Landmark Trees

OUTLINE ARBORICULTURAL METHOD STATEMENT

53 Fitzroy Park

London

N6 6JA

REPORT PREPARED FOR:

Smarter Building and Construction Limited

17 Willifield Way

London

NW11 7XU

REPORT PREPARED BY:

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MSc ARB MICFor FArbor A MRICS C Env

Ref: WFA/53FZP/AMS/01e

Date: 1st March 2017

Contents

Appendices

1.0 Introduction

1.1 Purpose & Use of the Method Statement

1.1.1 This outline method statement has been prepared for Smarter Building and Construction Limited, for assistance with the discharge of planning conditions at 53 Fitzroy Park, London N6 6JA within the London Borough of Camden. The document will address the precautions to minimise damage to trees.

1.1.2 This document has been revised in the light of recent amendments to the development proposals. It is presumed that the provisions of the Construction Traffic Management Plan by Knight Build (Rev 03 – Planning Submission April 2015) in addition to comments received from the Fitzroy Park Residents Association, specifically, the report prepared by Alan Baxter (ref: 1675/114/JGa/mw dated March 2015) will still apply.

1.1.3 This outline method statement 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.

1.1.4 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, Smarter Building and Construction Limited 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 lay-out plan (11589B-TOPO) and the current proposal plans (1317-PL-212-lower ground floor-WORKING) along within the Design and Access Statement (1317-PL-DAS-REV-A), in addition to the Construction Traffic Management Plan prepared by Knight Build Ltd (Rev 03 – Planning Submission) and the review and comments on the engineering aspects of the scheme provided by Alan Baxter & Associates (ABA) for the FPRA (1675/114/JGa/mw dated March 2015). We are also reliant upon our own impact assessment report WFA/53FZP/AIA/01f and plan overlays of tree constraints contained therein.

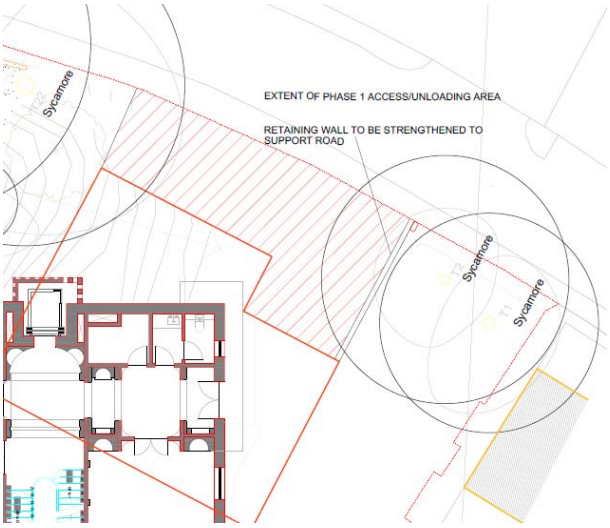
1.3 Development Proposals & Potential Impacts

1.3.1 The principal proposals are for the demolition of an existing dwelling and replacement with a new sustainable family house, built in a mixture of high quality traditional and contemporary materials. The proposal will comprise a lower ground, ground and first floor with 6 bedrooms split over the first and lower ground floors. Two external parking spaces will be provided on the north east side of the building in line with the existing provision. New soft landscaping is proposed as part of the application.

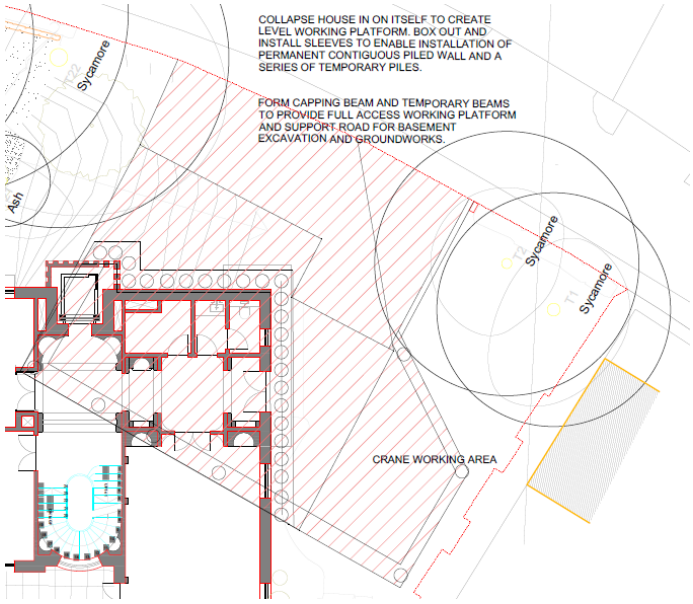
1.3.2 The principal impact in the current proposals is the felling of T3, T18, T19, T20 and T21. Other primary impacts comprise the demolition of the existing building within a small area of T22's theoretical RPA, therefore demolition will proceed in a pull down / back fashion with light plant working in a controlled manner under supervision. The removal of the existing hard landscaping within the RPA of T22 and replacement with new should be undertaken by hand, using no-dig construction techniques. The proposal is for a floating ramp, so not touching the ground apart from piers which should be situated > 1m from stem T22. The trial pits for these piers should be hand dug, with pre-emptive root pruning if required. Flexibility in their placement will allow any significant roots to be avoided.

1.3.3 The upshot of recent levels investigation is that the apparent 2m level change, potentially affecting the retained trees is overstated, and whilst addressed elsewhere in the application documents, the level changes in respect of RPA are minimal (+ or - 200mm at the northern face of the shrub bed containing T1 & 2). Prior agreement was reached with LB Camden Tree Officer on site on 19/9/13 that minimal impacts would result from the removal of existing hard standing and construction of the new drive beyond the retained shrub bed, if still within the theoretical RPA's of T1 & T2; the rooting area of these trees will most likely have been restricted by the retaining walls and largely confined to the raised area of favourable soft landscape. Any excavations within this rooting area should be undertaken by hand under arboricultural supervision. The impacts of the latest driveway iteration remain therefore very low/negligible, in keeping with the 19/9/13 agreement. Where the ground requires raising to create the new drive, this will be achieved using suitable engineering solutions; e.g. geotextile and aggregate combinations (e.g. cellular confinement systems) to be confirmed with the retained arborist.

