



Landmark Trees

ARBORICULTURAL METHOD STATEMENT

33 Belsize Avenue
London
NW3 4BL

REPORT PREPARED FOR:

Vikki Done
33 Belsize Avenue
London
NW3 4BL

REPORT PREPARED BY:

Adam Hollis
MSc ARB MICFor FArbor A MRICS C Env

Ref: KSR/33BLS/AMS/01

Date: 17th October 2019

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Web: www.landmarktrees.co.uk
e-mail: info@landmarktrees.co.uk
Tel: 0207 851 4544



London Office: Holden House, 4th Floor, 57 Rathbone Place London W1T 1JU

Registered Office: 15 Abbey Road, Oxford OX2 0AD

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Contents

1.0	INTRODUCTION	3
2.0	PRE-DEVELOPMENT SITE PREPARATION	8
3.0	DEVELOPMENT PHASE	11
4.0	SUMMARY OF PROPOSED METHODS	14
5.0	COMPLETION	15

Appendices

APPENDIX 1	General Guidelines	17
APPENDIX 2	Sample Site Monitoring Sheet	18
APPENDIX 3	Tree Protection Plan	21

1.0 Introduction

1.1 Purpose & Use of the Method Statement

1.1.1 This method statement has been prepared for Vikki Done, for assistance with the discharge of planning conditions at 33 Belsize Avenue, London NW3 4BL: London Borough of Camden planning permission no.: 2018/1045/P. The document will address the following condition:

9 Prior to the commencement of any works on site, details demonstrating how trees to be retained shall be protected during construction work shall be submitted to and approved by the local planning authority in writing. Such details shall follow guidelines and standards set out in BS5837: 2012 "Trees in Relation to Construction". All trees on the site, or parts of trees growing from adjoining sites, unless shown on the permitted drawings as being removed shall be retained and protected from damage in accordance with the approved protection details.

Reason: To ensure that the development will not have an adverse effect on existing trees and in order to maintain the character and amenity of the area in accordance with the requirements of policies A2 and A3 of the London Borough of Camden Local Plan 2017.

1.1.2 This document lays down the methodology for any proposed works that may have an effect upon the trees on and adjacent to the site. It is essential within the scope of any contracts related to the development proposals that this method statement is observed and adhered to. It is recommended that this document form part of the work schedule and specification issued to the building contractors and can be used to form part of the contract.

1.1.3 Copies of this document will be available for inspection on site. The developer will inform the local planning authority within twenty-four hours if the arboricultural consultant is replaced.

1.2 Terms of Reference

1.2.1 We (LT) are instructed by the client, Vikki Done to prepare a method statement for proposed development based on the above planning application with reference to BS 5837:2012 Trees in Relation to Design, Demolition and Construction.

1.2.2 For this purpose, the client has supplied us with a site survey plan (X010) and the consented drawings (floor plans, structural drawings, Construction Management Plan etc.) as found on the council's website. We are also reliant upon our own impact assessment report PTK/1RR/AIA/01 and plan overlays of tree constraints contained therein.

1.3 Development Proposals & Potential Impacts

1.3.1 The principal proposals are for: *Excavation and infilling of lower ground floor rear terrace to form a rear extension with associated lightwell, removal of a vehicle entrance at front, and associated front boundary wall alterations and landscaping.*

1.4 Sequence of Works

1.4.1 The sequence of works will be as follows:

- installation of Tree Protection Barrier (TPB) & ground protection
- installation of underground services
- main construction
- removal of TPB & ground protection
- hard landscaping including alterations to front boundary wall
- soft landscaping

These works and their arboricultural implications are outlined in sequence below

1.5 Site Supervision

1.5.1 On this site, a site manager will be nominated to be responsible for all arboricultural matters on site. A pre-commencement site briefing/meeting between the site manager and arboricultural consultant will be held (see Table 1 below). The site manager's details will be issued to the London Borough of Camden in the minutes / site monitoring report for this meeting. During this meeting all the tree protection methods below will be studied and familiarization with requirements of this AMS. The site manager will also:

- be present on site for the majority of the time;
- have the authority to stop any work that is causing, or has the potential to cause harm to any tree;
- be responsible for ensuring that all site operatives are aware of their responsibilities toward trees on site and the consequences of the failure to observe these responsibilities;
- make immediate contact with the Arboricultural consultant in the event of any tree related problems occurring, whether actual or potential, in accordance with a tree protection protocol (see section 1.6 below).

