Landmark Trees

ARBORICULTURAL METHOD STATEMENT

The Waterhouse

Millfield Lane

London

N6 6HT

REPORT PREPARED FOR:

Mr and Mrs Lewis,

c/o: UK & European,

Woodstock Studios,

13 Woodstock Street,

London W1C 2AG

REPORT PREPARED BY:

Adam Hollis

MSc ARB MICFor FArbor A MRICS C Env

Ref: UKE/WHS/AMS/01a

Date: 17th July 2017

Contents

Appendices

1.0 Introduction

1.1 Purpose & Use of the Method Statement

1.1.1 This method statement has been prepared for Mr & Mrs Leonard Lewis, C/o UK and European, in support of a planning application at The Waterhouse, Millfield Lane, London N6 6HT. The document will address the following issue:

- Protection of trees during construction

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, Mr & Mrs Leonard Lewis, C/o UK and European 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 (633(SK)001 (A) Existing Site Plan) and the proposed drawings (17007_TWH_-Sheet – 0-001 – Site Plan-Floor Plan – 001 Proposed). We have also been provided with drawing 26028-600 which details the proposed new below ground drainage around The Waterhouse and the new outbuilding. We are also reliant upon our own impact assessment report DPS/WHS/AIA/03 and plan overlays of tree constraints contained therein.

1.3 Development Proposals & Potential Impacts

1.3.1 The principal proposals are for: *the erection of a single storey side extension and a part single, part 2-storey first floor extension and the demolition and rebuilding of the existing outbuilding.*

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 and access clearance
- installation of Tree Protection Barrier (TPB) & ground protection
- demolition of outbuilding
- installation of underground services
- main construction
- removal of TPB
- hard landscaping
- 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 LB 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 Tel: 0207 851 4544
Arboricultural Consultant
Landmark Trees
info@landmarktrees.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 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:

Nick Bell Tel: 0207 974 4444
Arboricultural Officer
LB Camden
nick.bell@camden.gov.uk

1.6.4 The site monitoring sheet in Appendix 3 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 LB 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 LB 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 LB Camden.

Table 1: Site Monitoring Visits

Supervision Visit No:	Details	Action
Visit 1: **Pre-Development Site Inspection** **(S.2.3 of AMS)**	• To include Site Agent briefing (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 4); • 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). • Determine if further tree work is required and seek required permission if necessary. • To check site facilities/access are in accordance with the AMS (S.3.3).	Issue a brief report with findings to Architect and Main Contractor within 5 days of site supervision visit (Site Monitoring Sheet in Appendix 3).
Visit 2: **Demolition of outbuilding**	• Attend any demolition activities where 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.	Issue a brief report with findings to Architect and Main Contractor within 5 days of site supervision visit (Site Monitoring Sheet in Appendix 3).
Visit 3: **Installation of underground services (subject to consent for works)**	• 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.	Issue a brief report with findings to Architect and Main Contractor within 5 days of site supervision visit (Site Monitoring Sheet in Appendix 3).
Visit 3: **Installation of piling within RPA (S3.4)**	• 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.	Issue a brief report with findings to Architect and Main Contractor within 5 days of site supervision visit (Site Monitoring Sheet in Appendix 3).
Ongoing Monitoring Visits	• Periodically during 12 months (or longer) of entire project and prior to construction phase. • 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. • Pre-start landscape meeting with main contractor to confirm ongoing tree protection measures.	Issue a brief report with findings to Architect and Main Contractor within 5 days of site supervision visit (Site Monitoring Sheet in Appendix 3).
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.	Issue a brief report with findings to Architect and Main Contractor within 5 days of site supervision visit. (Site Monitoring Sheet in Appendix 3). Provide signed arboricultural checklist (see Appendix 3)

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 including BS 8545:2014 Trees: from nursery to independence in the landscape. Recommendations.

2.1.2 Specific works recommended to facilitate development are the felling of trees T1, G10a, T12, T20, T31 and T35. Pruning works comprise the crown lifting of T15 and the cutting back of the following trees along Millfield Lane: 2663, 2665, 2671, 2674a, 2696, 2698a, 2705, 2707, 2708 and 2709. These specific works to facilitate development and any other husbandry works for trees on-site are listed in Appendix 1 with works necessary to off-site trees to facilitate access to the site provided within Appendix 2.

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 retained trees. 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 5.

2.2.5 Trees along Millfield Lane will be protected from contact with construction traffic by the existing boundary treatments. Where any small trees / shrubs are growing outside those boundary treatments, they are to be protected by self-supporting boxed hoarding 2.4m in height.