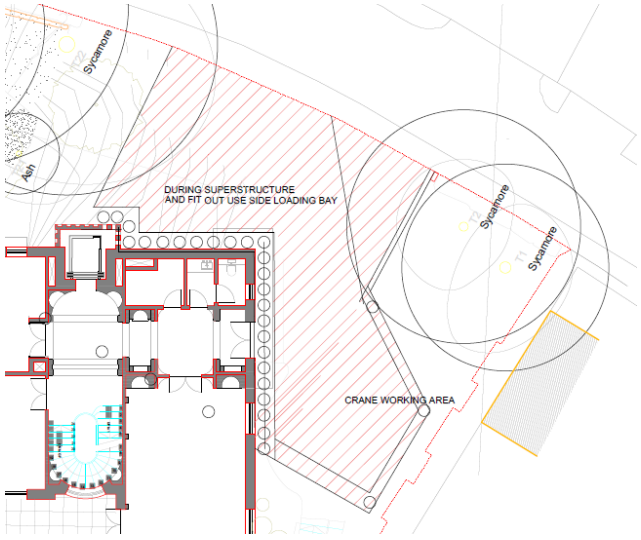
1.3.4 The impact of the temporary loading platform has also been considered. The strengthening of the retaining wall (see Extract 1 below) will be undertaken with caution, ensuring that any roots behind the existing structure are not disturbed. The piling required to support the platform is outside the RPA (see Extract 2 below), with the remaining structure founded on hand-dug piers, as shown in the CTMP.



Plan Extract 1: Phase 1 Loading Platform (Plan Ref: KB53FP-LOG-001)



Plan Extract 2: Phase 2 Loading Platform (Plan Ref: KB53FP-LOG-002)



Plan Extract 3: Phase 3 Loading Platform (Plan Ref: KB53FP-LOG-003)

1.3.5 All of the theoretical RPA's will be protected with ground protection, as shown on the Tree Protection Plan (TPP) in Appendix 5. NB the proposed ground protection does not exclude either consented works (services and establishment of ultimate levels) or varieties of treatment: whilst in principle, the ground protection will be uniform infra web over the existing ground, it will be selectively voided where the contractor wishes to hand-dig the piers for the platform.

1.3.6 A recent CAN application has been submitted (Planning Portal Ref 4097802 v1) to facilitate future development access. The application seeks to fell the previously unsurveyed hedge tree T3, a crab apple of c.3m high x 120mm stem diameter (see photographs below). Two further previously unsurveyed and exempt saplings will also be removed to facilitate access - T1 ash: c. 3m h x 2(50)mm stem dm; and T2 sycamore: c. 3m h x 60mm stem dm.

Photograph 1: Exempt tree Ash T1 (3m high with 2 stems 50mm diameter)

Photograph 2: Exempt tree T2 sycamore 3m h x 60mm stem dm T3 crab apple 3m h x 120mm stem dm

1.3.7 As permitted under the previous proposals, an exclusion trench will be hand-dug along the edge of the RPAs for T22 & T24. This trench will be dug to 600mm, with any significant roots found pruned under arboricultural supervision. This trench was originally proposed to mitigate the impact of the extant basement permission; it has been retained here to pre-empt under supervised conditions, the ad hoc impacts of proposed excavation/levelling works to the south west of the line.

1.3.8 All tree works will be carried out by competent contractors to best practice. Retained trees near development will be protected by a combination of fencing and ground protection. Site deliveries, access and material storage will be routed away from trees by means of these protection measures. Services will also proceed through these protected areas under supervision, adopting the NJUG provisions for hand-digging and trenchless techniques.

1.4 Sequence of Works

1.4.1 The sequence of works will be as follows:

- initial tree works – felling, stump grinding and pruning for working clearances
- installation of Tree Protection Barrier (TPB) & ground protection
- demolition of existing building & landscaping
- installation of loading platform
- installation of supplementary ground protection if required
- installation of any additional underground services
- main construction of house and hard landscaping
- removal of TPBs
- soft landscaping

These works and their arboricultural implications are outlined in sequence below

1.5 Site Supervision

1.5.1 John Knight from Knight Build will nominate a Site Manager to be responsible for all arboricultural matters on site. The Site Manager will be:

- present on site for the majority of the time
- be aware of the arboricultural responsibilities - to this end, a site briefing / meeting between the Site Manager and arboricultural consultant must be held before the commencement of each phase of works.
- 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 local authority and/or a retained arboriculturalist in the event of any tree related problems occurring, whether actual or potential.

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

Adam Hollis — Tel: 07812989928
Arboricultural Consultant
Landmark Trees
info@landmarktrees.co.uk

Tom Little — Tel: 020 7974 5939
Tree and Landscape Officer
London Borough of Camden
tom.little@camden.gov.uk

David Wolff Tel: 020 7229 3125
Director
Wolff Architects Ltd.
DWolff@wolffarchitects.co.uk

John Knight Tel: 07939 016007
Managing Director
Knight Build Ltd
john.knight@knightbuild.co.uk

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 monitoring will be undertaken by a qualified and experienced arboriculturalist at pre-determined and agreed time intervals as indicated in Table 1 below.

1.6.2 The arboriculturalist will arrive at the site, check in at the site office and be safely escorted around the site by the Site Manager, checking the maintenance of tree protection measures. Routine visits will generally be unannounced. However, the arboriculturalist will also visit subject to advance notification and agreement to supervise any agreed works within the RPA.

Table 1: Site Monitoring Visits

Supervision Visit No:	Details	Action
Visit 1: Pre-Development Site Inspection (S.2.3 of AMS) Arboricultural supervision of excavation of trench within RPA (see TPP)	• To included construction Site Manager briefing (S.1.5); • 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 5); • to check any pre-demolition/construction ground protection is in place; • to check any tree works have been undertaken in accordance with this AMS (S.2.1. and Appendix 1); • to check site facilities/access are in accordance with the AMS (S.3.3). • attend excavation of trench within RPA (see TPP in Appendix 5).	Issue a brief report with findings to Architect, Tree Officer and Main Contractor within 5 days of site supervision visit (see Appendix 3).
Visit 2: Phase 1 Demolition of hard surfaces/structures within RPA (S3.6) and	• Confirm position of any additional temporary ground protection and that temporary ground protection is in accordance with AMS; • Inspect removal of hard surfacing within RPA of T22 and ensure additional ground protection is provided.	Issue a brief report with findings to Architect, Tree Officer and Main Contractor within 5 days of site supervision visit
Visit 3: Phase 1 Erection of Platform	Attend site to confirm protective measures are still in place. Ensure attendance is timed for erection of platform where supporting piers encroach the protection areas. Check works to existing retaining wall adjacent to T2.	Issue a brief report with findings to Architect, Tree Officer and Main Contractor within 5 days of site supervision visit.
Ongoing Supervision Visits – every month for first 6 months, then every 3 months until the completion of the construction phase	Providing protective measures have been complied with in previous visits, further visits will be carried out.	Issue a brief report with findings to Architect, Tree Officer and Main Contractor within 5 days of site supervision visit.
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 ground protection and protective fencing. Specify any remedial work if necessary	Issue a brief report with findings to Architect, Tree Officer and Main Contractor within 5 days of site supervision visit.

