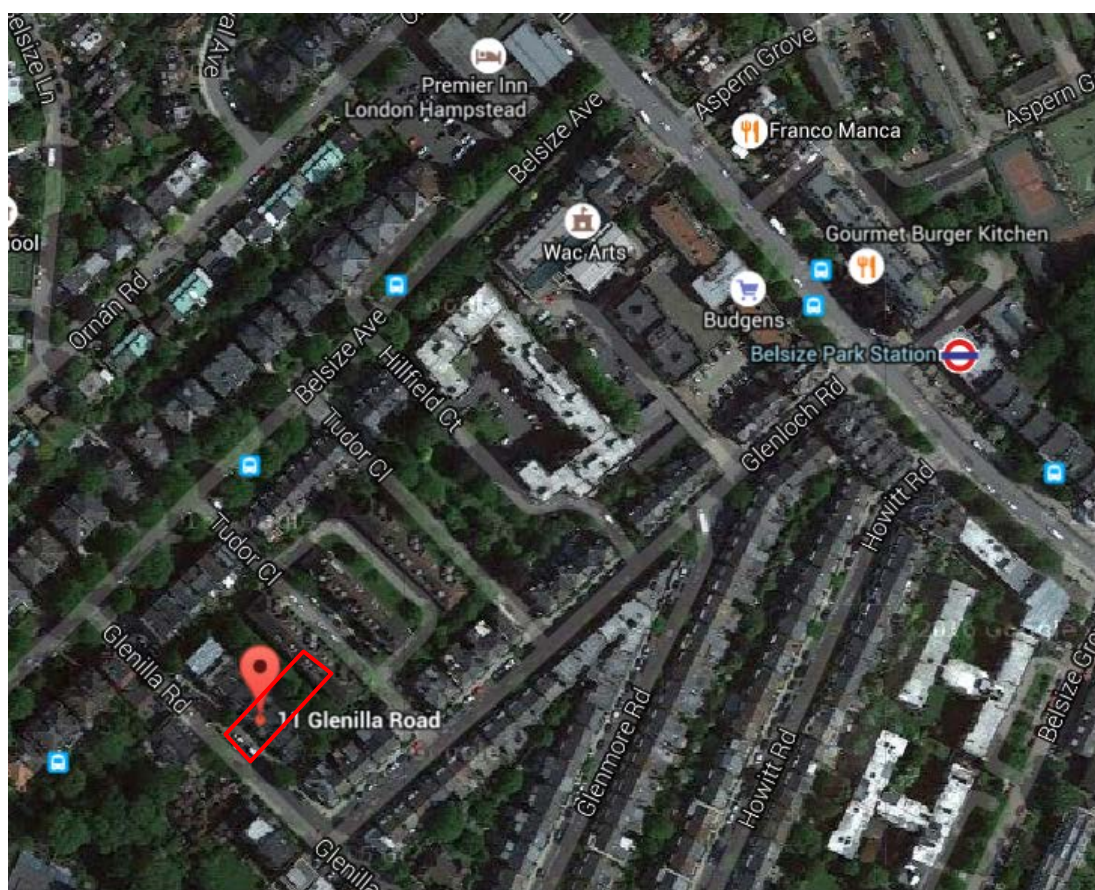


Photo 1 (Google, 2016). Aerial photo showing approximate outline of the site.

Description of trees on site

- 3.4 The main tree cover on site consists of four Lime trees located along the rear boundary of the site adjacent to Tudor Close. The trees are situated within a low retaining bed and adjacent to a rear boundary wall.
- 3.5 Of the four trees, T5 and T6 have been pollarded within the last 5 years while T4 and T7 are lapsed pollards and have had crown reduction works carried out.
- 3.6 The remaining vegetation within the front and rear curtilage of the site consist of low growing shrubs, climbers and a hedgerow.

Description of trees in the local area

- 3.7 Tree coverage in the area is mainly provided by local authority street trees which soften the building lines and provide natural greening to an intensely developed area.
- 3.8 The street trees provide the road with a verdant tree lined character appear to be maintained as part of cyclical crown reduction programme.

View of trees



Photo 2 (CM 29/06/2016) View of H13 and H2 located within the front garden area.

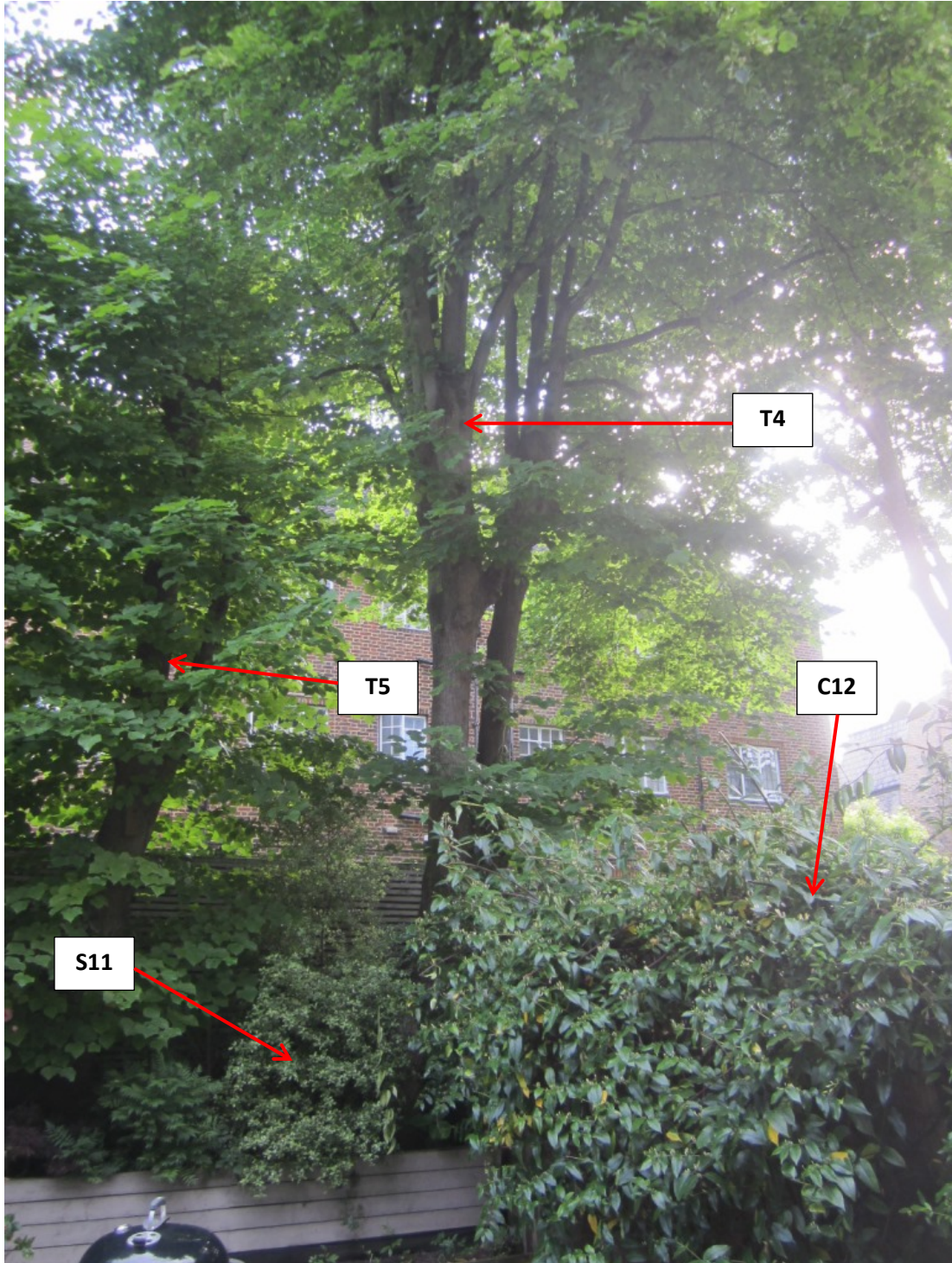


Photo 3 (CM 29/06/2016) View of T4, T5, S11 and C12 located within the rear garden area.