1.5.2 At this stage, the nominated Key Personnel are as follows:

Adam Hollis
Arboricultural Consultant
Landmark Trees
info@landmarktrees.co.uk

Tel: 0207 851 4544

1.6 Site Monitoring

- 1.6.1 Landmark Trees are to be retained as Arboricultural Consultants responsible for site monitoring for the duration of the development. As noted above Adam Hollis MSc (Arb) is the key contact, with monitoring occasionally undertaken by James Bell Tech Cert. (subject to any new staff intake). Site supervision will be undertaken by a qualified and experienced arboriculturalist at pre-determined and agreed time intervals as indicated in Table 1 below. In addition to specific task supervision, general monitoring of protection measures will be undertaken at least once per month, coordinated where practical with visits detailed in Table 1.
- 1.6.2 Routine visits will generally be unannounced. However, the arboriculturalist will also visit subject to advance notification (2 weeks) and agreement to supervise any agreed works within the RPA, in accordance with table 1 below.
- 1.6.3 A tree protection protocol for contingencies will be integrated into the site induction process at a pre-commencement meeting involving the developer, the arboricultural consultant, the site manager and the Council tree officer as appropriate. The protocol will be that, in the event of any unplanned incursion / accident / spillage within the RPA, the site agent should notify (by telephone) the retained arboricultural consultant immediately. The consultant will provide advice and attend site as soon as possible. This may require the stoppage of all or part of the works in the vicinity of the tree. The consultant will notify the LPA Tree Officer of the nature and extent of damage, the mitigation strategy and likely prognosis. The contact details of the LPA Tree Officer are:

James Remmington
Planning Arb Officer
London Borough of Camden
james.remmington@camden.gov.uk

Tel: 0207 974 4444

- 1.6.4 The site monitoring sheet in Appendix 2 will be used to provide photographic evidence, indicate the remedial action required and timescales for remediation completion. The consultant and officer will further liaise as necessary (perhaps meeting on site) until the officer is satisfied that protection measures are again satisfactory. The action in response to incidents will be commensurate with and appropriate to the nature of any such incident. Any breach of the stipulated timescale for remediation will trigger a further monitoring report.
- 1.6.5 Supervision will not require the arboriculturalist to be present throughout all operations to ensure tasks are carried out as per the approved methodology, but certainly, during the key elements of proposed (and any other unplanned) incursions into the protection areas (subject to LPA agreement and for whatever reasons) to ensure the arboricultural objectives were met. However, where tasks are ongoing, provided the arboriculturalist is satisfied, and after an appropriate briefing, the supervision may be reduced to telephone and email contact between the site manager and Arboricultural consultant.
- 1.6.6 The Local Authority will be accorded free access to the site subject to H&S requirements; as noted at 1.6.3, any problems will be reported directly to Arboricultural consultant, who will then visit the site and make recommendations to the developer on how best to rectify the situation and ensure implementation. As noted in Table 1 below, a final sign-off visit will be carried out at the end of the development and a formal letter sent to both the client and the London Borough of Camden indicating an end to the monitoring period. It is the client's duty to notify LT that the project has been completed, in order to facilitate such an inspection.
- 1.6.7 Landmark Trees will be instructed to provide the above monitoring. In the absence of routine payment (as per our business terms), routine monitoring will cease (temporarily or permanently) and the London Borough of Camden will be informed of the cessation of monitoring. The client will also reserve the right to dismiss Landmark Trees and replace with another arborist, but must inform the London Borough of Camden.