1.6.3 In addition, a site log book will be kept by the Site Manager to record all stages of the development from the installation of the fence protection, to routine checks of the fencing through to the completion of the project. This should be made available to the LA if required to show evidence of site monitoring. Site monitoring should include:

- Pre-Development Site Inspection (S.2.3)
- Construction Site Manager Briefing (S.1.5)
- Installation of site facilities (S.3.3)
- Demolition of hard surfaces / structures within RPA's (S.3.6)

- Installation of the temporary platform (S.3.6)
- Construction of new of hard surfaces / structures within RPA's (S.3.7)
- Site completion meeting (S.5)

1.6.4 The LPA's Arboricultural Officer will have free access to the site and report on any problem areas directly to the developer's Project Arboriculturalist, who will then visit the site and make recommendations to the developer on how best to rectify the situation and ensure implementation. 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 LPA 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.

1.6.5 N.B. Landmark Trees will only be responsible for providing monitoring in so far as they fully instructed to do so and regularly paid for such services by the client. In the absence of routine payment (as per our business terms), routine monitoring will cease (temporarily or permanently) and the LPA 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 LPA.

1.7 Statement Adoption

1.7.1 It is recommended that, in due course, acceptance of the recommendations in this report is demonstrated by, for example, the architect specifying in writing to the building contractor that tree care conditions apply in execution of the contract, and by an estimate or written undertaking from the contractor to the architect demonstrating that the practical aspects of tree protection recommendations have been priced in to the job. If conflicts between any part of a tree and the building arise in the course of development these can often be resolved quickly and at little cost if a qualified arboriculturist is consulted promptly. Lack of such care is often apparent quickly and decline and death of such trees can spoil design aims and can of course affect saleability, and reflects lack of best practice. Trees that have been the recipients of careful handling during construction add considerably to the appeal and value of the finished development.

2.0 Pre- Development Site Preparation

2.1 Arboricultural Works

2.1.1 All works must be carried out by a competent arborist in accordance with BS 3998: 2010 and any other prevailing good professional practice.

2.1.2 Specific works recommended to facilitate development are the removal of trees T3, T18, T19, T20 and T21. Pruning works include the crown lifting of T22 sycamore. These specific works to facilitate development and any other husbandry works are listed in Appendix 1. The works permitted under Tree Works Applications 2013/6828/T and 2013/6725/T have been undertaken, with the works required to facilitate the construction of the proposed development access still outstanding (S.211 application submitted on 02/04/15 via the Planning Portal – Ref: Ref 4097802 v1). The works requested comprise the felling of a 120mm diameter crab apple tree that is currently situated on the roadside of T22.

2.1.3 It will also be necessary to remove the small magnolia T1d in order to facilitate development. This is included here for the sake of completeness but the shrub does not constitute a planning constraint of any kind hence it is not included in Appendix 1.

2.1.4 The replanting scheme will include a minimum of 9 semi-mature indigenous trees and smaller indigenous trees (total of 25 new trees). This replanting will also include the two small leaved limes (*Tilia cordata*) specified in condition 3 of 2013/6828/T. A beech hedge is also proposed around the whole site to increase privacy, as previously approved (2011/1682/P).

2.2 Installation of Tree Protection Barrier

2.2.1 A Tree Protection Barrier [TPB] comprising steel mesh panels of 2.4m in height ('Heras') should be erected to protect trees near buildings to be demolished on site. 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).

2.2.2 This TPB is to be erected before any work commences on site, is 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.

2.2.3 The only other exception is the completion of soft landscaping but if any excavations, however minor, are to be carried out as part of soft landscaping within RPAs, an arboricultural assessment must be carried out beforehand and any arboricultural protection measures incorporated. The TPB should carry waterproof warning notices denying access within the RPA.

2.2.4 The Tree Protection Plan in Appendix 5 illustrates where the protective fencing will be located to form the boundary of the Construction Exclusion Zone (CEZ). The CEZ is an exclusion zone and suitable steps will be taken to prevent access by pedestrians and vehicles and the storage of any works materials and equipment will be located outside of the CEZ.

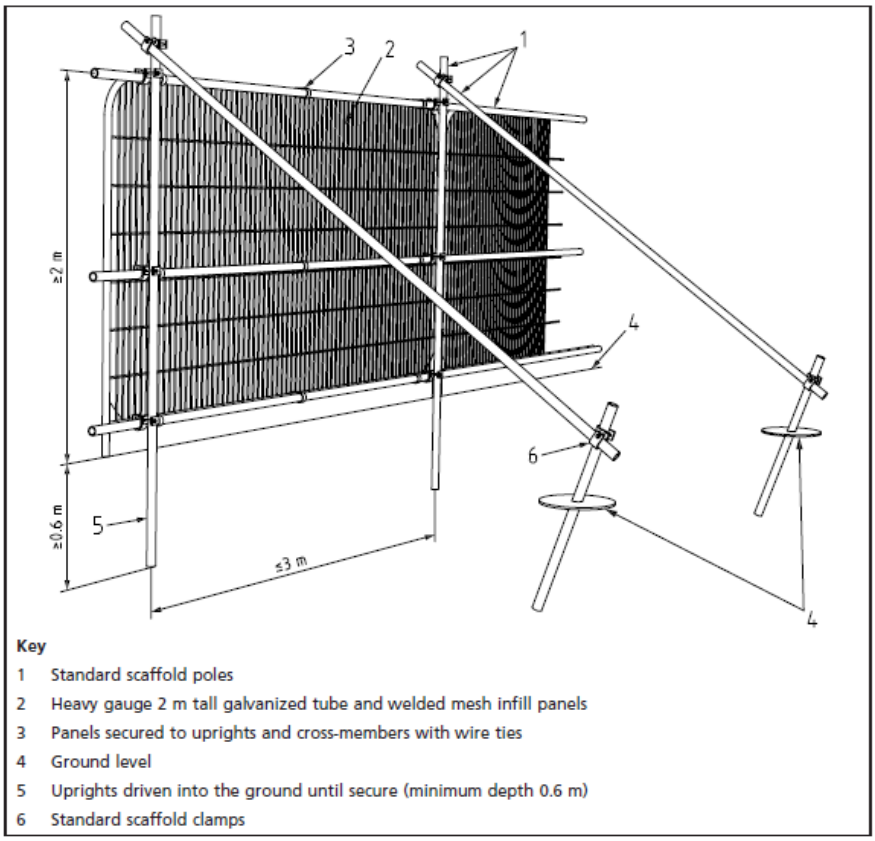


Fig. 1 Tree Protection Barrier Specification
(Source: Figure 2 from BS5837 - Default specification for protective barrier)

2.3 Pre-Development Site Inspection

2.3.1 Upon completion of the tree works and installation of the protection measures, the standard of work can be checked by the retained arboricultural consultant who can then liaise with the local authority (see Table 1 above). If there are any amendments to either the tree works or additional protection measures, they will be agreed at this meeting and confirmed in writing.