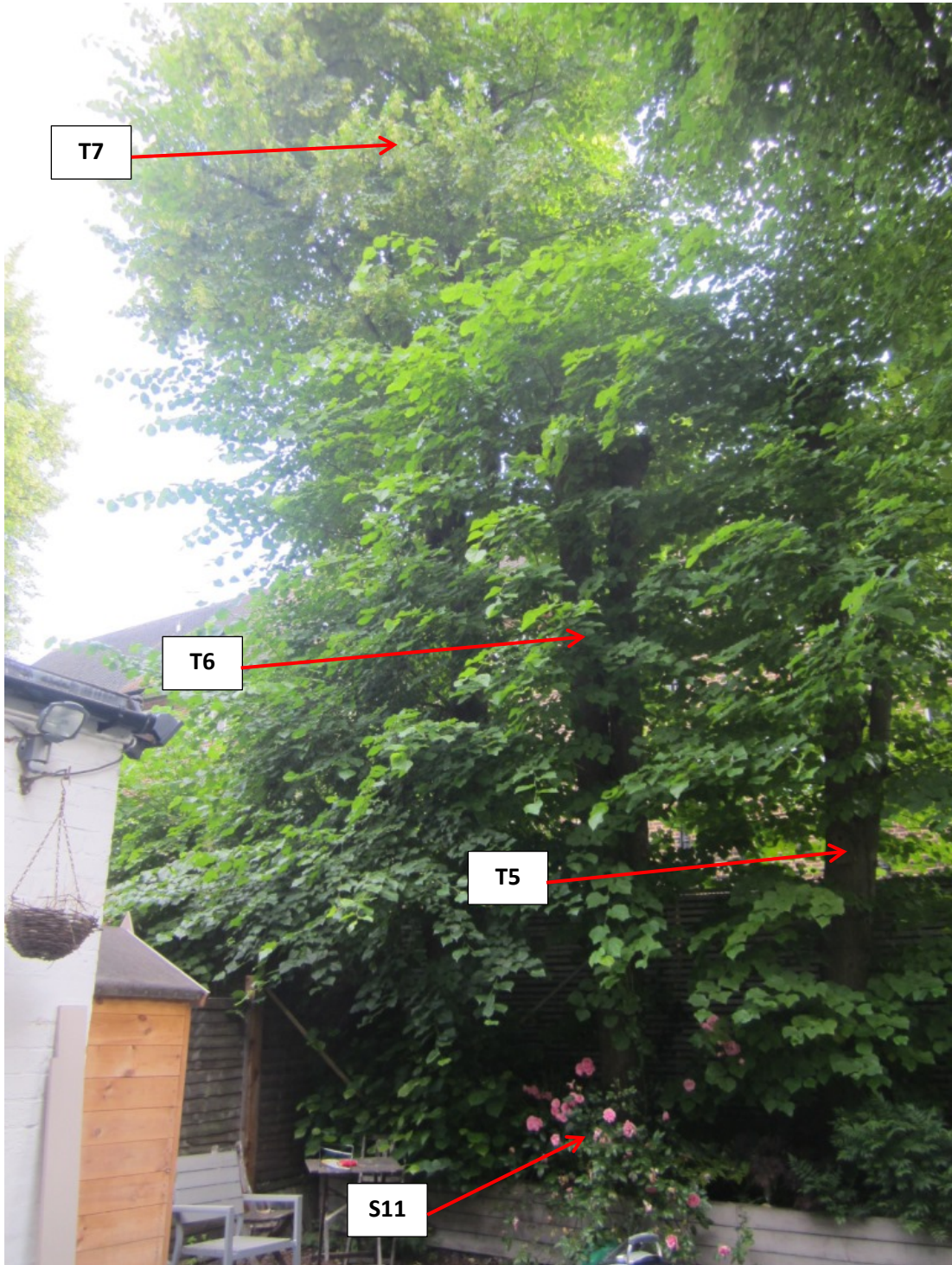


Photo 3 (CM 29/06/2016) View of T5, T6, T7 and S11 located within the rear garden area.

Soil conditions

- 3.9 The British Geological Survey on-line information suggests that the soils on the site are of London Clay formation. No superficial deposit information is available.
- 3.10 Available local borehole information, reference number TL10SE271, located on the junction of Belsize Avenue and Haverstock Hill indicates made ground within the first 4 feet, followed by clay to a depth of 20 feet. Please refer to Appendix C for a copy of the borehole information provided.
- 3.11 Mixed loamy soils are suitable for the growth of a wide range of tree and shrub species. However, the clay content is likely to cause the soils to change in volume with changes in moisture content and water absorption by tree roots at depth can result in building movement and possible damage.
- 3.12 For further specific details of local soil conditions reference should be made to the BGS website <http://www.bgs.ac.uk/discoveringGeology/geologyOfBritain/viewer.html>

Policy context

- 3.13 Planning policy at national level is set out in the government's National Planning Policy Framework (NPPF).
- 3.14 The NPPF sets out overarching planning policy and at its core is a presumption in favour of sustainable development. Sustainable development is defined in the NPPF as having economic, social and environmental strands that are interdependent and in these areas planning should meet the needs of the present without compromising the ability of future generations to meet their own needs.
- 3.15 The NPPF states that planning should be *“not only about scrutiny, but instead be a creative exercise in finding ways to enhance and improve the places in which people live their lives.”* And should *“always seek to secure high quality design and a good standard of amenity for all existing and future occupants of land and buildings;”* Also that planning should *contribute to conserving and enhancing the natural environment and reducing pollution.”*

- 3.16 The NPPF identifies thirteen aspects contributing to the delivery of sustainable development, including:
- establishing a strong sense of place;
 - responding to local character and history; and
 - providing developments that are visually attractive as a result of good architecture and appropriate landscaping
- 3.17 Paragraph 61 of the NPPF states *“planning policies and decisions should address the connections between people and places and the integration of new development into the natural, built and historic environment.”*

Regional Planning Policy

- 3.18 Regional planning policy consists of the London Plan 2015 and associated policy documents including the Climate Change Adaptation Strategy (*Managing Risks and Increasing Resilience – October 2011*).
- 3.19 The London Plan 2015 defines “green infrastructure” as “an overarching term for a number of discreet elements (parks, street trees, green roofs etc.) that go to make up a functional network of green spaces and green features.”
- 3.20 In relation to climate change adaptation the London Plan calls for the use of trees and other shading to *“increase green areas in the envelope of the building, including its roof and environs”*
- 3.21 The London Plan sets a target of a 5% increase in trees in parks, gardens and green spaces by 2025.
- 3.22 Policy 7.21 of the London Plan 2015 calls for trees and woodlands to be protected, maintained and enhanced. The policy requires that existing trees of value should be retained and that any loss as a result of development should be replaced in sustainable locations. The policy suggests that, where appropriate, large canopied species should be planted (rather than smaller ornamental species).

Core Strategy

- 3.23 The Camden Core Strategy and its Development Policies was adopted in November 2010. The following policies are relevant to this site and trees and landscape issues:
- 3.24 **Policy DP24 Securing High Quality Design** – new development including alterations and extensions will need to consider natural features including trees.

- 3.25 **Policy DP25 Conserving Camden's Heritage** – confirms that the council will preserve trees and garden spaces which make a contribution to the character of a conservation area.
- 3.26 **Policy DP27 Basement and light wells** – proposals will need to consider the natural environment especially trees of townscape or amenity value. The supporting text states that sufficient margins should be left between the basement construction to sustain growth of vegetation and trees. Where there are trees on or adjacent the site the root protection area of these trees will need to be considered.

Unitary Development Plan

- 3.27 The Camden Unitary Development Plan adopted January 2007. Relevant policies to the consideration of trees, their setting and development include:
- 3.28 **Policy DES 12 Parks, gardens and squares** - does not permit development on or under parks, landscaped spaces, or gardens where the open space forms an important element in the townscape, part of a planned estate or street layout, are characteristic features of conservation areas, provide the setting for listed buildings, or are of significant ecological value. The policy protects open spaces by limiting development adjacent to them except where it would safeguard their appearance, setting and ecological value, and preserve their historic integrity and views.
- 3.29 **Policy ENV 15 Public and Private Open Space** - assigns similar protection to public or private open space of amenity, recreational or nature conservation value, unless the [proposed] development is essential and ancillary to maintaining or enhancing that land as valuable open space.
- 3.30 **Policy ENV 16 Trees and Shrub Cover** - Protects trees in conservation areas and those subject to Tree Preservation Orders and protects trees which form part of a green corridor.