Table 1: Site Monitoring Visits

Supervision Visit No:	Details	Lead in Time Required by LT	Action
Visit 1: Pre-Development Site Inspection (S.2.3 of AMS)	<ul style="list-style-type: none"> To include Site Agent briefings (S.1.5) prior to construction phase. To confirm position of protective fencing and that it has been erected in accordance with AMS (S.2.2 and Tree Protection Plan in Appendix 3); To check any pre-demolition/construction ground protection is in place. To check site facilities/access are in accordance with the AMS (S.3.3). 	Minimum 2 weeks	Issue a brief report with findings to Architect, Tree Officer and Main Contractor within 5 days of site supervision visit (Site Monitoring Sheet in Appendix 2).
Visit 2: Excavations within RPAs (S3.4)	<ul style="list-style-type: none"> Attend any excavation within RPA's where arboricultural supervision is prescribed by the AMS to ensure work is undertaken in accordance with its specification. Date to be confirmed following formal project planning. 2 weeks prior notice required. 	Minimum 2 weeks	As per Visit 1
Visit 3: Construction of boundary wall footings	<ul style="list-style-type: none"> Attend any excavation within RPA's where arboricultural supervision is prescribed by the AMS to ensure work is undertaken in accordance with its specification. Date to be confirmed following formal project planning. 2 weeks prior notice required. 	Minimum 2 weeks	As per Visit 1
Ongoing Monitoring Visits	<ul style="list-style-type: none"> Periodically during 12 months (or longer) of entire project and <u>prior to construction phase</u>. Visits will be based on intensity of site operations, but at a minimum of monthly visits. Attend site at least once per month to confirm protective measures are still in place / can be removed at appointed times. Ensure attendance is timed for any other key elements of proposed (and any other unplanned) incursions into the protection areas. <u>Pre-start landscape meeting</u> with main contractor to confirm ongoing tree protection measures. 	TBC as project develops	As per Visit 1
Final Site Visit - Completion of construction phase supervision visit (S.5)	After it has been confirmed that the construction phase is complete, allow removal of temporary protective fencing and ground protection. Specify any remedial work if necessary.	Minimum 2 weeks	As per Visit 1 and provide signed arboricultural checklist (see Appendix 2)

2.0 Pre- Development Site Preparation

2.1 Arboricultural Works

2.1.1 In this instance, there are no works recommended to trees under the applicant's control.

2.2 Installation of Tree Protection Barrier

2.2.1 The Root Protection Area (RPA) indicates the minimum area around a tree deemed to contain sufficient roots and rooting volume to maintain the tree's viability, and where the protection of the roots and soil structure is treated as a priority. The default position is for the RPA's to be fully fenced off to form the boundary of the Construction Exclusion Zone (CEZ), an area based on the RPA, from which access is prohibited for the duration of the project, including the storage of any works materials and equipment.

2.2.2 A Tree Protection Barrier [TPB] comprising steel mesh panels of 2.4m in height ('Heras') should be erected to protect rear garden trees, T6 and T7 and the off-site T1. These panels will be mounted on a scaffolding frame as shown in Figure 1 below (this is also Figure 2 of BS5837: Trees in Relation to Design, Demolition and Construction in paragraph 6.2.2.2).

2.2.3 The TPB's are to be erected before any work (other than tree surgery) commences on site, are to remain *'in situ'* undamaged for the duration of all work or each phase, and only to be removed once all work is completed. If any work is deemed necessary prior to the erection of fencing a Landmark Trees representative should be informed to enable their presence to oversee the work being carried out.