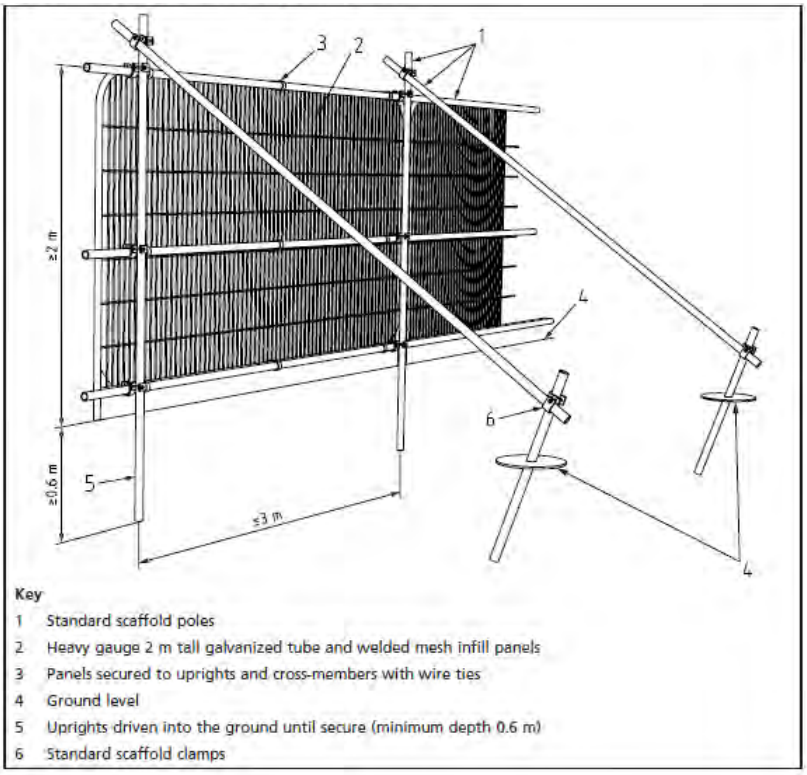

Fig. 1 Tree Protection Barrier Specification
(Source: Figure 2 from BS5837 - Default specification for protective barrier)

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 5. 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.

2.3.2 It is proposed to provide protection from construction traffic to the trees along Millfield Lane by installing a 3-D cellular confinement system on top of the existing surface. This will be installed prior to the commencement of construction works and remain in situ following their completion. The protection will extend from the start of the unmetalled section of Millfield Lane to the entrance to The Waterhouse as necessary.

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: demolition and rebuilding of outbuilding, installation of services to outbuilding, construction of extension, installation of retaining walls and construction of new 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 (services), 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 be as per the layout within our Tree Protection Plan (Appendix 5). Site accommodation and material storage will utilise the driveway, away from tree RPAs.

3.3.2 Delivery vehicles will be limited in size to panel vans and will be excluded from RPA's by fencing and ground protection. Careful consideration to the clearance of trees along Millfield Lane has been given and following the pruning works detailed above, no further pruning is considered necessary. In order to maintain pedestrian safety and prevent damage to overhanging foliage, delivery vehicles will be limited to 3m.p.h. along the unmetalled part of Millfield Lane. 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(s) away from protected trees.

3.4 Routing & Installation of Services

3.4.1 Drawing 26028-600 details the proposed new drainage routes around the existing property and to the rebuilt outbuilding. It shows new foul water drain runs and associated manhole chambers within the RPA of T13, T15, T17 and T18 and new surface water drains and associated manhole chambers within the RPA of T5 and T13. In order to prevent potentially significant damage to the roots of these trees, it will be necessary to adopt the provisions detailed in NJUG Vol.4 and BS5837 to install this drainage. This will comprise the Airspade excavation of all drainage runs and manholes within the RPAs of retained trees. Roots encountered within the drainage runs will be retained and immediately covered with damp hessian which will remain in place until the trench is backfilled. Roots encountered during the manhole chamber excavation will be pruned back using clean sharp secateurs. **Roots with a diameter in excess of 25mm may only be cut following consultation with the retained arboriculturalist.**

3.4.2 We have not at this time been supplied by the applicant with details of other services to the outbuilding but would recommend that consideration be given to running them in the foul water drain trench described above. These further matters will need to be resolved separately by variation of condition, they cannot be resolved herein as a generic item.

3.5 Changes in Grade

3.5.1 No changes in level are proposed beyond any direct effect of employing a no-dig construction technique for the proposed new landscaping.

3.6 Demolition Measures.

3.6.1 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 the demolition of the existing outbuilding and hard landscape / surfacing removal for the alterations around The Waterhouse itself.

3.6.2 All plant and vehicles engaged in demolition works (removals only) will either operate outside the RPA, or work from within the existing built structure and protected ground, near trees. Where trees stand adjacent to structures scheduled for demolition, it will be necessary to undertake demolition inwards within the footprint of the existing building (often referred to as “top down, pull back”).

3.6.3 Should 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.

3.6.4 The existing hard standing to be replaced around The Waterhouse within the RPA of T's 5, 11, 13 and 18 will be first broken up with manual power tools and then carefully removed manually. Existing paving slabs should be lifted by hand.

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 extension and outbuilding encroachments will require the use of specialised foundation techniques, i.e. a mini-piling and raft design. Flexibility of final pile position has been built into the foundation design.

3.7.2 The outline of the proposed extension and outbuilding and their piling holes will be established by the site engineer with Netlon fencing and trial holes. The arboriculturalist will be consulted on the possible pinch points where the retained tree canopies and RPA's are in close proximity to the outbuilding (i.e. T15 & 17). RPA piling encroachments will be pre-emptively excavated by hand or with an Airspade under arboricultural supervision. Roots smaller then 25mm diameter may be cut cleanly with a sharp pruning saw or secateurs back to a junction. **Roots larger then 25mm diameter may only be cut in consultation with the retained arboriculturalist.**

3.7.3 The path of the foundations of the retaining structures within the RPA of T18 and T23 will be manually excavated to 750mm depth (or the required footing depth, whichever is less) under arboricultural supervision; any roots encountered within the trenches / pits will be cleanly pruned back to an appropriate junction with a sharp pruning saw or secateurs back to a junction. **Roots larger than 25mm diameter may only be cut in consultation with an arboriculturalist.**

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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, either using a cellular confinement system with no fines aggregate or building upon existing sub-base. **Where the existing sub-base is to have a new surface laid upon it, it is imperative no excavation or compaction beyond this sub-base occurs.**

3.8.3 Method Statement - Specifications for no dig paving construction where these surfaces are to be laid over what is currently soft ground and installation of ground protection along Millfield Lane:

i. The Construction will be undertaken when the ground is sufficiently dry to prevent compaction occurring. Any surface vegetation should be removed by hand or with suitable herbicide.

ii. Fill any hollows in the exposed ground with sharp sand or 4/20mm or 40/20mm clean angular stone.