Supplementary Planning Documents

- 3.31 Camden Council has created the following planning guidance which is related to this application.
- 3.32 **Basements and Lightwells CPG4** – was adopted on 6th April 2011 and updated in July 2015. The following sections are relevant to trees:

- 3.33 Permitted Development – permitted development rights are removed within a conservation area if trees are affected by the proposed development and that the conservation area is preserved or enhanced.
- 3.34 Basement schemes will need to consider the impact of development on nearby trees especially if the basement area extends below the garden space. Sufficient margins should be left between the basement construction and trees to sustain their growth and mature development.
- 3.35 **Design CPG1** – was adopted on 6th April 2011 and updated in 2015 and relates to the design of new developments including building extensions and states that construction methods for new developments should minimise impacts on trees.
- 3.36 Section 6 specifically concerns landscape design and trees and states the requirement for a tree survey prior to the scheme design and includes guidance on tree protection and new landscaping. It also mentions that structures should be sited away from trees and vegetation and that foundation design should minimise damage to the root protection zones of adjacent trees.

Legal constraints

- 3.37 According to Camden Council's on line mapping facility the site is located within Belsize Park conservation area and therefore subject to statutory protection.
- 3.38 I am not aware of any tree preservation orders existing on this site but prior to undertaking any tree works confirmation of this should be sort from the local authority.

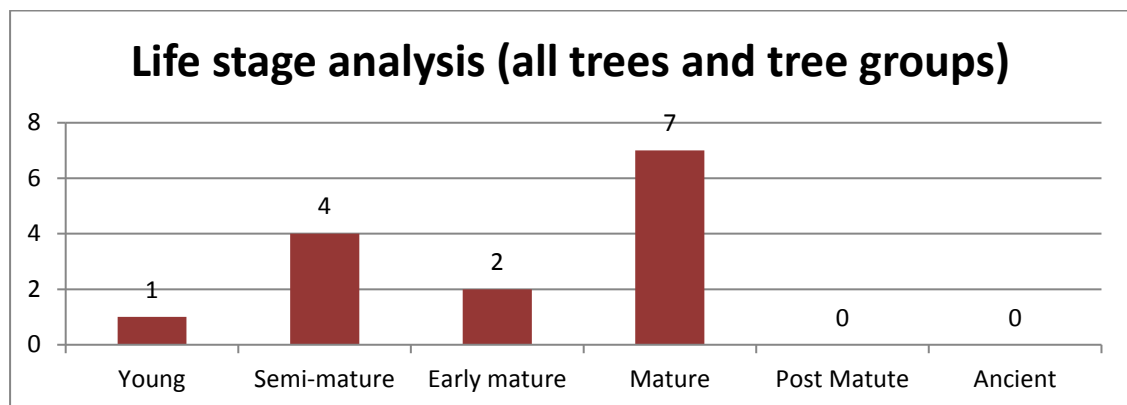
4 TECHNICAL INFORMATION

Tree Data

- 4.1 The location of trees and groups of trees are shown on the tree survey drawing at Appendix A, this plan illustrates the location of trees and the extent of the spread of their crowns. Dimensions, comments and information for each tree are given in the tree schedule at Appendix B.

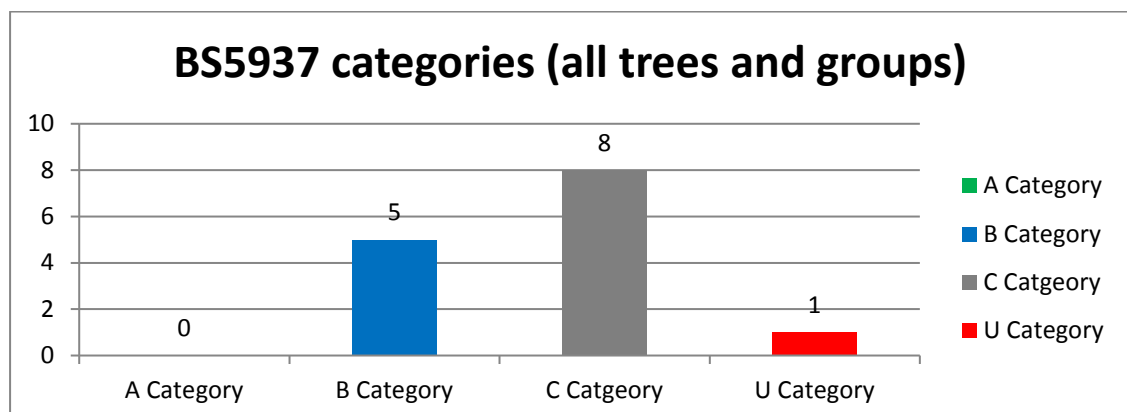
Life Stage Analysis

- 4.2 Unlike age in numerical terms (years), this description is used to describe the physical form of a tree in relation to its typical life expectancy and varies between species.



BS5837 (2012) category breakdown

- 4.3 The trees surveyed were assessed as being of varying quality with the majority being low quality or unremarkable trees. Further details of the trees surveyed can be found in the schedule at Appendix B and the tree survey plan at Appendix A.



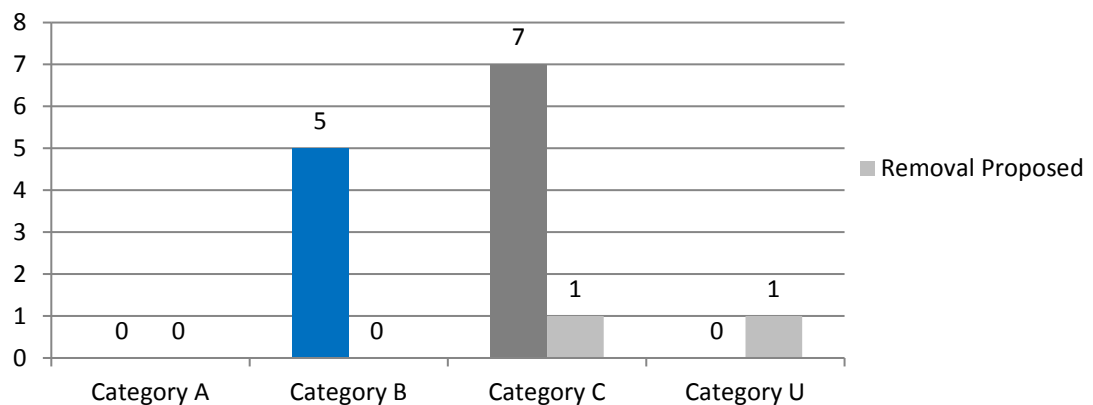
5 ANALYSIS OF THE PROPOSAL IN RESPECT OF TREES

Arboricultural Impacts

5.1 The following arboricultural impacts have been considered in relation to the proposed development:

Impact	Analysis
Loss of trees	<p>The proposal will require the removal of one U category hedgerow (H13) located within front garden and one C category group of climbers (C12) located within the rear garden. It is not proposed that any trees will be removed to facilitate the proposed development.</p> <p>In visual terms the loss of vegetation will have a negligible impact on the character and appearance of the surrounding landscape due to their small size and low quality.</p> <p>A schedule of all proposed tree works with reasons for the works is attached at Appendix B.</p>

Proposed Removals (all trees and tree groups)



Pruning to facilitate development	It will not be necessary to prune trees in order to construct the proposed development.
Demolition operations	The internal demolition works of the existing building and the demolition and reconstruction of the flank wall to increase the footprint of the kitchen are not located within the RPAs of retained trees, therefore no special methods of work are proposed.