2.2.4 The location of the TPB's are shown in the Tree Protection Plans at Appendix 3.

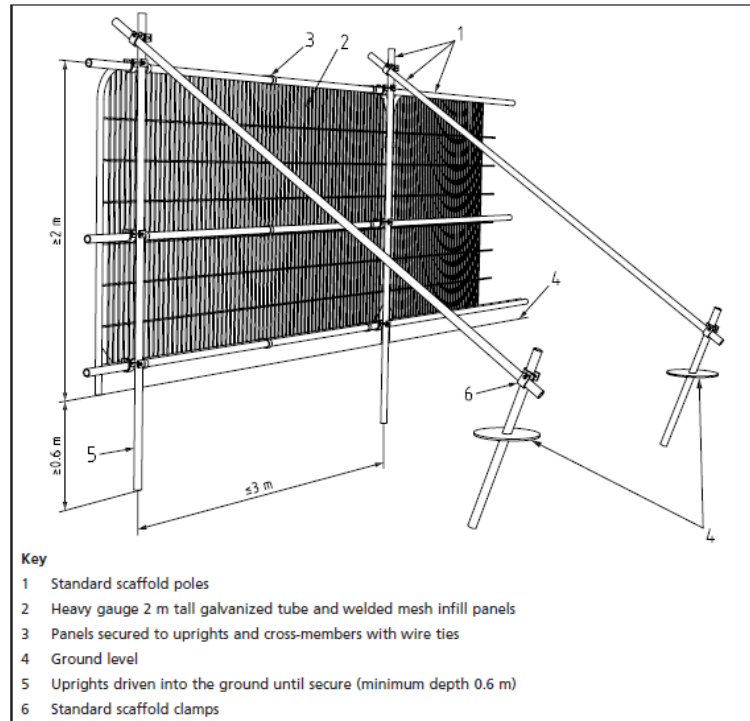


Fig. 1 Tree Protection Barrier Specification
(Source: Figure 2 from BS5837 - Default specification for protective barrier)

2.3 Ground Protection

2.3.1 Extant areas of RPA that cannot be fenced off and therefore lie outside the CEZ must be protected with fit-for-purpose ground protection. The location and type of ground protection is shown in the Tree Protection Plans at Appendix 3. As per paragraph 2.2.3, this ground protection is to be installed before any work (other than tree surgery) commences on site, is to remain *'in situ'* undamaged for the duration of all work until the landscape phase and only to be removed once all construction work is completed. In the landscape phase the ground protection at the front of the site will be replaced with a no-dig drive section under arboricultural supervision.

- 2.3.2 In order to provide a greater level of protection (to T's 1, 2 and 10) than the existing hard surfacing, 6mm thick steel checker plate will be installed in line with the principle shown below.



Photograph 1: Example of ground protection using steel checker plate

3.0 Development Phase

3.1.1 The following general precautions will apply:

- No fires shall be made on any part of the site, or within 20m of any tree to be retained.
- No spilling or pouring of fuels, oils, solvents, tar shall be made on any part of the site.
- No materials that are likely to have an adverse effect on tree health such as oil, bitumen or cement will be stored or discharged within 10 metres of the trunk of a tree that is to be retained.
- No spillage or discharge of wet mortar or concrete shall be made on any part of the site.
- No storage of materials shall be made within the protective fences.
- No breaching or moving of the protective hoarding without the approval of an arboriculturist.

3.1.2 The procedures for dealing with variations and incidents are detailed in S1.6.

3.2 Working within Root Protection Areas (RPA)

3.2.1 Although the default position is to exclude all construction activity from the RPA, this degree of protection is not entirely possible on the site: it is necessary to perform some works (in part) within the RPA i.e. excavation of lower ground floor level, alterations to the front boundary wall and landscaping.

3.2.2 All involved parties will need to be made aware of the deficiencies. In these instances, careful and supervised working, as described in sections, S. 3.6 (demolition), S. 3.7 (construction) and S. 3.8 (landscaping) will be required.

3.3 Site Access, Accommodation & Storage

3.3.1 Site access will remain as per the existing arrangement. Site accommodation and material storage will utilise the site interior / rear garden away from tree RPA.

3.3.2 Delivery lorries will be excluded from RPA's by fencing and ground protection. Adequate allowance must be made for vehicle heights and ground clearance, where tree canopies overhang access routes. Any further pruning for working clearances must be discussed first with the arboriculturist; once agreed in principle these works should be approved by the appropriate tree officer and approved in writing by the LPA. Materials can be unloaded onto protected ground within RPA's and stored throughout the interior of the site(s) away from protected trees.

3.4 Routing & Installation of Services

- 3.4.1 We have not at this time been supplied by the applicant with full service details, although understand existing services will be used if possible. If not, these matters will need to be resolved separately by variation of condition. This cannot be resolved herein as a generic item.

3.5 Changes in Grade

- 3.5.1 No changes in level are proposed beyond the lower ground floor excavation itself.

3.6 Demolition Measures.

- 3.6.1 The demolition of the garden walls and hard landscaping within the RPA of T4 and the front boundary wall within the RPA of T1 will be carried out using manual tools only. Spoil from this operation may be stored on protected ground until its removal from site.
- 3.6.2 We presume that the removal of the hard surfacing comprising the northern drive entrance will be carried out by LB Camden's Highways division in accordance with their own tree protection procedures.