iii. Place Root-tex 300 Geotextile over the area to be protected ensuring laps are a minimum of 300mm. The geotextile should not be trafficked across at any time.

iv. The (for example) Protectaweb system is available in 5 depths for varying traffic loadings but each site should have a specific design detailed to ensure the correct depth of product is used. However, unless the existing ground conditions are very soft and have a low CBR then the following can apply:

- 75mm deep Protectaweb for Pedestrians, Cycleways and vehicles up to 1.5 tons;
- 100mm deep Protectaweb for Cars, 4 Wheel Drives, Vans etc up to 6 tons;
- 150mm deep Protectaweb for Fire Tenders, Removal Vehicles and Dust Carts up to 20 tons;

v. Roll out Root-Tex 30 Geotextile to cover the area to be protected. Insert 4 equally spaced steel pins along the width of the panel. Expand the panel over the Root-Tex 30 and the pins, extend to the required length, then pin across the opposite panel end. Pin along the length of the panel each side. If full panels are not being used then ensure the cells have been expanded to their full dimension. The ProtectaWeb panels can be cut to shape if required with a heavy duty Stanley Knife. Staple or cable tie any adjacent panels together.

vi. Infill the Protectaweb cells with clean angular stone (Type 4/20mm or Type 20/40mm), working towards the tree and using the infilled panels as a platform. Use a minimum 25mm overfill of clean angular stone when used in conjunction with a hard surface. If the area is to be trafficked immediately, slightly increase the amount of surcharge overfill to a maximum of 50mm over the ProtectaWeb with 4/20mm or 40/20mm clean angular stone. **No compaction is required of the infill. Do not use a whacker plate or other means of compaction.**

vii. Where edging is required for footpaths and light structures, a peg and treated timber board edging is acceptable, other options include wooden sleepers, kerb edging constructed on-top of the Protectaweb system, plastic and metal edging etc. Any excavation necessary to install the proposed aluminium edging will be carried out manually.

viii. The Protectaweb system is to be surfaced with the materials listed below. Porous systems will be of greater benefit for the trees, however it is understood that this is not always possible.

Block / Flag Paving:

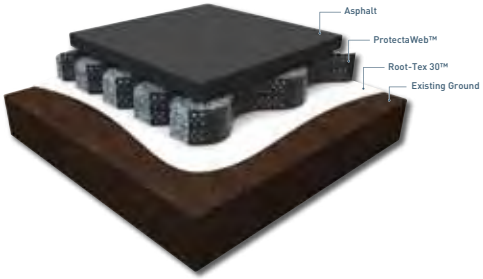
- Place Root-tex 10 separation fabric over the filled Protectaweb.
- Lay sand / gravel bedding material as per manufacturer's recommendations.
- Place porous / standard blocks as per manufacturer's instructions.

3.8.4 For technical data on the Geotextile membrane and the Protectaweb cellular confinement system always refer to the manufactures guidelines for design and implementation. Further technical advice can be gained from the manufacturer:

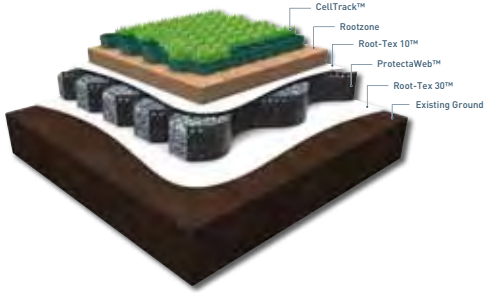
Wrekin Products Ltd
Europa Way
Britannia Enterprise Park
Lichfield
WS14 9TZ
www.wrekinproducts.com
01543 440440

3.8.5 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.

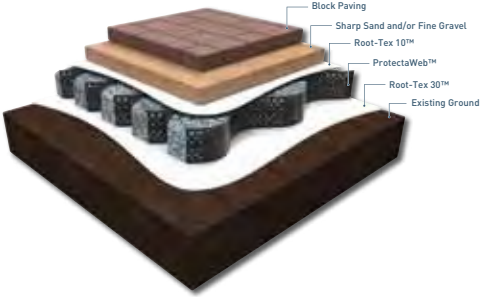
ProtectaWeb™ examples of construction detail



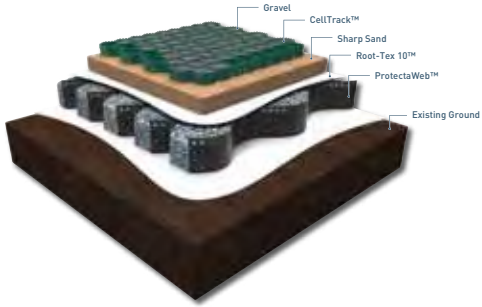
Asphalt



Grass



Block Paving



Gravel

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

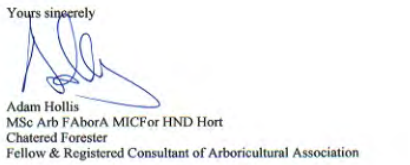
Impact	Mitigation	Reference	Trees Affected
General site access, material storage etc.	Ground protection to acceptable standards.	Paras 2.2.1 & 3.3.3 Tree Protection Plan in Appendix 4	All retained trees
Demolition of existing structures within RPA	Pull back technique within RPA	Section 3.6	T15 & T17
Damage to roots caused by services installation within RPA	Airspade excavation	Section 3.4	T5, T13, T15, T17 & T18
Damage to roots from building encroachment	Low-invasive foundations	Section 3.7	T11, T15 & T17
Damage to roots from installation of retaining structures	Manual excavation of top 750mm of encroachment	Section 3.7	T18 & T23
Damage to roots caused by provision of new hard surfacing	No-dig construction	Section 3.8	T5, T11, T13 & T18

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 (with specific reference to trees identified in the Appendix 1 schedules) is recommended to facilitate a constructive meeting.