3.0 Development Phase

3.1 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 fences without the approval of an arboriculturist.
- Alterations in levels within the tree protection fence areas shall be avoided.

3.2 Root Protection Areas (RPA)

3.2.1 The Root Protection Area (RPA) is a desirable zone of protection around the trees' rooting system and these have been marked on the plan in Appendix 5. As much as possible, the RPA's will lie within the CEZ and therefore, be fully fenced off. However, 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. demolition of existing building and hard landscaping, installation of the temporary platform, installation of services and construction of new building and new hard 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.3.4 (routing of services) S3.5 (raising ground levels) S.3.6 (demolition of surfaces) and S.3.7 (construction) will be required.

3.2.3 Ground outside the TPZ must be protected from site traffic and not left exposed during construction. As far as practical, existing hard surfaces should be retained as initial ground protection (where fit for purpose for anticipated loading) until the landscaping phase and / or substituted / supplemented with appropriate materials (e.g. Infraweb, Ground Guards etc.), capable of withstanding anticipated loads. NB the provision of ground protection on plan does not prohibit the construction of the platform piers, the consented laying of services and related works in those areas. It means that those operations should proceed under caution and protect adjacent ground to that immediately requisitioned for the work in hand.

3.3 Site Access, Accommodation & Storage

3.3.1 In accordance with the CTMP, a hoarding will be erected along the boundary of the property and a set of folding gates constructed across the existing driveway / site entrance. The site hoarding will be constructed from good quality ply wood of a minimum 2.4m high. The tree protection will also be installed at this stage as per the TPP (Appendix 5) and prior to any works commencing.

3.3.2 Due to the logistics of the site and the difference between the Fitzroy Park road level and the existing ground behind the hedge row it is not possible to gain access for vehicles or plant to the lower levels of the site from Fitzroy Park without providing the temporary loading platform to the right of the property extending the driveway.

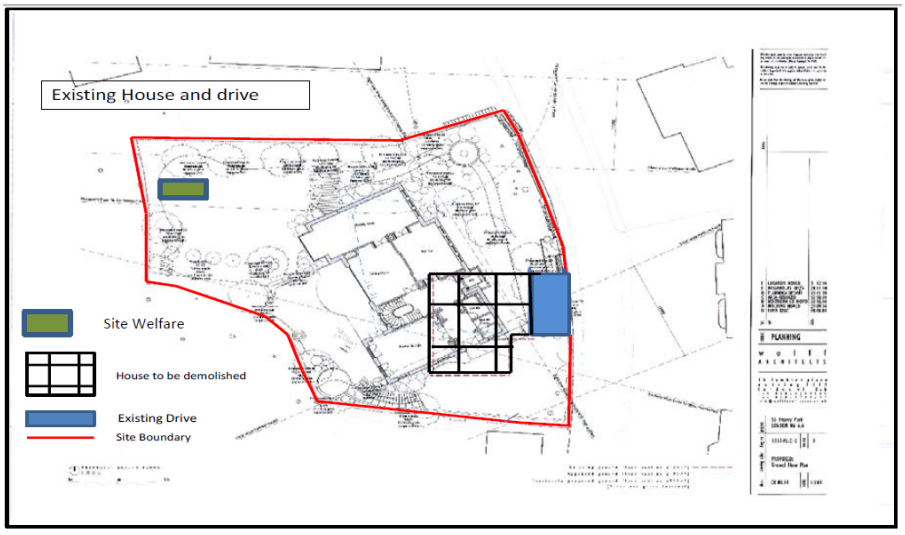
3.3.3 The platform will be established following the demolition stage of the works (see section 3.7 below). The platform has been designed to ensure that all vehicles that are attending site will be able to reverse onto the platform and then drive away when loaded/unloaded; the whole of the vehicle will be positioned on the platform and within the site boundary at all times.

3.3.4 The site welfare and site offices will be a container set up delivered to site by Hiab and established on the lower level of the site (see extract 1 below). It will be positioned away from the canopies/RPA of the retained tree resource on this boundary.

3.3.5 The site access will be as existing initially, although the phasing is likely to require the construction of the proposed access prior to the main build. The tree protection will be installed prior to all construction works (see Appendix 5).

3.3.6 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 arboriculturalist; 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 away from protected trees

3.3.7 Many site activities are potentially damaging to trees e.g. material storage, parking, soil compaction and the use of plant machinery. In this latter example particular care is required to ensure that the operational arcs of cranes and any other machinery, including their loads, do not physically damage trees in use.



Extract 4: Position of site welfare (Source: CTMP by Knight Build)

3.4 Routing & Installation of Services

3.4.1 Every effort should be made to ensure that the routing and instillation of services avoid the RPA at the design stage; however if unavoidable then it may be possible, with written permission from the LPA, to implement the provisions of BS5837 and NJUG VOLUME 4 (e.g. radial trenching and /or mole trenching) under arboricultural supervision.

3.5 Changes in Grade

3.5.1 The upper layer of top soil contains the majority of a tree's roots and if this is disturbed by a reduction in ground level, serious damage can be caused. If such soil is to be disturbed within the TPZ / RPA, it will be done only with hand tools and the supervising arborist will be informed if roots are exposed.

3.5.2 A trench will be dug as permitted under the previous proposals, to minimise the damage to roots that may be located within the areas proposed for levelling works (see TPP). The ground level will also require raising to create the new drive. Where the new vehicular access lies within the theoretical RPA of T2, the existing landscaping will be carefully removed under arboricultural supervision (see Table 1 above). Where the ground requires raising to create the new drive, this will be achieved using suitable engineering solutions; e.g. geotextile and aggregate combinations (e.g. cellular confinement systems) to be confirmed with the retained arborist and LPA.

3.6 Demolition Measures.

3.6.1 The proposed crown lifting to T22 will prevent injurious contact between demolition plant and the tree(s). The pruning will be undertaken in accordance with British Standard 3998: Recommendations for tree works (See Section 2.1 / Appendix 1).

3.6.2 Demolition of structures within what would otherwise be an RPA will proceed with due caution to avoid unnecessary damage to trees. Such measures apply in particular to T22 and both building and removal of existing hard standings to create the pedestrian access.

