

Arboricultural Report

Planning and Development

Arboricultural Method Statement

Project Name and Address	26 Lyndhurst Road, London NW3		
Prepared for	Northburn Associates	Planning Ref	2015/2548/P
ACS Ref	ha/ms1/a/26lyndhurstrd	Client	Mr J Fitzpatrick
Prepared by	Hal Appleyard Dip. Arb (RFS), F.Arbor. A. MICFor		
Report Date	10 th November 2016		

ACS (TREES)

Consulting

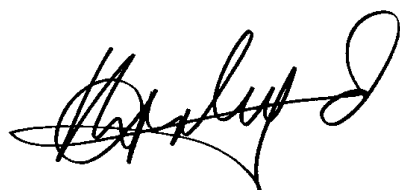
Urban & rural tree management

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Hal Appleyard is an Arboricultural Association Registered Consultant and a Chartered Forester

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1.0 Introduction and Scope

Executive Summary

Camden Council have approved construction at the subject property subject to planning conditions relating to the protection of trees. Subject to implementation of the tree protection measures provided within this report, the retained trees can be preserved for the future.

- 1.1 A planning application for construction at 26 Lyndhurst Road reference 2015/2548/P has been approved by Camden Council and is described as:

Conversion of existing 4x flats into 1x6bed maisonette and 2x1bed flats. Alterations at rear to include single storey extension and part first floor extension; enlargement of terraces, creation of inset roof terrace and excavation for swimming pool. Alterations at front to include excavation of lightwell.

- 1.2 The application has been approved subject to conditions relating to the protection of trees. I have reproduced the wording of the condition below for clarity:

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

- 1.3 Construction is to be undertaken in the vicinity of trees at the site frontage and to a lesser degree to the rear of the property. The methods for tree protection and preservation during ground works and construction are set out in this report and which includes a requisite a tree protection plan.
- 1.3 I have been appointed on behalf of the site owners as a competent and qualified arboricultural consultant to provide this report and to supervise any works that may have the potential to affect the protected and retained trees.
- 1.4 The details are provided accordance with the guidance set out in BS 5837:2012 'Trees in relation to design, demolition and construction- Recommendations' (the BS) and an extract from that guidance is appended herewith.

2.0 The Site and Trees

- 2.1 The site comprises an existing residential building housing four flats with communal garden areas.
- 2.2 The BS details of the trees are provided within the tree survey schedule at **Appendix 1** and their corresponding positions are shown on the tree protection plans included at **Appendix 2**.
- 2.3 Below is a table of proposed tree pruning works, which will be carried out in the course of the construction.

Table 1 **Proposed Tree Works**

Tree Works (Spec.)	Tree Nos	Visual Landscape Impact of Works*	Available Replacement Planting(Y/N)	Comments
Crown lift to 3m (Sp4) Prune-back eastern side by 2m	6,7	None	Y (N/A)	Low-hanging, small-diameter branches trimmed to enable effective tree protection and site access
Total		None		

*This is a preliminary visual appraisal based upon the opinion of the author having inspected the trees in the context of their current surroundings. – None (no change or beneficial impact) Negligible or indiscernible difference to treed landscape; Low – Noticeable but mitigated by retention of other landscape trees and features; Medium – Obvious but temporary alteration to the treed landscape; High – Obvious and permanent alteration to the landscape.

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Visual receptors include the public or community at large, residents, visitors or other groups of viewers together with the visual amenity of potentially affected people.

Submission of this document, which includes Table 1 Recommended Tree Works and specifications, to the Local Planning Authority (LPA) for the proposed discharge of planning conditions, is to be treated as a formal notification of tree pruning/felling (Section 211 Notice), where the above-listed trees fall within a conservation area. The statutory six week consultation period will be deemed to commence upon registration of this document by the LPA.

Specifications for recommended tree works:

General

All work is to conform to BS 3998:2010 'Tree work – Recommendations' and with current arboricultural best practice. Tree works are to be undertaken by a professional and specialist arboricultural contractor, who carries the appropriate experience and insurance cover, equipment and PPE. All works and processes are to comply with all relevant Planning, Wildlife, Environmental, Conservation and Health and Safety legislation.

Sp4. Crown lifting includes the removal of the lowest lateral branches and shoots, (which would not result in irrevocable tree injury), to a specific height above ground level measured in metres.