Signed



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Adam Hollis MSc ARB MICFor FArbor A

17th July 2017

For and on behalf of ***Landmark Trees***

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Registered Office: 15 Abbey Road, Oxford OX2 0AD
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.

*Not generally specified following BS3998:2010

Landmark Trees

Site: The Water House

Date: 6 /6/17

Surveyor(s): Adam Hollis

Ref: UKE_WHS_AMS

Appendix 1

Recommended Tree Works

Hide irrelevant

Show All Trees

Tree No.	English Name	B.S. Cat	Height	Ground Clearance	Crown Spread	Recommended Works	Comments/ Reasons
1	Mulberry, Black	C	8	2.0	5233	Fell	Decay in trunk Poor form; trunk initialially runs along ground - appears to be twin stemmed but isn't To facilitate development
4	Hawthorn, Common	U	6	2.5	1222	Fell	Ivy smothered Dead Recommended husbandry 2
5	Oak, English	A	20	1.0	9	CR 2.5m Works recommended following PICUS	Decay in trunk and at trunk base 122cm basally Reduction should be considered in light of crown size & decay near separation point at 6/7m To facilitate development
8	Eucalyptus	C	20	8.0	2343	DWD Monitor ongoing condition	Dying back (unilateral) Low taper multi-stem growth Ivy covered stems over neighbours appear dead Recommended husbandry 2
10a	Laurel, Portugese	C	8	0.0	1111	Fell	Screen separating front from rear garden To facilitate development
12	Apple, Cultivated	C	8	2.5	4534	Fell	Decay in trunk To facilitate development
15	Birch, Silver	B	19	4.0	5755	CL 5m	Drought-stressed Minor-bleeds and cracks Ivy obscures base To facilitate development

Landmark Trees

Site: The Water House

Date: 6 /6/17

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Ref: UKE_WHS_AMS

Appendix 1

Recommended Tree Works

Hide irrelevant

Show All Trees

Tree No.	English Name	B.S. Cat	Height	Ground Clearance	Crown Spread	Recommended Works	Comments/ Reasons
17	Hornbeam	C	17	3.0	8877	DWD CR CR to correspond to DWD	Honey fungus toadstools around S base A sparser than normal canopy Deadwood (to 50mm) through crown Advisable for good arboricultural practice
20	Magnolia (M. X soulangiana)	C	5	2.5	1.5	Fell	Garden ornamental To facilitate development
31	Willow, Goat	C	7	3.0	2	Fell	Erratic growth habit To facilitate construction access
35	Hawthorn, Common	C	6	2.0	2122	Fell	Ivy clad Dying back (unilateral) 80mm stem dead To facilitate development

APPENDIX 2: MILLFIELD LAND TREE SURVEY

Landmark Trees

TREE CONSTRAINTS REPORT:

Millfield Lane

London

N6 6HT

REPORT PREPARED FOR:

Mr and Mrs Lewis,

c/o: UK & European,

Woodstock Studios,

13 Woodstock Street,

London W1C 2AG

REPORT PREPARED BY

Adam Hollis

MSc ARB MICFor FArbor A MRICS C Env

Ref: UKE/WHS/TCR/01

Date: 14th July 2017

Caveats

This report is primarily an arboricultural report. Whilst comments relating to matters involving built structures or soil data may appear, any opinion thus expressed should be viewed as qualified, and confirmation from an appropriately qualified professional sought. Such points are usually clearly identified within the body of the report. It is not a full safety survey or subsidence risk assessment survey. These services can be provided but a further fee would be payable. Where matters of tree condition with a safety implication are noted during a survey they will of course appear in the report.

A tree survey is generally considered invalid in planning terms after 2 years, but changes in tree condition may occur at any time, particularly after acute (e.g. storm events) or prolonged (e.g. drought) environmental stresses or injuries (e.g. root severance). Routine surveys at different times of the year and within two - three years of each other (subject to the incidence of the above stresses) are recommended for the health and safety management of trees remote from highways or busy access routes. Annual surveys are recommended for the latter.

Tree works recommendations are found in the Appendices to this report. It is assumed, unless otherwise stated ("ASAP" or "Option to") that all husbandry recommendations will be carried out within 6 months of the report's first issue. Clearly, works required to facilitate development will not be required if the application is shelved or refused. However, necessary husbandry work should not be shelved with the application and should be brought to the attention of the person responsible, by the applicant, if different. Under the Occupiers Liability Act of 1957, the owner (or his agent) of a tree is charged with the due care of protecting persons and property from foreseeable damage and injury.' He is responsible for damage and/or nuisance arising from all parts of the tree, including roots and branches, regardless of the property on which they occur. He also has a duty under The Health and Safety at Work Act 1974 to provide a safe place of work, during construction. Tree works should only be carried out with local authority consent, where applicable.

Inherent in a tree survey is assessment of the risk associated with trees close to people and their property. Most human activities involve a degree of risk, such risks being commonly accepted if the associated benefits are perceived to be commensurate.

Risks associated with trees tend to increase with the age of the trees concerned, but so do many of the benefits. It will be appreciated, and deemed to be accepted by the client, that the formulation of recommendations for all management of trees will be guided by the cost-benefit analysis (in terms of amenity), of tree work that would remove all risk of tree related damage.

Prior to the commencement of any tree works, an ecological assessment of specific trees may be required to ascertain whether protected species (e.g. bats, badgers and invertebrates etc.) may be affected.