Construction operations	<p>The construction of the proposed rear courtyard area follows the existing floor level of the basement and marginally encroaches into the RPA of T4. The area affected constitutes a very small proportion of the rooting area of this tree and is located at the periphery of the RPA. Therefore this very minor incursion will not cause significant harm to the health or structure of the tree.</p> <p>It will be necessary to ensure best practice working methods are carried out to avoid adverse impacts on potential rooting, therefore the first 600mm of excavation will be carried out manually and any exposed rooting is cleanly pruned with a sterile secateurs or handsaw.</p> <p>A 1.5 metre space between the protective fencing line and the edge of excavation has been included as part of the overall tree protection design. This will allow sufficient working space for site operatives. The area will remain a designated tree protection zone throughout construction. In order to maintain the appropriate level of protection to the trees rooting environment, the existing hard standing should be retained and act as ground protection. If this is not possible, temporary ground protection will be installed as shown within Appendix D of this report.</p> <p>Details of the measures to be taken to protect trees are included at Appendix A.</p>
Installation of drainage	<p>We do not currently have details of the condition of existing drainage runs or any information which suggests that there will be a requirement to install new drains. However, if new drainage runs are required, they should be located outside the RPAs of retained trees. If it is found to be necessary to locate new drainage runs within the RPAs of retained trees it is recommended that these works are carried out under arboricultural supervision. Methods of work should follow the recommendations in the NJUG guidance. BS5837 (2012) recommends the NJUG guidance as a normative reference to be used in these circumstances. See http://www.njug.org.uk/</p>
Installation of services	<p>New service runs will, where possible, be located outside the RPAs of retained trees. However, if it is necessary to locate services runs within the RPAs, BS5837 (2012) recommends the NJUG guidance as a normative reference to be used in these circumstances. See http://www.njug.org.uk/</p>

6 DISCUSSION AND CONCLUSIONS

General Change

- 6.1 In visual terms, the loss of vegetation required to construct the proposed development will have a negligible impact on the surrounding area. Removals have been restricted to one poor quality hedgerow and one low quality group of climbers, both of which are of small size and do not represent a loss to the public amenity value of the surrounding landscape. All significant trees can be successfully retained and protected throughout the development.

How do the changes relate to planning policy?

<i>Policy Ref</i>	<i>Compliance</i>
NPPF	<p>The proposals do not impact upon ancient woodland or veteran trees. The proposals are sustainable in landscape terms and therefore meet the criteria for sustainability in this respect.</p> <p>The proposals have been designed to provide a good standard of amenity for occupants and measures are proposed to enhance and protect natural features.</p> <p>Landscaping has been designed to respond to local character and contribute to a strong sense of place while integrating the proposed development into the natural environment.</p>
Regional policy (The London Plan)	<p>The London Plan emphasises the importance of trees, green infrastructure and climate change resilience. By retaining existing trees of good quality, planting new trees and enhancing the local landscape, the proposals have responded to the London Plan.</p>
Local policy	<p>The proposed development complies with local policies. The design of the basement footprint has considered existing trees and their rooting environment. All trees can be successfully retained and protected throughout the development.</p>

Conclusions

- 6.2 The design of the proposal has properly considered the tree constraints.
- 6.3 The proposal complies with planning policies referenced within the report.
- 6.4 All retained trees can be adequately protected by following the recommendations in the method statement at Appendix A and controlled by suitably worded planning conditions.

APPENDIX A - PLANS

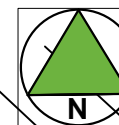
Tree Survey 150213-P-10a

Tree protection and Tree Removals Plan 150213-P-12

Tree protection specification and method statement 150213-P-15

BASEMENT

GROUND FLOOR



The original of this drawing was produced in colour - a monochrome copy should not be relied upon.

BS 5837:2012 TREE RETENTION CATEGORIES

Category A
Trees of high quality and value: in such a condition as to be able to make substantial contribution (a minimum of 40 years is suggested)

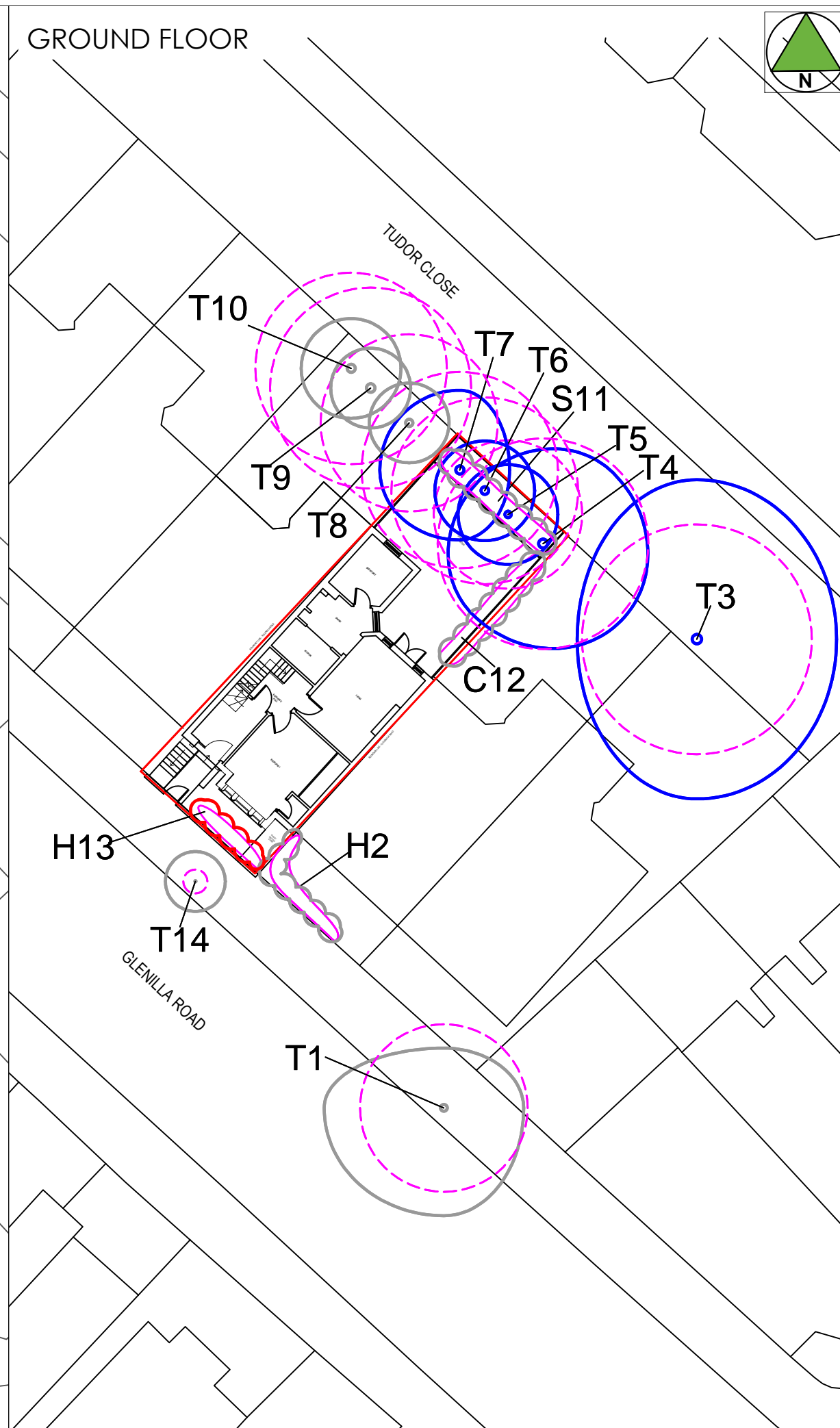
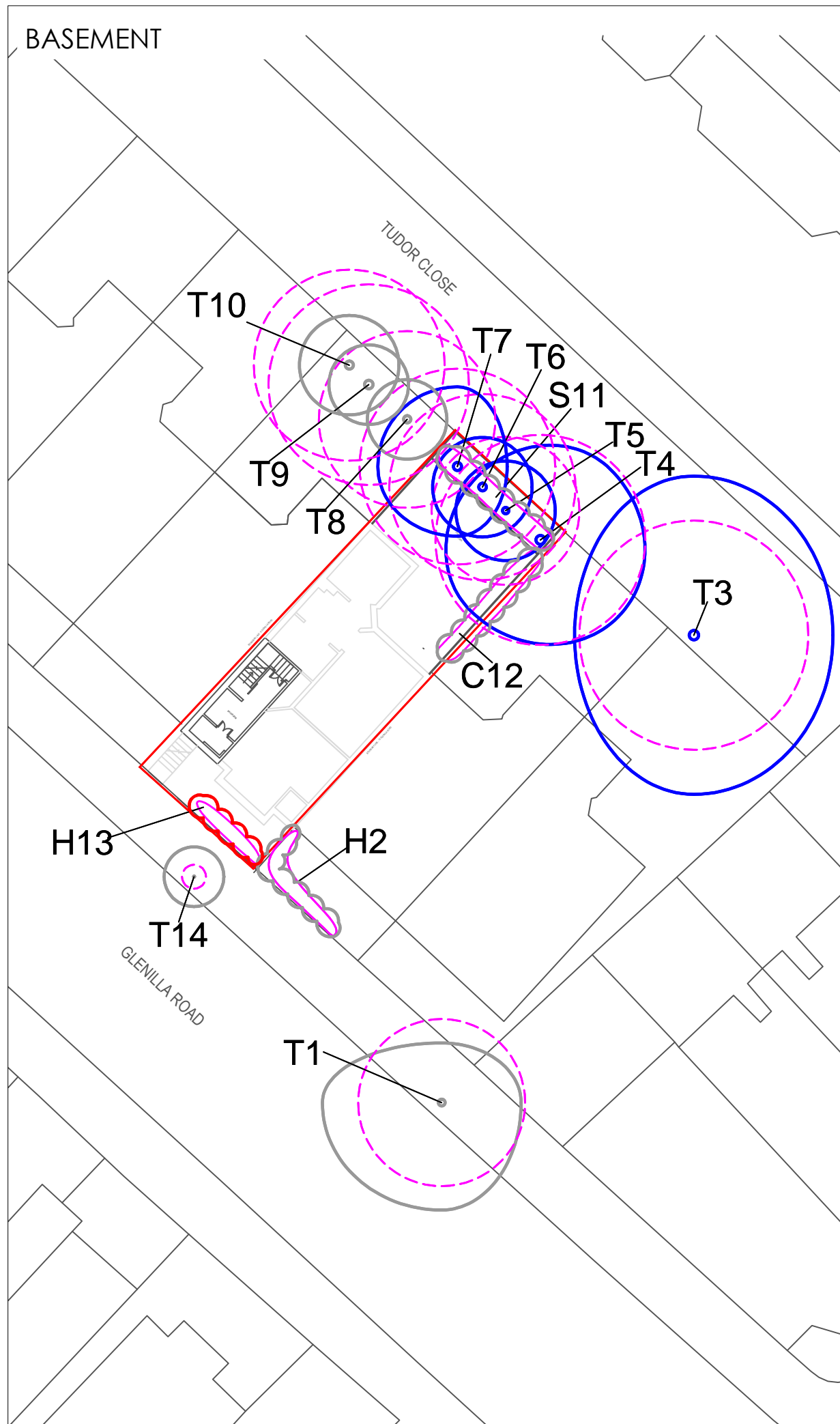
Category B
Trees of moderate quality and value: those in such a condition as to make a significant contribution (a minimum of 20 years is suggested)