3.0 Tree Protection Before and During Construction

- 3.1 In order to afford protection from general construction processes associated with the building works, following light canopy pruning as set out above, it will be necessary to erect a robust tree protection hoarding in the position indicated on the Tree Protection Plan (TPP) at **Appendix 2** (TPP1_LR A and LR_Re). A recommended example of the type BS grade tree protection is included at **Appendix 3**.
- 3.2 Following erection of the tree protection, ground/root protection will be installed over in the position identified upon the TPP to ensure that roots under the surface are not damaged by compaction during site storage and/or regular passing by operatives and machinery. In this case temporary concrete will be used. The concrete will be poured onto impervious material (e.g. thick gauge polythene sheeting) to prevent leaching of lime products into the soil. I have included examples of concrete ground protection at **Appendix 3** also.
- 3.3 In order to prevent damage from passing vehicles during the construction process, I have included recommendations for light pruning to the eastern side of T7. The

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pruning should be undertaken either in advance of or simultaneously as erecting the hoarding.

- 3.4 In order to gain reasonable access, a section of the front wall is to be dismantled to ground level. The footings of the wall are to be retained.

Fig. 1 Frontage area to be ground-protected during primary build phase



NOTE: THE APPOINTED ARBORICULTURAL SUPERVISOR IS TO BE CONSULTED BEFORE ANY WORK, EITHER SCHEDULED OR UNSCHEDULED, IS CONSIDERED WITHIN THE EXCLUSION ZONE OR ROOT PROTECTION AREAS OF ANY RETAINED TREE. FAILURE TO DO SO MAY LEAD TO ENFORCEMENT ACTION BY THE LPA.

- 3.5 In order to ensure that the tree protection measures are implemented effectively, a site monitoring exercise will be undertaken to confirm:

- i) The efficacy and accuracy of the fencing and ground protection

An example of a site record (tree protection) is provided at **Appendix 4**. In this case, the form will be used as confirmation that all practical precautions have been undertaken in accordance with this method statement.

- 3.6 A copy of this method statement is to be retained on site for the duration of the build process together with a scaled, colour copy of the Tree Protection Plan.
- 3.7 The details pertaining to tree protection as set out in this method statement, specifically include:
- i) erection of tree protection barriers:
 - ii) the installation of ground protection;
 - iii) lines of communication and incident reporting,
- are to be explained to the Site Agent at the pre-commencement site meeting. It will be the responsibility of the Site Agent to ensure that all personnel working on site are aware to the tree protection measures processes. A copy of this method statement is to be retained on site for the duration of the build process together with a scaled, colour copy of the Tree Protection Plan.
- 3.8 Key times for site supervision include:
1. Completion of agreed/necessary tree works
 2. Erection of tree protection fencing
 3. Installation of ground protection
 4. Works within RPAs of retained trees
 5. Landscaping
- 3.9 Effective site monitoring will be undertaken from the outset of the project and at agreed intervals thereafter. The frequency of monitoring may well decrease following the proper installation of all tree protection measures. Below is a recommended programme of arboricultural supervision. (This programme may alter dependent upon site circumstances or by agreement.)
- 3.10 The process for recording the tree protection measures will involve:
- i) Site Agent to contact Arboricultural Supervisor with a minimum of 5 days' notice of any site work commencement.
 - ii) Arboricultural Supervisor to monitor site to agree tree protection fencing
 - iii) When all tree protection is installed in accordance with the tree protection plan, the Arboricultural Supervisor is to arrange with LPA tree officer and relevant contractors **the pre-commencement site meeting** in order to agree the tree protection and subsequent works within RPAs of retained trees and importantly the lines of communication between the on-site contractors, the Arboricultural Supervisor and the LPA tree officer and incident reporting,
 - iv) Arboricultural Supervisor to record all site visits and distribute reports to LPA tree officer and contractors for their records
 - v) Subsequent to completion, Arboricultural Supervisor to sign-off and complete.

vi) Any incidents resulting in potential tree damage are to be reported in line with the 'Incident Reporting Flow Chart in **Appendix 6**.

Table 3 Preliminary site supervision schedule

Stage	Action	Arboricultural Supervisor (AS) (Required – Y/N)	Notes
1	Pre-commencement meeting*	Y	Site Agent(STA) and LPA tree officer, contractor to attend
2	Tree works	N	STA to advise AS when complete
3	Installation of tree protection and ground protection	Y	PRIOR to ground or other works; AS to confirm
4	Construction phase	Y	AS to monitor tree protection at agreed and suitable intervals
6	Remove tree protection fencing/ground protection	N	No tree protection to be removed without prior agreement with the AS
7	Tree planting/landscaping	Y	Brief landscape company & sign off

3.9 The frequency of tree protection monitoring depends upon the nature of the project. In this case, it will be appropriate for the SA to organise with the AS monitoring visits to be twice in the initial 28 days from commencement and thereafter once every 28 days for two months and then by agreement.