Tree Constraints & Protection Overview

Client:	Mr & Mrs Leonard Lewis	**Case Ref:**	UKE/WHS/TCR/01
Local Authority:	LB Camden	**Date:**	14/07/2017
Site Address: Millfield Lane, London, N6 6HT			
Proposal: Use of lane for construction traffic			

Report Checklist	**Y/N**		**Y/N**
Arboricultural constraints on site	Y	Trees removed	N/a
Tree Survey	Y	Topographical Survey	N
BS5837:2012 Report	Y	Conservation Area	Y
Tree Preservation Orders	N/k		
Tree Protection Plan:	N/a	(include In future method statement)	
Tree Constraints Plan:	N		
Arboricultural Impact Assessment:	N/a	(include In future AIA report)	

Site Layout				
Site Visit	Y	Date: 12/07/17	Access Full/Partial/None	P
Trees on Site		Y	Off site Trees	Y
Trees affected by development		N/a	O/s trees affected by development	N/a
Tree replacement proposed on plans:		N/a	On or off-site trees indirectly affected by development	N/a

Trees with the potential to be affected

Comments

Recommendations

1	Proposal will mean the loss of important trees (TPO/CA)	
2	Proposal has sufficient amelioration for tree loss	N/a
3	Proposals provide adequate tree protection measures	N/a
4	Proposal will mean retained trees are too close to buildings	N/a
5	Specialist demolition / construction techniques required	N/a
6	The Proposal will result in significant root damage to retained trees	N/a
7	Further investigation of tree condition recommended	

RPA= Root Protection Area
TPP= Tree Protection Plan
AMS= Arboricultural Method Statement
AIA = Arboricultural Implication Assessment
BS5837: 2012 'Trees in relation to design, demolition and construction – Recommendations'

1. INTRODUCTION

1.1 Terms of reference

1.1.1 LANDMARK TREES were asked by Mr & Mrs Leonard Lewis to undertake an arboricultural planning survey of the site: Millfield Lane, London, N6 6HT. The report is in support of a planning application to be made at The Waterhouse, Millfield Lane, London, N6 6HT.

1.1.2 I am a Registered Consultant and Fellow of the Arboricultural Association and a Chartered Forester, with a Masters Degree in Arboriculture and 20 years experience of the landscape industry - including the Forestry Commission and Agricultural Development and Advisory Service. I am a UK Registered Expert Witness, trained in single joint expert witness duties. I am also Chairman of the UK & I Regional Plant Appraisal Committee, inaugurated to promote international standards of valuation in arboriculture.

1.2 Drawings supplied

1.2.1 The drawing supplied by the client and relied upon Landmark Trees in the formulation of our survey plans are:

Existing site survey: Millfield Arbortrack Map*

*In the absence of a full topographical survey, tree positions may be approximate only.

1.3 Scope of survey

1.3.1 As Landmark Trees' (LT) arboricultural consultant, David Gardner surveyed the trees on site likely to be impacted by the passage of construction traffic on 12th July 2017, recording relevant qualitative data in order to assess both their suitability for retention and their constraints upon the lane, in accordance with British Standard 5837:2012 Trees in relation to design, demolition and construction – Recommendations [BS5837:2012].

1.3.2 Our survey of the trees, the soils and any other factors, is of a preliminary nature. The trees were SURVEYED on the basis of the Visual Tree Assessment method expounded by Mattheck and Breloer (The Body Language of Trees, DoE booklet Research for Amenity Trees No. 4, 1994). LT have not taken any samples for analysis and the trees were not climbed, but inspected from ground level.

1.3.3 A tree survey is generally considered invalid in planning terms after 2 years, but changes in tree condition may occur at any time, particularly after acute (e.g. storm events) or prolonged (e.g. drought) environmental stresses or injuries (e.g. root severance). Routine surveys at different times of the year and within two - three years of each other (subject to the incidence of the above stresses) are recommended for the health and safety management of trees remote from highways or busy access routes. Annual surveys are recommended for the latter.

1.3.4 The survey does not cover the arrangements that may be required in connection with the laying or removal of underground services.

1.4 Survey data & report layout

1.4.1 Detailed records of individual trees are given in the survey schedule in Appendix 1 to this report.

1.4.2 Appendix 2 contains recommendations necessary to allow the passage of construction traffic.

APPENDIX 1

TREE SCHEDULE - Notes for Guidance

Notes for Guidance:

1. Height describes the approximate height of the tree measured in metres from ground level.
2. The Crown Spread refers to the crown radius in meters from the stem centre and is expressed as an average of NSEW aspect if symmetrical.
3. Ground Clearance is the height in metres of crown clearance above adjacent ground level.
4. Stem Diameter (Dm) is the diameter of the stem measured in millimetres at 1.5m from ground level for single stemmed trees. BS 5837:2012 formula (Section 4.6) used to calculate diameter of multi-stemmed trees. Stem Diameter may be estimated where access is restricted and denoted by '#'.
5. Protection Multiplier is 12 and is the number used to calculate the tree's protection radius and area
6. Protection Radius is a radial distance measured from the trunk centre.
7. Growth Vitality - Normal growth, Moderate (below normal), Poor (sparse/weak), Dead (dead or dying tree).
8. Structural Condition - Good (no or only minor defects), Fair (remediable defects), Poor - Major defects present.
9. Landscape Contribution - High (prominent landscape feature), Medium (visible in landscape), Low (secluded/among other trees).
10. B.S. Cat refers to (British Standard 5837:2012 section 4.5) and refers to tree/group quality and value; 'A' – High, 'B' - Moderate, 'C' - Low, 'U' - Unsuitable for retention. The following colouring has been used on the site plans:
    - High Quality (A) (Green),
    - Moderate Quality (B) (Blue),
    - Low Quality (C) (Grey),
    - Unsuitable for Retention (U) (Red)
11. Sub Cat refers to the retention criteria values where 1 is Arboricultural, 2 is Landscape and 3 is Cultural including Conservational, Historic and Commemorative.
12. Useful Life is the tree's estimated remaining contribution in years.