Category C
Trees 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.

Category U
Those in such a condition that the tree cannot realistically be retained as living trees in the context of the current land use for longer than 10 years.

BS5837 Root Protection Areas
Precautionary areas within which tree roots and soil structure must be protected. All works within these areas will require special methods of work

Boundary line

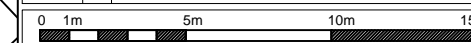


21.07.16 B-EP001-ExistingPlans-BasementandGroundFloor-overlaid

REVISIONS

Base Drawing

21.07.16 B-EP001-ExistingPlans-BasementandGroundFloor



Title
Tree Survey

Client
Abigail Katovsky

Project
11 Glenilla Road, London NW3 4AJ

Date
June 2016

Drawn by
HR

Checked by
HR

27.07.16

Drawing No
150213-P-10

Rev
a

Scale
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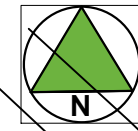
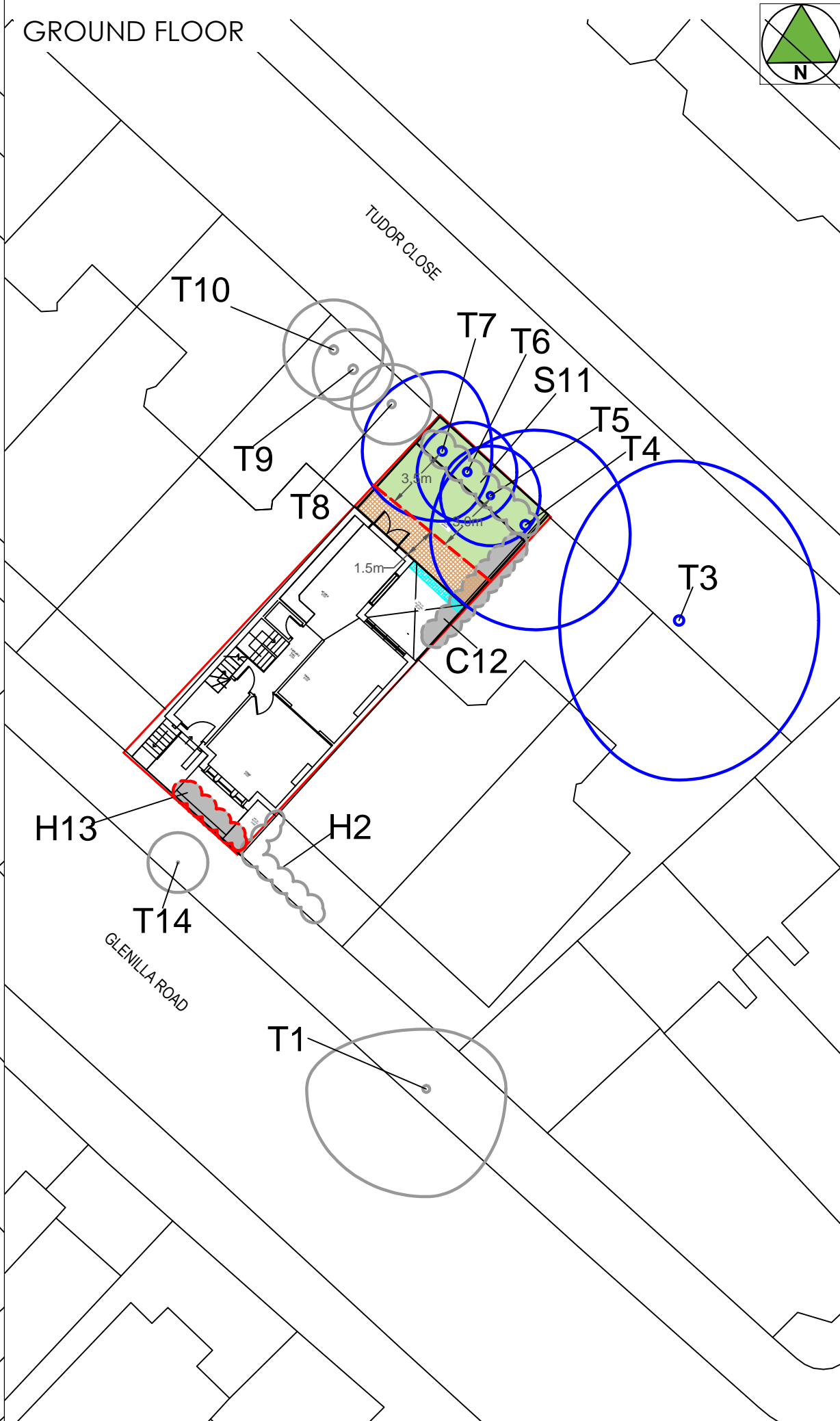
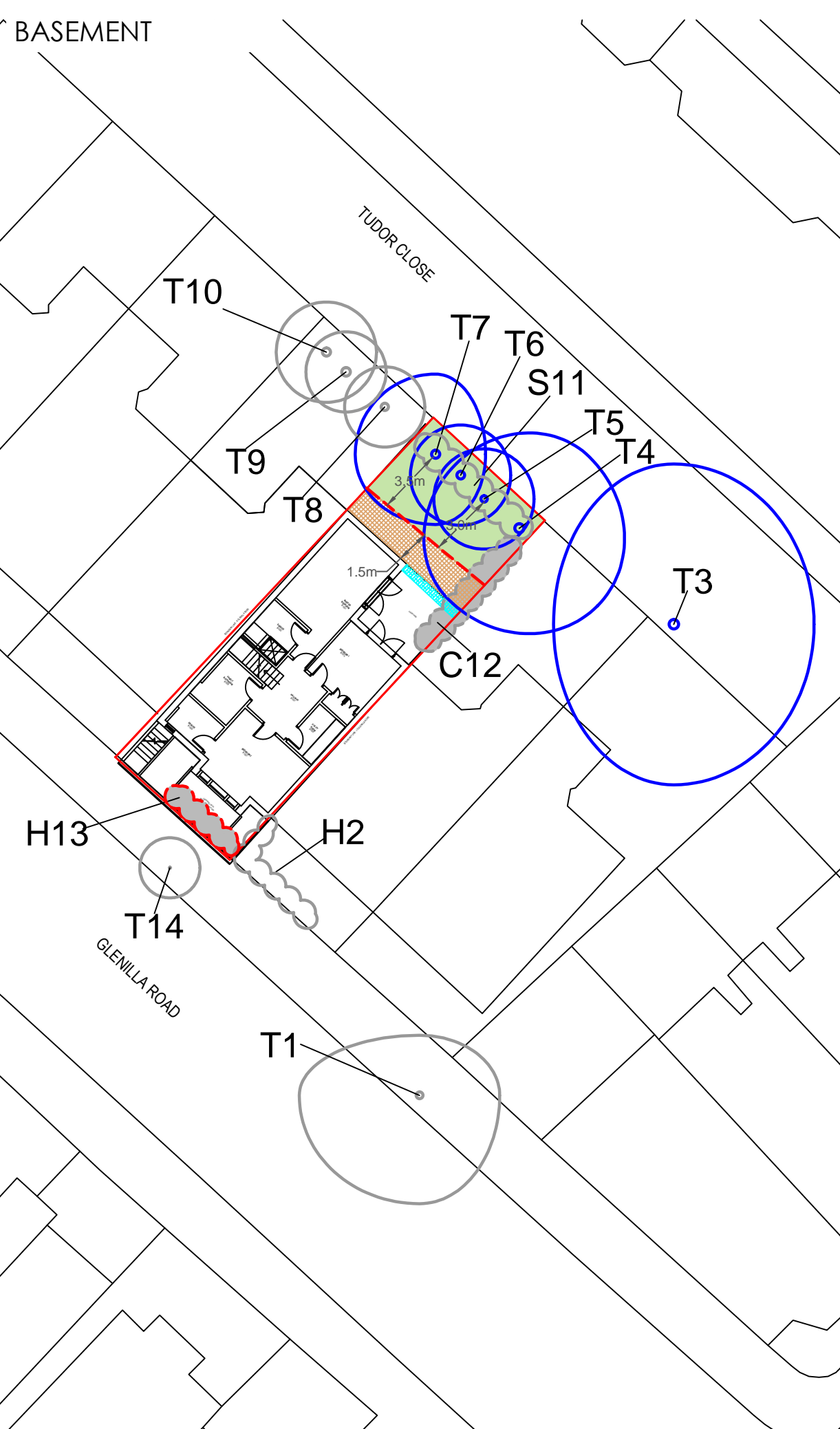
DO NOT SCALE Use only figured dimensions