3.6.3 It is intended that the demolition of 53 Fitzroy Park will be carried out by hand in a manner that will reduce the building from roof down, allowing all debris and arising to fall within the frame of the building itself. Rubble chutes will then be used, which will be constructed between the existing floors of the building to the lower ground level. There will be no requirement for any large plant or equipment to be delivered to site to carry out these works. All hard-core arising's will be used and retained on site; the soft strip and other materials that cannot be used on site will be removed by the use of skips and 2 axle wait and load trucks.

3.6.4 A monarflex wrapped scaffold will encase the building during the demolition and water spray will be used as a dust suppression. In the unlikely event that levels of dust build-up on trees occur, it may be necessary to seek the advice of Landmark Trees on remedial measures, e.g. hose down the tree(s) immediately following any significant accumulation of dust.

3.6.5 Throughout all mechanical operations a banksman will be present at all times. Dust generated by the works will be suppressed using water sprays.

3.6.6 Any existing hard standing within the tree's RPA's will be first broken up with manual power tools and then carefully removed with light plant by a skilled machine operator, either operating outside the RPA, or working from within the existing built structure and hard standing, near trees. Soil exposed beneath the structure will not be scraped away, but preserved in situ and protected immediately (not tracked over) with replacement ground protection (as per para 3.2.1) before the continuance of operations.

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 Manager to ensure the AMS requirements have been considered therein.

3.7.1 The revised scheme does not encroach the RPA/canopy of any retained tree, therefore no mitigation measures for the construction of the replacement dwelling are required.

3.7.2 A temporary loading platform will be constructed to the right of the property, extending over the existing the driveway and into the site. The platform will be a steel frame structure that will be supported on concrete piles, the piling rig to be used is a KITTEN KT-50 Mini. All of the proposed piling for the platform lies outside the theoretical RPAs (see Extracts 1 -3 above). Where supporting piers are located within the theoretical RPA, the ground protection will be removed and the foundations required hand excavated under arboricultural supervision.

3.7.3 Construction materials will be delivered on lorries with mechanical off load and stored outside the RPAs.

3.7.4 The construction of the property will include piling, basement construction, substructure and superstructure this will be covered in more detail in the 53 Fitzroy Park Construction Management Plan (CMP), which will be finalised at a later date. In brief, the existing Construction Traffic Management Plan (CTMP) notes waste shall be taken from site using 3 axle vehicles, loaded within the site boundary by either a conveyor moving the material directly into the lorries or use a long reach excavator that would be positioned on the loading platform to load the lorries.

3.7.5 Concrete shall be delivered in 6m3 volume trucks discharging into a pump located within the site hoarding.

3.7.6 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.

3.7.7 The foundation pits for the "legs" required to support the floating ramp within the RPA of T22 will need to be hand-dug, with any significant roots found pruned under arboricultural supervision. If possible, some flexibility in the position of the "legs" should be built into the design, allowing trial pits with significant roots to be relocated. Any further hard landscaping within the RPA of retained tress should be constructed using no-dig construction techniques; for the replacement paving/hard landscaping the

existing sub-bases can be used without disturbing the ground below. Any additional hard landscaping will require a no-dig construction technique using a cellular confinement system with no fines aggregate for the sub-base. The key principle is not to excavate in the presence of roots and to provide a porous surface to promote healthy soil water relations for future root growth.

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 when all drainage and service runs have been installed and any site machinery has been removed from the RPA.

3.8.2 Any further landscaping works should avoid the changing of ground levels or deep digging. Mechanised cultivation such as tractor-mounted rotovation must not be used within the RPA's of existing trees.

3.8.3 Heavy machinery should not be used in the vicinity of any retained trees.

3.8.4 If herbicides are to be used they should be appropriate to their purpose and not in such a way as to damage any retained trees or vegetation; they must be applied by a suitably qualified person i.e. a holder of a recognised 'certificate of competence'.

3.8.5 Ideally, retained trees should be within a shrub area as this reduces the chances of compaction and disturbance of root systems.

3.8.6 The new planting scheme proposed is detailed on plan 1317-PL-213-REV-F by Wolff Architects.

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:

Impact	Mitigation	Reference	Trees Affected
General site access, material storage etc.	Ground protection to acceptable standards.	Paras 1.3, 2.2.1 & 3.3.3 Tree Protection Plan in Appendix 5	All retained trees
Demolition within existing canopy	Tree surgery	Section 2.1	T22
Reinforcement of retaining wall	Existing root zone to be protected/undisturbed	Section 2.1	T21
Demolition of existing build within RPA	Pull down technique within RPA	Section 3.6	T22
Changes in grade within RPA	Course granular material (subject to confirmation from engineers). Trench dug to 600mm as permitted under previous proposals	Section 3.5	T22
Temporary Platform	Hand-dug foundation pits for supporting piers	Section 2.1	T22
New landscaping	Hand-dug foundation pits for “legs” on proposed ramp No-dig construction techniques for new/replacement hard landscaping	Section 3.7	T22 and all retained trees

5.0 Completion

5.1 Completion Meeting

5.1.1 Following completion of the works listed above, a Landmark Trees consultant will meet with a local authority representative and agree upon any remedial works deemed necessary. It is the client's duty to notify LT that the project has been completed, in order to facilitate such an inspection.

5.1.2 A separate LT post-development tree inspection (with specific reference to trees identified in the Appendix 1 schedules) is recommended to facilitate a constructive meeting and to monitor the health of some of the more senescent trees on site.

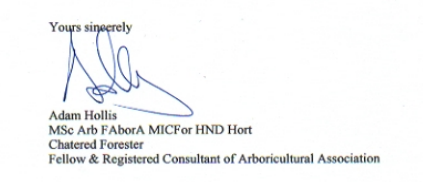
5.1.3 Any works agreed in the above meeting will be confirmed in writing and will be performed to BS 3998: 2010 Tree Works.

5.1.4 Landmark Trees recommend that any work proposed post development is checked to avoid penalty for performing illegal work on a protected tree.

5.1.5 As noted at 1.7 above, it is recommended that, in due course, acceptance of the recommendations in this report is demonstrated by, for example, the architect specifying in writing to the building contractor that tree care conditions apply in execution of the contract, and by an estimate or written undertaking from the contractor to the architect demonstrating that the practical aspects of tree protection recommendations have been priced in to the job.

5.1.6 If conflicts between any part of a tree and the building arise in the course of development these can often be resolved quickly and at little cost if a qualified arboriculturist is consulted promptly. Lack of such care is often apparent quickly and decline and death of such trees can spoil design aims and can of course affect saleability, and reflects lack of best practice. Trees that have been the recipients of careful handling during construction add considerably to the appeal and value of the finished development.