3.7 Construction Measures

Detailed method statements and risk assessments will be obtained from all specialist subcontractors involved in the new build and these will be scrutinised by the site agent to ensure the AMS requirements have been considered therein.

- 3.7.1 The limits of the basement piling line within the RPA of T2 will be manually pre-excavated to a min. 1m depth and root-pruned (as applicable) under arboricultural supervision. In the unlikely event of discovering roots >25mm diameter, they should only be cut under arboricultural supervision.
- 3.7.2 The limits of excavation within the RPA of T4 for the new garden walls will be undertaken manually; any roots encountered will be cleanly pruned back to an appropriate junction with a sharp pruning saw or secateurs. Roots larger than 25mm diameter may only be cut in consultation with an arboriculturalist.
- 3.7.3 Excavations for the new pier within the RPA of T1 will also be carried out manually, in accordance with the provisions of paragraph 3.7.2. In the unlikely event roots whose severance would compromise tree health / stability are encountered, the pier shall be supported via a cantilever from a mini-pile inserted into a root free area.
- 3.7.4 During the construction phase and throughout dry periods on site regular hosing down will be carried out to control dust pollution. In the event of dust build up on trees occurring arboricultural advice will be sort and if necessary remedial measures such as hosing down the trees will be taken.

3.8 Removal of Ground Protection & Post Construction Landscaping & Treatment

- 3.8.1 The tree protection may be removed upon completion of the construction phase and any site machinery has been removed from the RPA.
- 3.8.2 The replacement paving/hard landscaping will require a no-dig construction technique, building upon existing sub-base with minor augmentation as necessary.
- 3.8.3 All landscaping and associated ground works within RPA will be carried out manually and carefully with due regard for soil and root protection, avoiding changes of ground levels or deep digging. Mechanised cultivation must not be used within any RPA's. If existing soft vegetation is to be removed, this shall be done using hand tools only.
- 3.8.4 We presume that the installation of the new pathway and replacement of the northern driveway entrance with soft ground within the RPAs of T1 and T10 will be carried out LB Camden's Highways division in accordance with their own tree protection procedures.

4.0 Summary of Proposed Methods

4.1 Table of Impacts and Mitigation

4.1.1 The table below summarises the main areas where trees could become damaged by the proposed development and the methods that need to be adopted in order to prevent such damage:

Table 2: Summary of Proposed Methods

<u>Impact</u>	<u>Mitigation</u>	<u>Reference</u>	<u>Trees Affected</u>
General site access, material storage etc.	Ground protection to acceptable standards.	Paras 2.2.1 & 3.3.3 Tree Protection Plan in Appendix 3	All retained trees
Demolition of existing walls within RPA	Use of hand held tools only	Section 3.6	T1 & T4
Damage to roots caused by basement excavation within RPA.	Manual excavation of outer limits of basement within RPA to 1m depth with pre-emptive root pruning	Section 3.7	T2
Damage to roots caused by provision of new walls	Manual excavation with pre-emptive root pruning	Section 3.7	T1 & T4

5.0 Completion

5.1 Completion Meeting

- 5.1.1 Following completion of the works listed above, a Landmark Trees consultant will conduct a walkover survey of the trees to review any defects or signs of ill-health, and inform the local authority in a final report as per Table 1. It is the client's duty to notify LT that the project has been completed, in order to facilitate such an inspection. A separate LT post-development tree inspection is recommended to facilitate a constructive meeting.