TIM MOYA ASSOCIATES
ARBORICULTURE • LANDSCAPE • ECOLOGY

The Barn, Feltimores Park
Chalk Lane
Harlow
Essex CM17 0PF










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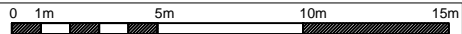
BS 5837:2012 TREE RETENTION CATEGORIES

- 
Category A
 Trees of high quality and value: in such a condition as to be able to make substantial contribution (a minimum of 40 years is suggested)
- 
Category B
 Trees of moderate quality and value: those in such a condition as to make a significant contribution (a minimum of 20 years is suggested)
- 
Category C
 Trees 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.
- 
Category U
 Those in such a condition that the tree cannot realistically be retained as living trees in the context of the current land use for longer than 10 years.
- 
 Boundary line
- 
 Trees to be removed shown shaded
- 
 Position of protective fencing and tree protection zones.
- 
 Area of existing hard standing to be retained and act as ground protection. If removed temporary ground protection to be installed.
- 
 Manually excavate first 600mm of soil and cleanly prune exposed roots using a sharp sterile secateurs or handsaw.

For Tree Protection Specification please see drawing 150213-P-15.

REVISIONS	
22.07.16	B-PP001-Proposed Plans-Basement and Ground Floor

Base Drawing



Title Removals and Tree Protection Plan		
Client Abigail Katovsky		
Project 11 Glenilla Road, London NW3 4AJ		
Date June 2016	Drawn by DA	Checked by HR 27.07.16
Drawing No 150213-P-12	Rev -	Scale 1:250@A3

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TIM MOYA ASSOCIATES
 ARBORICULTURE • LANDSCAPE • ECOLOGY

The Barn, Feltimores Park
 Chalk Lane
 Harlow
 Essex CM17 0PF

Tel: 0845 094 3268

www.timmoyaassociates.co.uk

ARBORICULTURAL METHOD STATEMENT

BRITISH STANDARD 5837(2012)

This method statement is in accordance with British Standard 5837: Trees in relation to design, demolition and construction - Recommendations (2012) which provides a methodology for the assessment and protection of trees and other significant vegetation on development sites.

TREE SURGERY WORKS

Only tree works specified within this document may be carried out. Any uncertainty regarding trees to be pruned will be immediately confirmed with the arboricultural consultant and local authority tree officer.

All tree works will be carried out in accordance with the recommendations given in the current BS 3998 (2010).

All tree works should be carried out in accordance with the Wildlife and Countryside Act 1981 (as amended) and the Habitat Regulations 2010.

SITE SUPERVISION

All key / critical activities that will affect trees during construction will be inspected and monitored by the approved arboricultural consultant and reports issued to the client.

Supervision visits will occur as follows:

- During works that may affect retained trees

PROTECTIVE FENCING

No materials or equipment other than those required to erect protective fencing, will be delivered to the site before the fencing is installed. The position of protective fencing for demolition is shown on this drawing.

Protective fencing will be constructed of robust barriers fit for the purpose of excluding demolition and construction traffic. Signs will be fixed to every third panel stating 'Tree Protection Area Keep Out - Any incursion into the protected area must be with the agreement of the local authority or arboricultural consultant'.

The main contractor will inform the local authority officer and the arboricultural consultant that tree protection is in place before demolition or site clearance works commence.

No alteration, removal or repositioning of the tree protection for demolition will take place during the demolition phase without the prior consent of the arboricultural consultant.

SERVICES AND DRAINAGE

Methods of working for installation of the drainage runs or services will follow the guidance within Table 3 of BS 5837 (2012), or National Joint Utilities Group (NJUG) *Guidelines for the planning, installation and maintenance of utility apparatus in proximity to trees* . Volume 4, issue 2, London NJUG 2007.

No works will occur within the tree protection zone without prior agreement from the arboricultural consultant. No machinery will be permitted within the TPZ at any time.

GENERAL PROTECTION METHODS

No fires will be permitted within 20m of the crown of any tree.

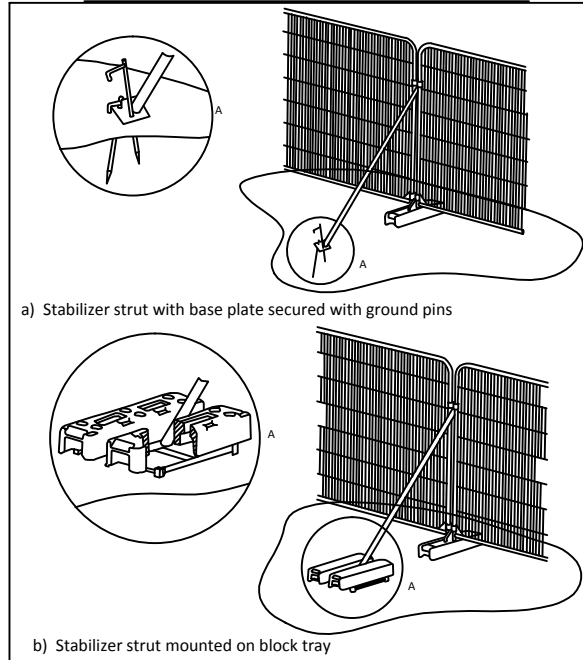
No changes in soil levels will take place within the tree protection zones without prior written consent of the local authority.