Landmark Trees

Appendix 1: BS5837 Tree Constraints Schedule

Tree No.	Species	Height(m)	DBH (mm)	Canopy Spread	Canopy Height	Age Class	Vitality	Stuctural Condition	Observations / Recommendations	Retention	Remaining Contribution
2659	Common yew	6	300	4	3.5	EM	Normal	Good	Previously CB over lane	C2	20-40
2661	Hawthorn	5	90	2	3	M	Normal	Good	V. light foliage over lane	C2	10-20
2662	Oak	10	700	1	4	OM	Poor	Poor	Veteran	A3	10-20
2663	Common yew	6	180	3	2.5	EM	Normal	Good	Light foliage over lane	C2	20-40
2665	Hawthorn	6	2 x 80	2	2	M	Normal	Fair	Light foliage over lane	C2	10-20
2666	Cherry laurel	6	4 x 90	3	3.5	M	Normal	Fair		C2	20-40
2671	Oak	15	750	8	2	M	Normal	Fair	1 x 30mm diameter drooping branch over lane only		>40
2672	Holm oak	8	90	3	2.5	EM	Normal	Fair	V. light foliage over lane	C2	>40
2673	Oak	16	800	10	3.5	M	Normal	Fair	Lowest canopy clearance over wall far side of lane - 4.5m over centre of track		>40
2674	Common ash	10	450	8063	2.5	EM	Normal	Fair	V. light foliage drooping down over lane, 40mm dia. lateral branch at 4m		>40
2674a	Hazel group	5	85	3	1.5	M	Normal	Fair	Sub-25mm diameter branches over lane		10-20
2675	Common ash	15	650	7	5	M	Normal	Fair	Including railings at base		20-40
2675a	Spruce, norway	12	150	2	2	Y	Moderate	Fair	Sparser than normal canopies, particularly NW specimen	C/u	<10
2675b	Spruce, norway	12	400	3432	2	EM	Normal	Good		B2	20+
2685	Common ash	16	600	6	3	EM	Normal	Fair	V. light foliage over lane until 8m	A2	>40

Landmark Trees

Appendix 1: BS5837 Tree Constraints Schedule

Tree No.	Species	Height(m)	DBH (mm)	Canopy Spread	Canopy Height	Age Class	Vitality	Stuctural Condition	Observations	Retention	Remaining Contribution
2690	Common ash	16	600	8033	6	EM	Good	Fair	Deadwood over lane	A2	>40
2691	Common ash	16	600	8033	8	EM	Good	Fair	Deadwood over lane	A2	>41
2692	Common ash	16	600	8033	8	EM	Good	Fair	Deadwood over lane	A2	>42
2693	Horse chestnut	18	750	8	3	M	Good	Fair	Only leaves extending over lane	A2	20-40
2696	Horse chestnut	18	660	7	2.5	M	Good	Fair	Only leaves / shoot tips extending over lane	B2	20-40
2697	Horse chestnut										
2698	Common ash	20	700	7	10	M	Good	Fair	Bifurcates at 6m	A2	>40
2698a	Sycamore	16	2 x 240 & 1 x 90	4	2.5	EM	Good	Fair	1 low drooping branch over lane of<25mm dia then 4m clearance	C2	20-40
2698B	Hawthorn	8	100	2228	6	Y	Moderate	Fair	Leaning, dieback/ deadwood	C2	10+
2699	Horse chestnut	6	650	3	3	-	-	0	Monolith		
2700	Horse chestnut	20	600	8	3.5	M	Good	Fair	Light foliage <20mm dia over lane	A2	20-40
2701	Horse chestnut	20	600	8	5+	M	Good	Fair	Some deadwood over lane	A2	20-40
2702	Horse chestnut	20	600	8	3	M	Good	Fair	V.light foliage over lane	A2	20-40

Landmark Trees

Appendix 1: BS5837 Tree Constraints Schedule

Tree No.	Species	Height(m)	DBH (mm)	Canopy Spread	Canopy Height	Age Class	Vitality	Stuctural Condition	Observations	Retention	Remaining Contribution
2703	Horse chestnut	20	600	8	2.5	M	Good	Fair	Forms part of group. V. light foliage at 2.5m then 20mm dia branches at 3m over Ladies Pond entrance not track	A2	20-40
2704	Ash	10	300	4	3	EM	Poor	Fair	Ivy smothered, deadwood	C2	10+
2705	Cotoneaster	7	9X80	3334	4	EM	Moderate	Fair	Sparser than normal canopies, particularly NW specimen	C2	10+
2707	Ash	13	250	7155	2.5	M	Normal	Good	Leaning significantly - **Carry out further investigation of condition**	C2	20+
2708	Ash	8	100	2	2.5	Y	Normal	Good		C2	40+	Reccomendation: Crown lift 4.5m
2709	Oak, holm	10	400	5355	2.75	EM	Normal	Fair		B2		
2710	Chestnut, horse	15	500	8	3	EM	Normal	Good	Only occasional small diameter branchwood below 5m	B2		

APPENDIX 2

RECOMMENDED TREE WORKS

Notes for Guidance:

1, 2, 3 - Urgent (ASAP), Standard (within 6 months), Non-urgent (2-3 years)
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.