Signed

Yours sincerely



Adam Hollis
MSc Arb F Arbor A MICFor HND Hort
Chartered Forester
Fellow & Registered Consultant of Arboricultural Association

Adam Hollis MSc ARB MICFor F Arbor A

17th October 2019

For and on behalf of **Landmark Trees**

Web: www.landmarktrees.co.uk
e-mail: info@landmarktrees.co.uk
Tel: 0207 851 4544



London Office: Holden House, 4th Floor, 57 Rathbone Place London W1T 1JU

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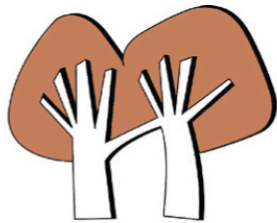
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APPENDIX 1: GENERAL GUIDELINES

- 2.1 All work must be to BS 3998:2010 - '*Recommendations for tree work*'.
- 2.2 Staff carrying out the work must be qualified, experienced and ideally be Arboricultural Association approved contractors, and will be covered by adequate public liability insurance.
- 2.3 Any defects seen by a contractor or the client that were not apparent to the consultant must be brought to the consultant's attention immediately.
- 2.4 No liability can be accepted by the consultant in respect of the trees unless the recommendations of this method statement are carried out under the supervision of a Landmark Trees consultant.
- 2.5 It is advisable to have trees inspected by a consultant regularly. On this site it is recommended that these inspections are made every year.

APPENDIX 2: SAMPLE SITE MONITORING SHEET



Landmark Trees

Site Monitoring Report Sheet

Client:		Planning Ref:	
Local Authority:		Date:	
Site Address:			
Proposal:			
Visit Checklist	Y/N		Y/N
Tree protection barrier (TPB) in place		TPB as per approved	
Ground protection (GP) in place		GP as per approved	
TPB / GP breached		Trees damaged	
Site Agent briefed by LT			
LT briefed by Site Agent			
LPA informed			
Remedial action required			
Comments			
Recommendations			
Outcome			
1			
2			
3			
4			

Web: www.landmarktrees.co.uk

e-mail: info@landmarktrees.co.uk

Tel: 0207 851 4544



London Office: 20 Broadwick Street, W1F 8HT, London

Registered Office: Grange Cottage, All Cannings, Devizes, Wiltshire, SN10 3NR

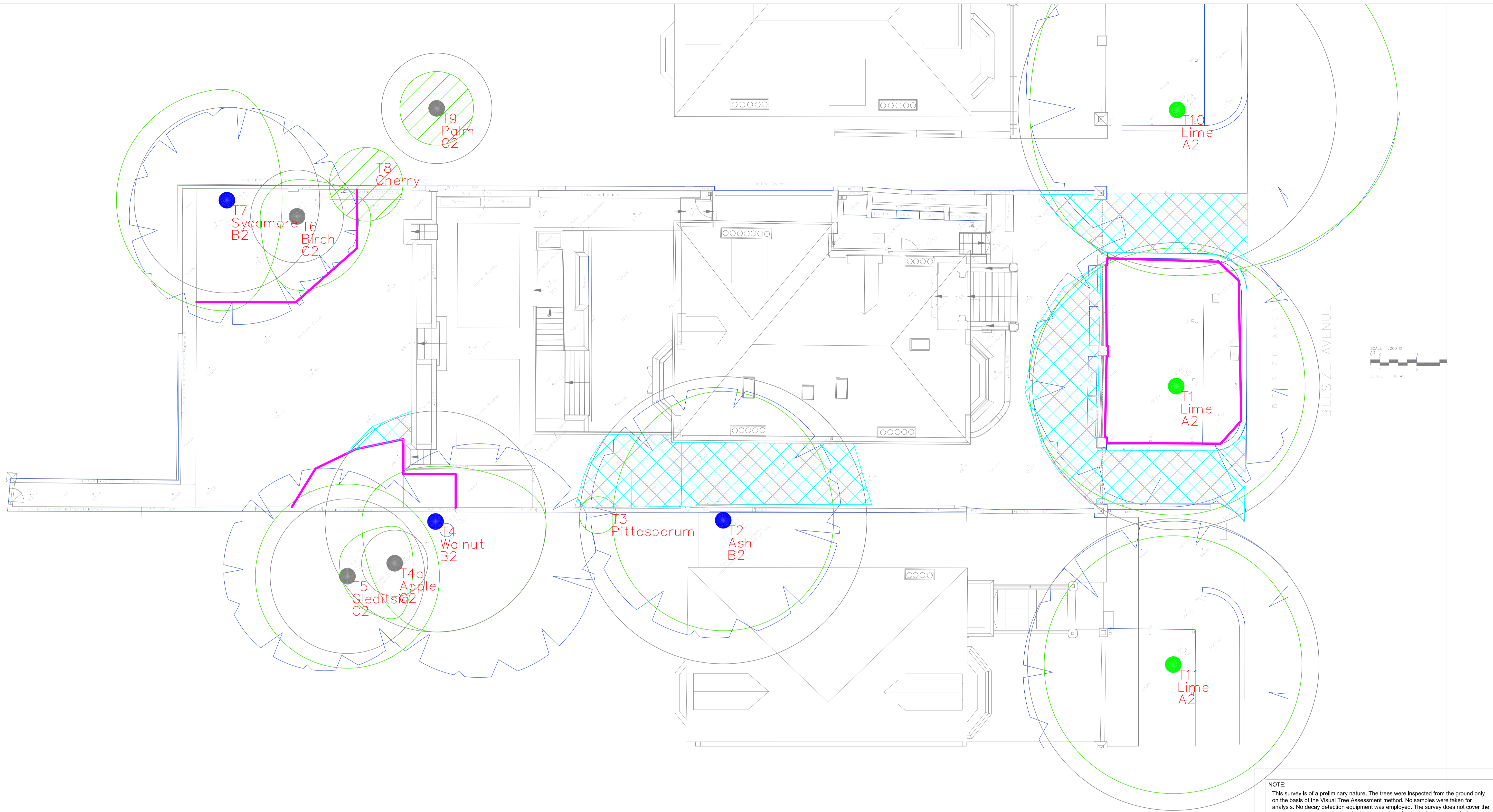
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Arboricultural Supervision Sign off Checklist