Signed



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Adam Hollis MSc ARB MICFor FArbor A

1st March 2017

For and on behalf of *Landmark Trees*

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Tel: 0207 851 4544

London Office: 20 Broadwick Street, London, W1F 8HT
Registered Office: Grange Cottage, All Cannings, Devizes, Wiltshire, SN10 3NR
Landmark Trees is the trading name of Landmark trees Ltd. Registered in Wales. Reg No. 3882076

Appendix 1: Arboricultural Works

Notes for Guidance:

1, 2, 3 - Urgent (ASAP), Standard (within 6 months), Non-urgent (2-3 years)
RP - Pre-emptive root pruning of foundation encroachments under arboricultural supervision.
CB - Cut Back to boundary/clear from structure.
CL# - Crown Lift to given height in meters.
CT#% - Crown Thinning by identified %.
CCL - Crown Clean (remove deadwood/crossing and hazardous branches and stubs).
CR#% - Crown Reduce by given maximum % (of outermost branch & twig length)
DWD - Remove deadwood.
Fell - Fell to ground level.
FInv - Further Investigation (generally with decay detection equipment).
Pol - Pollard or re-pollard.
Mon - Check / monitor progress of defect(s) at next consultant inspection which should be <18 months in frequented areas and <3 years in areas of more occasional use. Where clients retain their own ground staff, we recommend an annual in- house inspection and where practical, in the aftermath of extreme weather events.
Svr Ivy / Clr Bs - Sever ivy / clear base and re-inspect base / stem for concealed defects.

Landmark Trees

Site: 53 Fitzroy Park, London N6 4JA

Surveyor(s): Adam Hollis

Date: 11 01 2016

Ref: WAL/53FP/AMS

Recommended Tree Works to Facilitate Development

Show All Trees
Hide irrelevant

Tree No.	English Name	Height	Stem Diameter	Crown Spread	Recommended Works	Comments/ Reasons
3	Lime, Common	16	540.0	8246	Fell	Lapsed pollard / high end weight Leaning (significantly) N Small cavity on western stem Unsuitable for lawn location To Facilitate Development
18	Sycamore	19	551.0	8246	Fell	Multi stem weakness Restricted rooting on embankment Unsuitable fro retention within garden interior To Facilitate Development
19	Sycamore	19	489.9	3556	Fell	Multi stem weakness Restricted rooting on embankment Unsuitable fro retention within garden interior To Facilitate Development
21	Ash, Common	14	150.0	1312	Fell	Suppressed by nearby tree Asymmetry (minor) To Facilitate Development
20	Cherry, Wild (Gean)	16	350.0	2444	Fell	Unprofessionally topped/lopped Suppressed by nearby tree Asymmetry (minor); Co-dominant limbs with included bark To Facilitate Development
22	Sycamore	19	560.0	2756	CL 3 metre ground clearance - CL to provide working clearances	Unprofessionally topped/lopped Co-dominant limbs Included bark in branch unions Low live crown ratio To Facilitate Development

Appendix 2: 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 3: 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		

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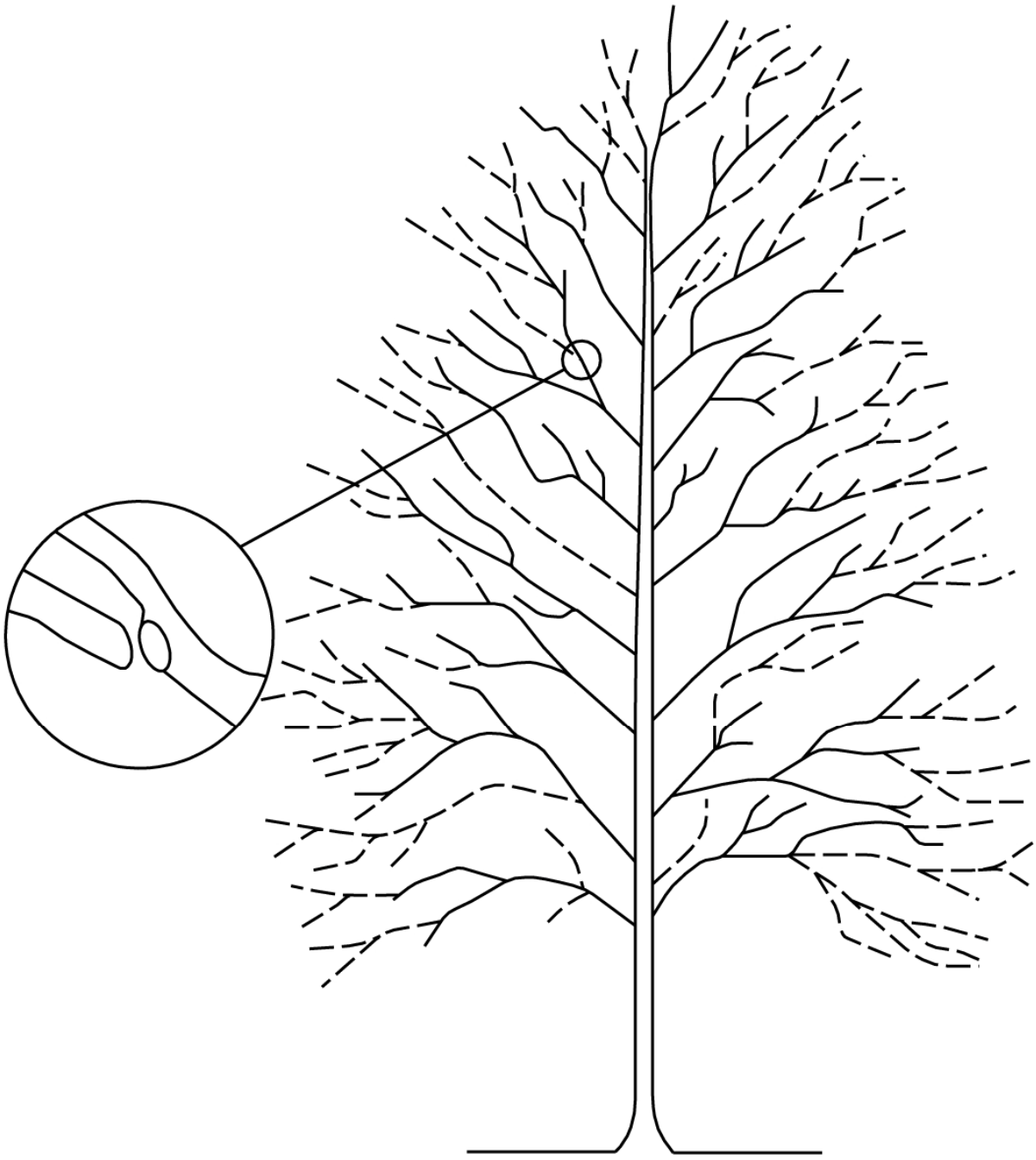
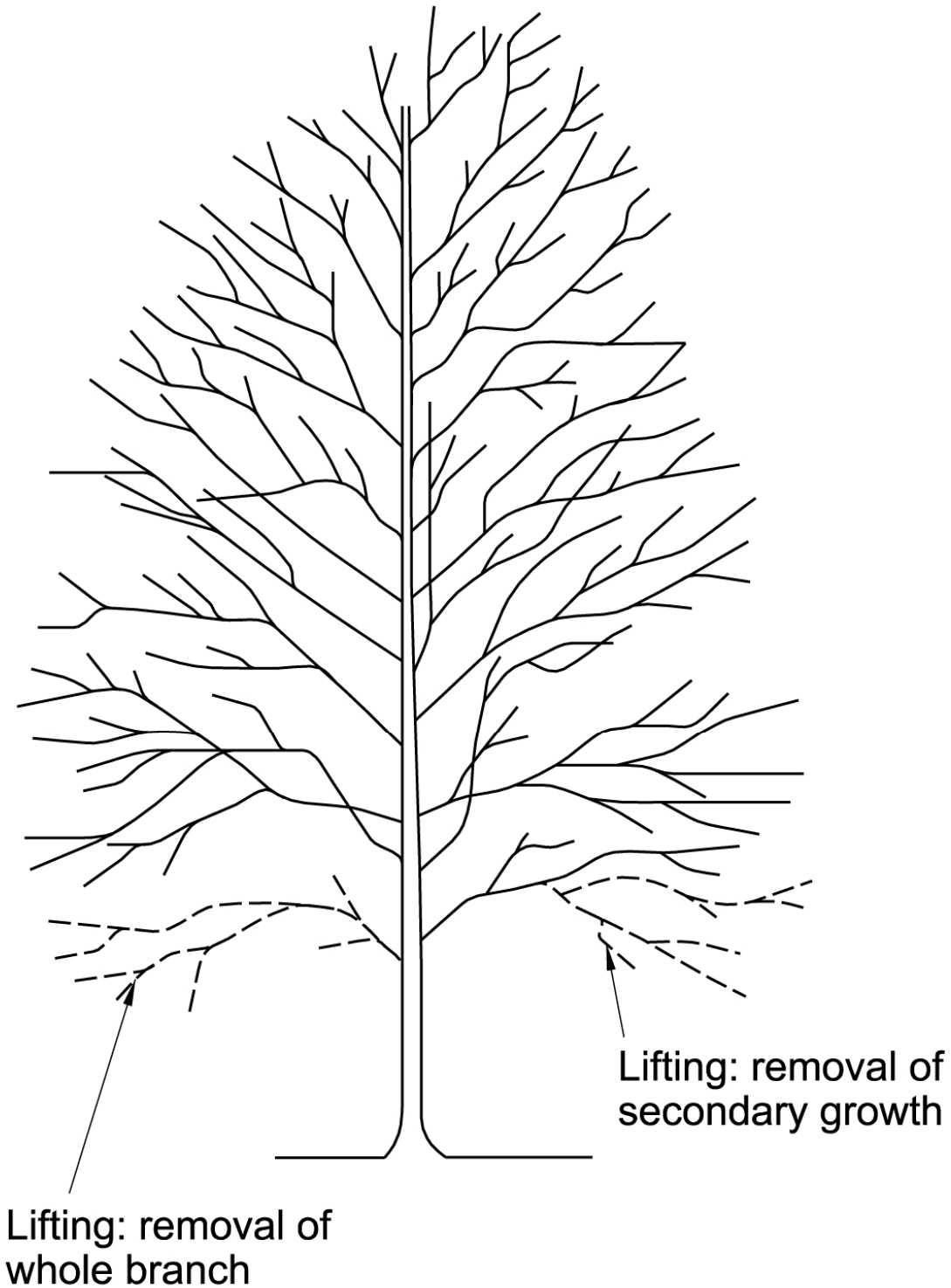
Appendix 4: Indicative Pruning Guidelines