*Not generally specified following BS3998:2010

Landmark Trees

Appendix 2: Recommended Tree Works to Facilitate Passage of Construction Traffic

Tree No.	Species	Height(m)	DBH (mm)	Canopy Spread	Canopy Height	Age Class	Vitality	Stuctural Condition	Observations / Recommendations	Retention	Remaining Contribution
2663	Common yew	6	180	3	2.5	EM	Normal	Good	**CL / CB to provide 4.5m clearance**	C2	20-40
2665	Hawthorn	6	2 x 80	2	2	M	Normal	Fair	**CL / CB to provide 4.5m clearance**	C2	10-20
2671	Oak	15	750	8	2	M	Normal	Fair	**Remove drooping branch**		>40
2674a	Hazel group	5	85	3	1.5	M	Normal	Fair	**CB / CL of sub-25mm dia. branch material to provide 4.5m clearance**		10-20
2696	Horse chestnut	18	660	7	2.5	M	Good	Fair	**CL / CB to provide 4.5m clearance**	B2	20-40
2698a	Sycamore	16	2 x 240 & 1 x 90	4	2.5	EM	Good	Fair	**Remove small drooping branch**	C2	20-40
2705	Cotoneaster	7	9X80	3334	4	EM	Moderate	Fair	**CL 4.5m**	C2	10+
2707	Ash	13	250	7155	2.5	M	Normal	Good	**CL 4.5m**	C2	20+
2708	Ash	8	100	2	2.5	Y	Normal	Good	**CL 4.5m**	C2	40+
2709	Oak, holm	10	400	5355	2.75	EM	Normal	Fair	**CL 4.5m**	B2	

APPENDIX 3: 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 4: 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		

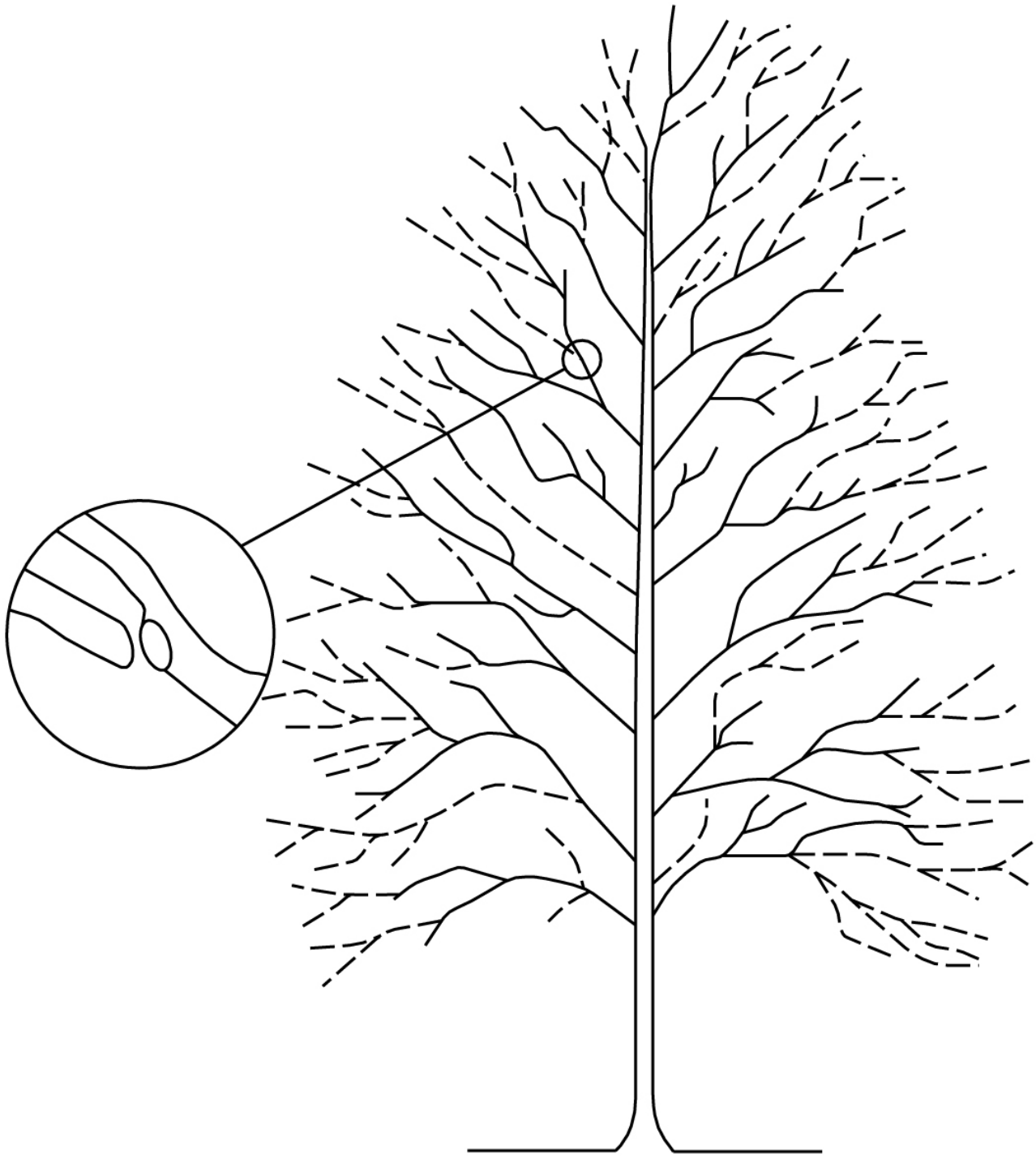
Web: www.landmarktrees.co.uk
e-mail: info@landmarktrees.co.uk
Tel: 0207 851 4544

London Office: 20 Broadwick Street, W1F 8HT, London
Registered Office: Grange Cottage, All Cannings, Devizes, Wiltshire, SN10 3NR