Tree No (s)	Project Phase	Task	Date Completed	Signed (Project arboriculturist)	Signed (Site Manager)
	Pre-commencement	Pre-commencement site meeting to include site manager briefing (S.1.5)			
	Pre-commencement	Confirm the location and specification of the protective measures is in accordance with AMS & Tree Protection Plan (TPP)			
	Pre-commencement	Confirm any tree works have been undertaken in accordance with this AMS (S.2.1/ App 1) and determine if further tree work is required			
	Pre-commencement	Seek required permission for further tree works if necessary.			
	Installation of any new services	Attend any excavation within RPA's where arboricultural supervision is prescribed by the AMS (S3.4) to ensure work is undertaken in accordance with NJUG provisions or other specification.			
	Demolition	Demolition of hard surfaces/ structures within RPA (S3.6) Confirm position of any additional temporary ground protection and that temporary ground protection is in accordance with AMS.			
	Completion of Demolition	Sign off of the demolition phase			
	Construction	Supervised manual excavation of foundations			
	Construction	Installation of 'No Dig' hard surfacing			
	Construction	Additional excavations (if required)			
	Completion of Construction	Completion of construction			
	Post Construction	Removal of machinery and materials from site			
	Post Construction	Dismantle & removal of protective measures			
	Landscaping	Completion of Landscaping			
	Project Completion	Sign off from project arboriculturist			

APPENDIX 3: TREE PROTECTION PLAN



NOTE:
 This survey is of a preliminary nature. The trees were inspected from the ground only on the basis of the Visual Tree Assessment method. No samples were taken for analysis. No decay detection equipment was employed. The survey does not cover the arrangements that may be required in connection with the laying or removal of underground services.
 Branch spread in metres is taken at the four cardinal points to derive an accurate representation of the crown.
 Root Protection Areas (RPA) are derived from stem diameter measured at 1.5 m above adjacent ground level (taken on sloping ground on the upslope side of the tree base).

Landmark Trees
 20 Broadwick Street, London, W1F 8HT
 Tel: 0207 851 4544 Mobile: 07812 989928
 e-mail: info@landmarktrees.co.uk Web: www.landmarktrees.co.uk

Site: 33 Belsize Avenue 1:100@ A1
 Drawing Title: Tree protection Plan October 2019

Key:

- Category A High Quality
- Category B Moderate Quality
- Category C Low Quality
- Category U Trees Unsuitable for Retention
- Ground Protection: 6mm steel checker plate
- Tree Protection Fencing

Legend:

- Root Protection Area
- Tree Position Approximate (not shown on original survey)
- Tree Number
- Species
- Category