Contact List (to be completed **PRIOR** to commencement)

Interested Party	Name	Company/LPA	Contact Number(s)	Comment/ Responsibilities
Site Agent	Paul Taylor	Northburn	07966 346923	Day to day site management; co-ordination of timings; contact with project Arboriculturist
Main Contractor	Simon Rawson	Field James	020 7704 2428	Legal and administrative running of the project; finance; appointment of and liaison with all project consultants
Arb. Supervisor	James Cox	ACS (Trees) Consulting	020 8687 1214	Tree protection and management; dissemination of tree-related information
LPA Tree Officer	James Remington	Camden Council	020 7974 4816	Tree protection and enforcement
Site Engineers	Derek Baker	Symmetrys	020 8340 4041	Technical advice and design
Architects	M Rowihab	Stiff & Trevillion	0207 960 5550	Design

TBA – to be advised

***Pre-commencement means i) before any works including tree felling or pruning and ii) before any ground works or demolition commences and upon completion of the initial installation of the tree protection, including ground protection.**

4.0 Precautions during Landscape Work

- 4.1 The following steps (both general and site specific), are advisable in relation to implementing any landscape works, which may have the potential to affect retained and or protected trees:
1. Advise arboricultural supervisor of intended time frame of landscape work in advance of commencement.
 2. Re-locate existing tree protection fencing/ground protection to enable landscape work to proceed.
 3. With bio-degradable spray paint or site pins with plastic tape, mark out the position of the relevant tree root protection areas (RPA) as per the tree protection plan.
 4. Within the RPAs, avoid using any mechanical tools or vehicles (e.g. tracked or wheeled machinery).
 5. Spread any mulch or top soil manually, with the use of wheel barrows and hand tools. It will be acceptable to use of the back actor of a tracked excavator to spread piled top soil or mulch into the RPAs of protected trees provided the bucket does not come in contact with the ground and that the power unit is positioned outside of the RPAs at all times.
 6. Any planting pits are to be excavated manually within the RPAs of any retained trees.
 7. Multiple passes within the RPAs along one route, pedestrian and with wheel barrows will require some ground protection to be installed prior to working. Ground protection can be scaffold boards over wood chip for example.
 8. A record of the landscape working method is to be made and provided to the Council for their file.
 9. Hard landscaping features will be constructed under supervision within the RPA of retained trees and will avoid, where possible, the re-grading of soil.

5.0 General site care (trees)

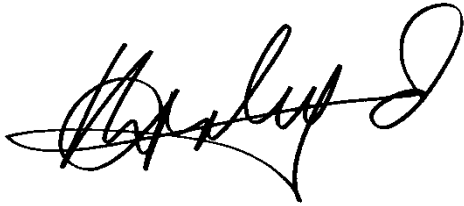
- 5.1 No fires will be lit on site.
- 5.2 No access will be permitted to within the fenced or otherwise protected areas (unless for site accommodation or Authorised agreement) at any stage during construction.
- 5.3 No materials, equipment or debris will be stored within the fenced areas unless agreed with the arboricultural supervisor.
- 5.4 Areas for mixing are to be located beyond RPAs of trees and contained to prevent leaching into the soil.
- 5.5 A copy of this report and the Tree Protection Plan is to remain on site at all times.

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Please note that all relevant planning approvals and approval to planning conditions must first have been issued by the relevant planning authority in order for this report to become effective. We strongly advise that you consult your planning advisors before implementing any recommendations set out in this report.



Hal Appleyard
Date: 10th November 2016

APPENDIX 1

Tree Survey Schedule

Surveyor: E.B

Ref: ts1/LR

Tree No.	English Name	Height	Crown Spread	Ground Clearance	Age Class	Stem Diameter	Protection Multiplier	Protection Radius	Growth Vitality	Structural Condition	Landscape Contribution	B.S. Cat	Sub Cat	Useful Life	Observations
T1	Apple, Orchard	5	1 1 1	1/1n	Mature	220	12	2.6	Normal	Fair	Low	C	1	10-20	Reduced in past
T2	Apple, Orchard	5	2 2 2	1/1e	Mature	330	12	4.0	Normal	Fair	Low	C	2	10-20	Reduced in past
T3	Cypress, Lawson	9	2 2 2	4/4n	Mature	250e	12	3.0	Normal	Good	Low	B	1	20-40	Garden ornamental Off-site tree
T4	Cypress, Lawson	8	1 1 1	3/3w	Middle Aged	150e	12	1.8	Normal	Good	Low	C	2	20-40	Garden ornamental Off-site tree
T5	Robinia	18	6 6 6	6/6e	Mature	520	12	6.2	Normal	Fair	High	B	1,2	20-40	Forks 5m with weak union decay in pruning wounds, Ivy
T6	Yew	7	2 3 3	3/4E	Mature	400	12	4.8	Normal	Good	Medium	B	1,2	20-40	Multi stem
T7	Yew	7	2 3 3	3/4E	Mature	400	12	4.8	Normal	Good	Medium	B	2	20-40	Multi stem