Arboricultural Supervision Sign off Checklist

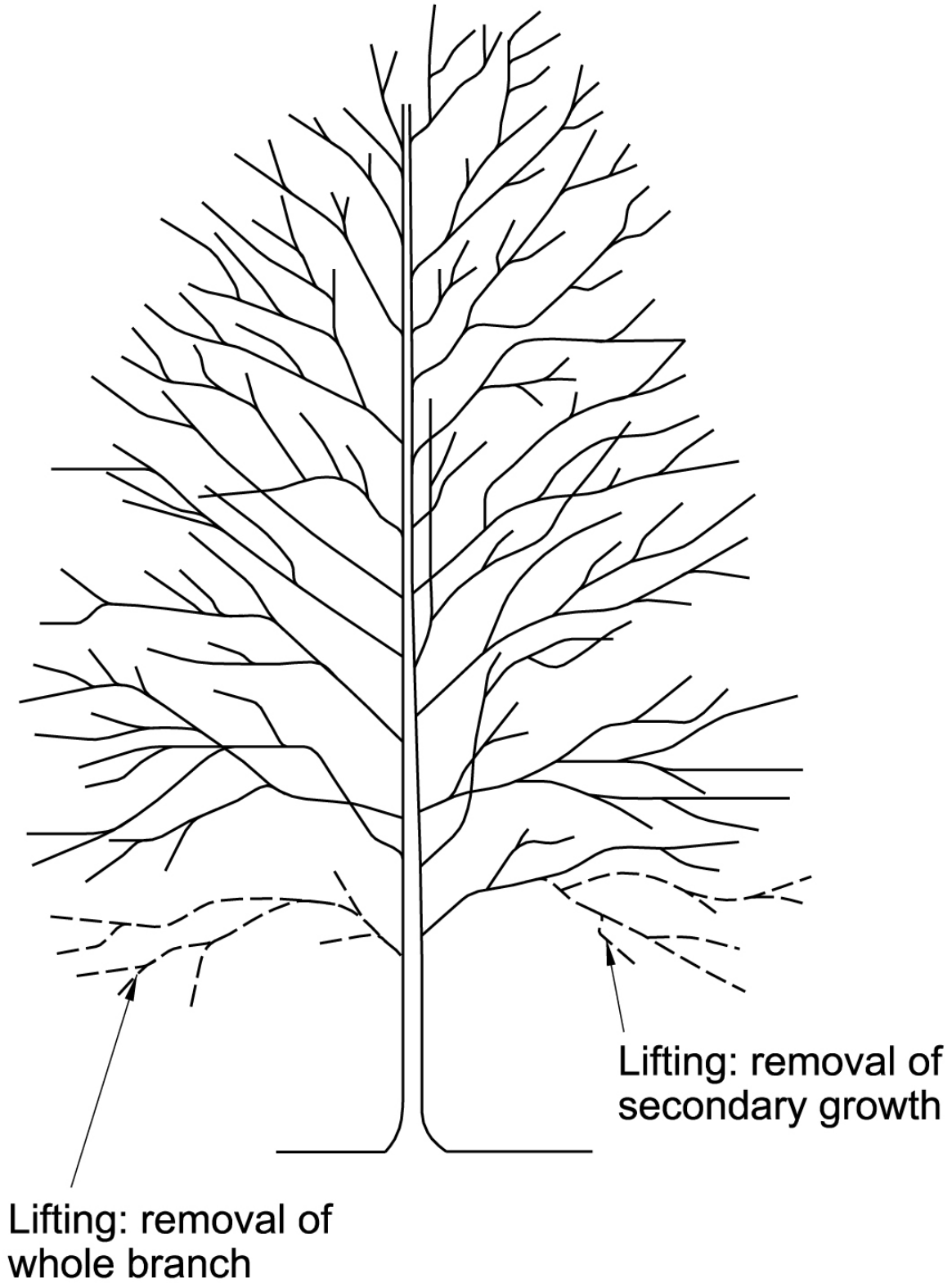
Tree No (s)	Project Phase	Task	Date Completed	Signed (Project arboriculturist)	Signed (Site Manager)
	Pre-commencement	Pre-commencement site meeting to include site manager briefing (S.1.5)			
	Pre-commencement	Confirm the location and specification of the protective measures is in accordance with AMS & 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 5: INDICATIVE PRUNING GUIDELINES



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

REDUCING THE CROWN



CROWN LIFTING

APPENDIX 6: TREE PROTECTION PLAN & MILFIELD LANE TREE SURVEY 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: The Waterhouse	1:200@ A1
Drawing Title: Tree protection Plan	July 2017

Key:

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

Category, Crown Spread, Root Protection Area, Tree Number, Species, Category (T3 Birch B2)

Tree Position Approximate (not shown on original survey)

Ground Protection: 75mm woodchip topped by marine ply boards or similar

Tree Protection Fencing

The Wallace House

FITZROY PARK

51

53

55

Pond

T2703
Horse chestnut
A2

T2702
Horse chestnut
A2

T2701
Horse chestnut
A2

T2700
Horse chestnut
A2

T2699
Horse chestnut
U

T2698A
Sycamore
C2

T2698B
Hawthorn
C2

T2696
Horse chestnut
B2

T2698
Common ash
A2

T2693
Horse chestnut
A2

T2692
Common ash
A2

T2691
Common ash
A2

T2690
Common ash Ivy
A2

T2685
Common ash
A2

T2710
Chestnut
B2

T2704
Ash
C2

T2675a
Spruce
C/u

T2675
Common ash
B2

T2675b
Spruce
B2

T2705
Cotoneaster
C2

T2674a
Hazel group
B/c2

T2709
Oak
B2

Dead elder

G2674a
Hazel group
B/c2

T2674
Common ash
C2

T2708
Ash
C2

T2707
Ash
C2

T2673
Oak
A3

Dead birch

T2672
Holm oak
C2

T2671
Oak
A3

T2665
Hawthorn
C2

T2663
Common yew
C2

T2662
Oak
A3

T2661
Hawthorn
C2

T2659
Common yew
C2

GRID NORTH

N

5m 10m 20m

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: The Waterhouse	1:200@ A0
Drawing Title: Tree Constraints Plan	July 2017

Key:

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

Category
Root Protection Area
13 Birch

- Crown Spread
- Tree Number
- Species
- Category

Note: All Tree Positions Are Approximate (not shown on original survey)