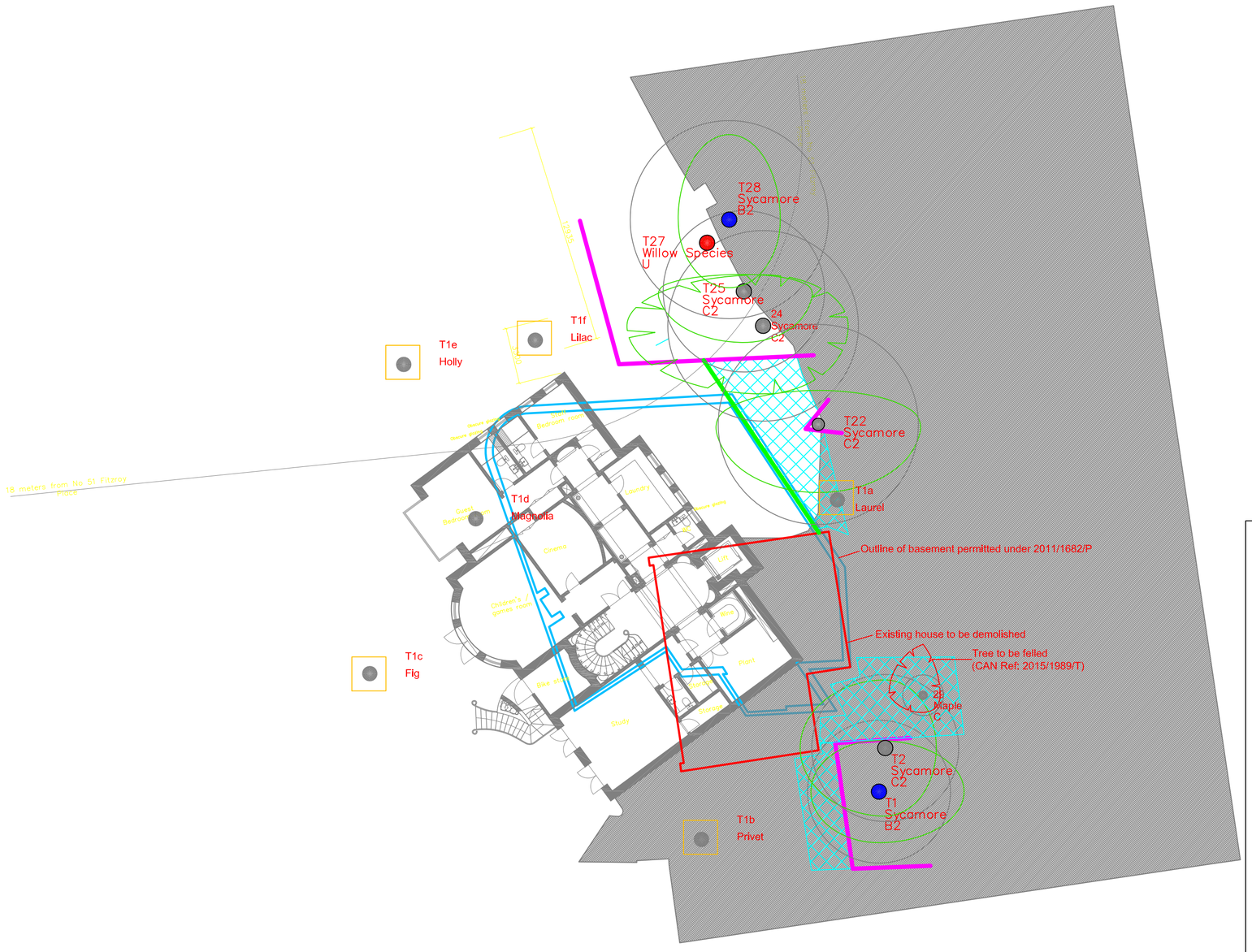
NOTE: Branches pruned back to suitable outward pointing bud or small branch.