No materials, vehicles, plant or personnel will be permitted into the tree protection zones at any time without the prior consent of the arboricultural consultant.

Any liquid materials spilled on site will be immediately cleared up and removed from the site. If liquid fuel or cement products are spilled within 2m of the tree protection zone, the contractor will report the incident to the arboricultural consultant immediately.

The contractor will report any damage to trees or shrubs, whether caused by construction activities or from any other cause, to the arboricultural consultant immediately.

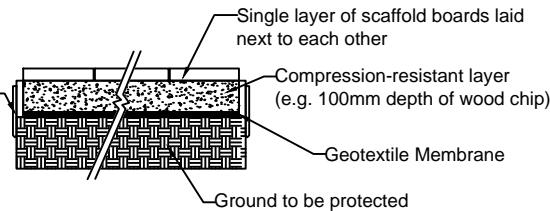
Figure 3 Examples of above-grounds stabilizing systems



Examples of Temporary Ground Protection

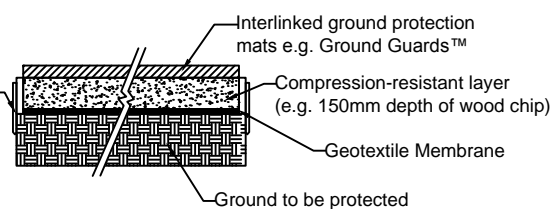
Example A

Edging: boarding used to retain wood chip, installed using wooden ground pegs



Example B

Edging: boarding used to retain wood chip, installed using wooden ground pegs



Title Tree Protection Specification		
Client Abigail Katovsky		
Project 11 Glenilla Road, London NW3 4AJ		
Date July 2016	Drawn by DA	
Drawing No 150213-P-15	Rev -	Scale NTS @A4
DO NOT SCALE Use only figured dimensions		

TIM MOYA ASSOCIATES

ARBORICULTURE • LANDSCAPE • ECOLOGY
The Barn, Feltimores Park
Chalk Lane
Harlow
Essex CM17 0PF
Tel: 0845 094 3268
www.timmoyaassociates.co.uk

APPENDIX B - SCHEDULES

Tree Schedule 150213-PD-10

Tree Work Schedule 150213-PD-12

11 Glenilla Road, London, NW3 4AJ

Tree/Group Number	No. of Trees Species	Height (m)	Stem diameter (cm)	No. of Stems	CROWN SPREAD (m)								Crown Clearance (m)	Life stage	Condition Notes	Most Recent Survey	RPA (m ²)	RPR (m)	Life expectancy (yrs)	BS Category
					N	NE	E	SE	S	SW	W	NW								
Tree T1	1 <i>Fraxinus excelsior</i> Ash	11.0	35	1	3.0	4.0	5.4	6.0					2.5	Early Mature	Structural condition Good. Physiological condition Fair. Pruning wounds - Historic. Root environment - Restricted. Exposed roots. Highways tree	06/08/2014	55.4	4.2	10-20	C2
Hedge H2	14 <i>Ligustrum sp.</i> Privet sp.	2.0											0.0	Semi Mature	Structural condition Fair. Physiological condition Fair. Hedgerow - Maintained. Root environment - Restricted. Exposed roots. X3 hedging plants are dead and graded as U category species. Height and stem diameter are average for group.	29/06/2016			10-20	C2
Tree T3	1 <i>Fraxinus excelsior</i> Ash	18.0	48	1	8.0	7.0	8.0	6.0					5.0	Mature	Structural condition Good. Physiological condition Fair. Access to inspect base - Not possible. Crown reduction - Historic. Pruning wounds - Historic. Located in adjacent property.	06/08/2014	104.2	5.8	20-40	B2
Tree T4	1 <i>Tilia x europaea</i>	13.0	44	1	5.0	5.5	5.0	4.5					3.5	Early Mature	Structural condition Fair. Physiological condition Good. Competition - Adjacent trees. Fork - Weak with included bark. Leaning trunk - Minor. Pollard - Lapsed / Mature stems. Pruning wounds - Historic. Trees situated in a raised planting bed that sits 0.5m above the patio level. Soil levels have been raised around stem base. Retaining wall at rear of property. Pollarded at 3m and at 6m.	29/06/2016	87.6	5.3	40+	B2
Tree T5	1 <i>Tilia x europaea</i>	7.0	31	1	2.5	2.5	2.5	2.5					0.0	Mature	Structural condition Fair. Physiological condition Good. Competition - Adjacent trees. Decay / structural defect - Base. Epicormic growth - Bole / principal stems. Pollard - Regrown. Pruning wounds - Decayed. Trees situated in a raised planting bed that sits 0.5m above the patio level. Soil levels have been raised around stem base. Retaining wall at rear of property.	29/06/2016	43.5	3.7	20-40	B2
Tree T6	1 <i>Tilia x europaea</i>	7.0	39	1	2.5	2.5	2.5	2.5					1.5	Mature	Structural condition Fair. Physiological condition Good. Competition - Adjacent trees. Decay / structural defect - Base. Epicormic growth - Bole / principal stems. Pollard - Regrown. Pruning wounds - Historic. Trees situated in a raised planting bed that sits 0.5m above the patio level. Soil levels have been raised around stem base. Retaining wall at rear of property.	29/06/2016	68.8	4.7	20-40	B2

Stem green estimated value
 Stem AVE average stem diameter for multi-stemmed trees

The survey information in this schedule has been gathered following a BS5837 survey for planning purposes. Where hazardous trees have been noted recommendations for works may have been made but this survey cannot be relied upon as a full health and safety assessment of the trees.

11 Glenilla Road, London, NW3 4AJ

Tree/Group Number	No. of Trees	Species	Height (m)	Stem diameter (cm)	No. of Stems	CROWN SPREAD (m)								Crown Clearance (m)	Life stage	Condition Notes	Most Recent Survey	RPA (m ²)	RPR (m)	Life expectancy (yrs)	BS Category
						N	NE	E	SE	S	SW	W	NW								
Tree T7	1	<i>Tilia x europaea</i>	13.0	41	1	4.0		2.5		3.5		4.0		0.0	Mature	Structural condition Fair. Physiological condition Good. Competition - Adjacent trees. Epicormic growth - Base. Fork - Weak with included bark. Pollard - Lapsed / Mature stems. Pruning wounds - Historic. Trees situated in a raised planting bed that sits 0.5m above the patio level. Soil levels have been raised around stem base. Retaining wall at rear of property. Unable to inspect tree(s) closely due to basal/trunk epicormic growth.	29/06/2016	76.0	4.9	20-40	B2
Tree T8	1	<i>Tilia x europaea</i>	4.0	37	1	2.0		2.0		2.0		2.0		0.0	Mature	Structural condition Fair. Physiological condition Fair. Access to inspect base - Not possible. Epicormic growth - Bole / principal stems. Pollard - Regrown. Pruning wounds - Historic. Unable to inspect tree(s) Tree situated on neighbouring property.	29/06/2016	61.9	4.4	20-40	C2
Tree T9	1	<i>Tilia x europaea</i>	4.0	42	1	2.0		2.0		2.0		2.0		0.0	Mature	Structural condition Fair. Physiological condition Fair. Access to inspect base - Not possible. Epicormic growth - Bole / principal stems. Pollard - Regrown. Pruning wounds - Decayed. Pruning wounds - Historic. Unable to inspect tree(s) Tree situated on neighbouring property.	29/06/2016	79.8	5.0	20-40	C2
Tree T10	1	<i>Tilia x europaea</i>	4.0	40	1	2.5		2.5		2.5		2.5		0.0	Mature	Structural condition Fair. Physiological condition Fair. Access to inspect base - Not possible. Epicormic growth - Bole / principal stems. Pollard - Regrown. Pruning wounds - Historic. Unable to inspect tree(s) Tree situated on neighbouring property.	29/06/2016	72.4	4.8	20-40	C2
Shrub S11	1	<i>Rosa sp.</i> Rose sp.	1.5											0.0	Semi Mature	Structural condition Good. Physiological condition Good. Mixed shrub and plant bed Height and stem diameter are average for group.	29/06/2016			10-20	C1
	1	<i>Pittosporum sp.</i>																			
	1	<i>Acer palmatum cv.</i> Smooth Japanese Maple cv.																			
Climber C12	2	<i>Lonicera sp.</i> Honeysuckle sp.	2.0											0.0	Semi Mature	Structural condition Good. Physiological condition Good. Height and stem diameter are average for group.	26/07/2016			10-20	C1
Hedge H13	10	<i>Ligustrum sp.</i> Privet sp.	1.8											0.0	Semi Mature	Structural condition Poor. Physiological condition Dead. Dead tree / trees.	26/07/2016			0-10	U

Stem green estimated value
 Stem AVE average stem diameter for multi-stemmed trees

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11 Glenilla Road, London, NW3 4AJ

Tree/Group Number	No. of Trees Species	Height (m)	Stem diameter (cm)	No. of Stems	CROWN SPREAD (m)								Crown Clearance (m)	Life stage	Condition Notes	Most Recent Survey	RPA (m ²)	RPR (m)	Life expectancy (yrs)	BS Category
					N	NE	E	SE	S	SW	W	NW								
Tree T14	1 <i>Cerasus subhirtella</i> 'Autumnalis'	3.5	5	1	1.5		1.5		1.5		1.5		2.0	Young	Structural condition Good. Physiological condition Good. Root environment - Restricted. Staked tree / trees. Young planted tree / trees. Highways tree	29/06/2016	1.1	0.6	40+	C2

Stem green estimated value

Stem AVE average stem diameter for multi-stemmed trees

The survey information in this schedule has been gathered following a BS5837 survey for planning purposes. Where hazardous trees have been noted recommendations for works may have been made but this survey cannot be relied upon as a full health and safety assessment of the trees.

Table 1 of BS5837 (2012) Cascade chart for tree quality assessment

Category and definition	Criteria (including subcategories where appropriate)			Identification on plan
Trees unsuitable for retention (see note)				
<p>Category U</p> <p>Those 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</p>	<ul style="list-style-type: none"> * Trees that have a serious, irremediable, structural defect, such that their early loss is expected due to collapse, including those that will become unviable after removal of other category U trees (e.g. where, for whatever reason, the loss of companion shelter cannot be mitigated by pruning) * Trees that are dead or are showing signs of significant, immediate, and irreversible overall decline * Trees infected with pathogens of significance to health and/or safety of other trees nearby, or very low quality trees suppressing adjacent trees of better quality 			RED
<p><i>NOTE Category U trees can have existing or potential conservation value which it might be desirable to preserve; see 4.5.7</i></p>				
Trees to be considered for retention				
<p>Category A</p> <p>Trees of high quality with an estimated remaining life expectancy of at least 40 years</p>	1 Mainly arboricultural qualities	2 Mainly landscape qualities	3 Mainly cultural values, including conservation	GREEN
<p>Tree that are particularly good examples of their species, especially if rare or unusual; or those that are essential components of groups or formal or semi-formal arboricultural features (e.g. the dominant and/or principal trees within an avenue)</p>	<p>Trees, groups or woodlands of particular visual importance as arboricultural and/or landscape features</p>	<p>Trees, groups or woodlands of significant conservation, historical, commemorative or other value (e.g. veteran trees or wood-pasture)</p>		
<p>Category B</p> <p>Trees of moderate quality with an estimated remaining life expectancy of at least 20 years</p>	<p>Trees that might be included in category A, but are downgraded because of impaired condition (e.g. presence of significant though remediable defects, including unsympathetic past management and storm damage), such that they are unlikely to be suitable for retention for beyond 40 years; or trees lacking the special quality necessary to merit the category A designation</p>	<p>Trees present in numbers, usually growing as groups or woodlands, such that they attract a higher collective rating than they might as individuals; or trees occurring as collectives but situated so as to make little visual contribution to the wider locality</p>	<p>Trees with material conservation or other cultural value</p>	BLUE
<p>Category C</p> <p>Trees of low quality with an estimated remaining life expectancy of at least 10 years, or young trees with a stem diameter below 150 mm</p>	<p>Unremarkable trees of very limited merit or such impaired condition that they do not qualify in higher categories</p>	<p>Trees present in groups or woodlands, but without this conferring on them significantly greater collective landscape value; and/or trees offering low or only temporary/transient landscape benefits</p>	<p>Trees with no material conservation or other cultural value</p>	GREY

150213-PD-12 Tree Work Schedule

11 Glenilla Road, London, NW3 4AJ

ID No.	Count / Species	BS5837 Category	Recommended works
To facilitate development			
12	2 Lonicera sp. Honeysuckle sp.	C1	Fell - Ground level. and remove stumps.
13	10 Ligustrum sp. Privet sp.	U	Fell - Ground level. and remove stumps.

Tree work analysis (trees and trees in groups)

	To facilitate development	Total
Fell - Ground level	2	2
Total	2	2

APPENDIX C – BOREHOLE INFORMATION

GEOLOGICAL SURVEY OF GREAT BRITAIN
RECORD OF SHAFT OR BORE FOR MINERALS

(For Survey use only)
 6-inch Map Registered No.
 TQ28NE/38

Name of Shaft or Bore given by Geological Survey: _____

Name and Number given by owner:
 c 16.

For whom made _____

Town or Village Hampstead. County _____

Exact site Junction of Balage Av. and Haverstock Hill. { Attach a tracing from a map, or a sketch-map, if possible.

1° N.S. Map No. 256 1° O.S. Map No. _____ Confidential or not _____

Purpose for which made _____

Ground Level at shaft bore relative to O.D. 234' If not ground level give O.D. of beginning of shaft bore _____

Made by _____ Date of sinking 1900.

Information from LCC. Date received _____

Examined by _____

SPECIMEN NUMBERS AND ADDITIONAL NOTES

(For Survey use only) GEOLOGICAL CLASSIFICATION	DESCRIPTION OF STRATA	THICKNESS		DEPTH	
		FT.	IN.	FT.	IN.
MGR LC	Made Ground Clay For Hampstead Tube Rly.	4	-	20	1.22
		16	-		6.10

(5412) W.L. 12837/PS.154. 2m. 10/64 G.W. B.L. Ltd. Gp. 843

APPENDIX D – GROUND PROTECTION



Ground-Guards, interconnected multi track heavy duty plastic panels. Please refer to www.ground-guards.co.uk/ for more details.



Ground-Guards, installed using a geotextile membrane, ground panels, 150mm deep woodchip and ground panels on top and held in place with edge rails. Please refer to www.ground-guards.co.uk/ for more details.

All ground protection must have a high load bearing capacity able to sustain heavy weighted machinery and agreed by the arboricultural consultant.

- Feasibility Tree Surveys
- British Standard 5837 Tree Surveys
- Tree Constraints Reports & Drawings
- Appeal Statements & Proofs
- Expert Witness
- Evidence at Hearings & Public Inquiries
- Method Statements to Satisfy Planning Conditions
- Design Solutions
- Landscape Plans
- Tender Documents & Drawings
- Supervision & Inspection of Works
- Contract & Project Management
- Health & Safety Surveys
- GPS Surveys
- Computerised Tree Population Surveys
- CAD Plans & Consultancy
- Subsidence Risk Assessments
- Mortgage & Insurance Reports
- TPO Review
- Local Government Officer Contracts
- Arboricultural & Ecological Reports for Planning
- Habitat Surveys (Extended Phase 1/ Walkover/ Botanical)
- Protected Species Surveys
- Ecological Mitigation & Licencing
- BREEAM & CFSH
- Ecological Management Plans
- Hedgerow Surveys
- Landscape Analysis



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Harlow, Essex CM17 0PF

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F: 0845 094 3269

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