REDUCING THE CROWN



CROWN LIFTING

Appendix 5: Tree Protection Plan



PROPOSED LOWER GROUND FLOOR 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).

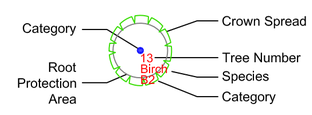
Landmark Trees

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

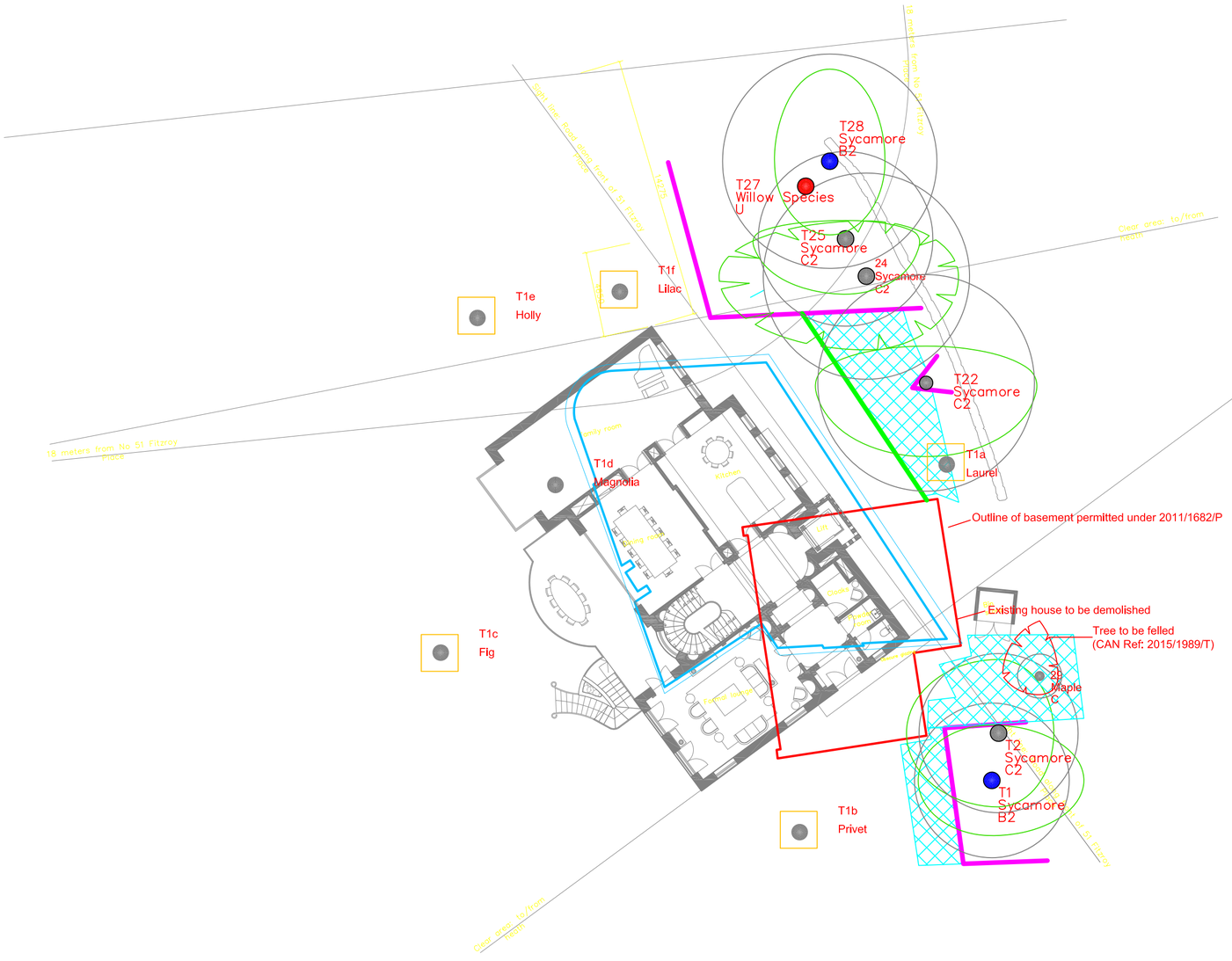
Site: 53 Fitzroy Park. London, N6 4JA	1:200@A2
Drawing Title: Tree Protection Plan	February 2017

Key:

- Category A High Quality
- Category B Moderate Quality
- Category C Low Quality
- Category U Trees Unsuitable for Retention



- Trees felled subject to CAN notice
- Precautionary area: assumed no-dig construction. All excavation subject to arboricultural supervision; limits of which to be hand-dug; hard-surfacing retained as ground protection where practicable
- 2m x 2m Temporary Netlon Fencing
- Tree Protection Fencing
- Installation of hand-dug trench to 600mm and root pruning



PROPOSED GROUND FLOOR PLAN

5m 10m

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

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20 Broadwick Street, London, W1F 8HT
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Site: 53 Fitzroy Park. London, N6 4JA	1:200@A2
Drawing Title: Tree Protection Plan	February 2017

Key:

- Category A High Quality
- Category B Moderate Quality
- Category C Low Quality
- Category U Trees Unsuitable for Retention

Category, Crown Spread, Tree Number, Species, Category, Root Protection Area (13 Birch B2)

- Trees felled subject to CAN notice
- Precautionary area: assumed no-dig construction. All excavation subject to arboricultural supervision; limits of which to be hand-dug; hard-surfacing retained as ground protection where practicable
- 2m x 2m Temporary Netlon Fencing
- Tree Protection Fencing
- Installation of hand-dug trench to 600mm and root pruning