Notes:

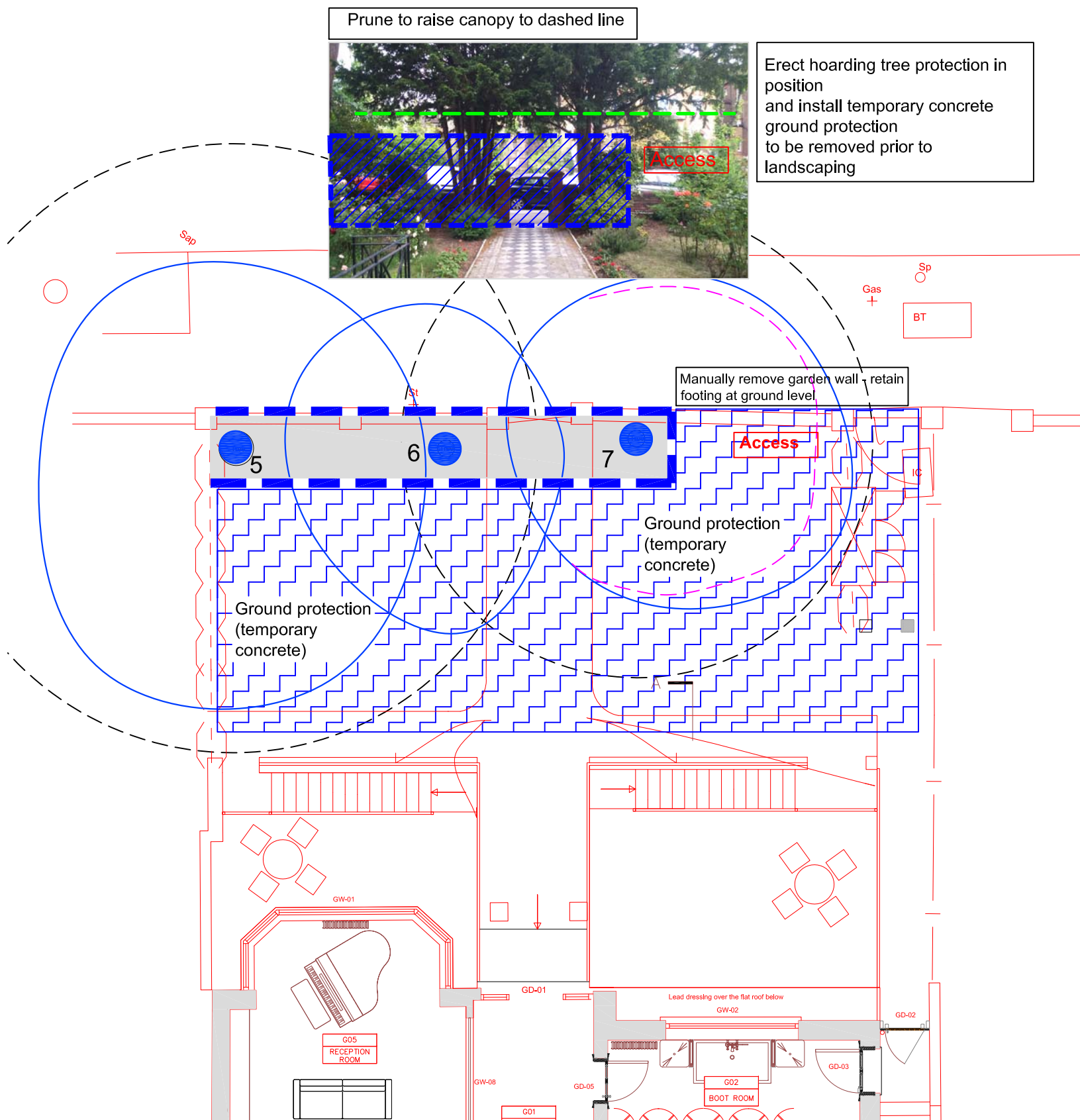
- Height describes the approximate height of the tree in meters from ground level.
- The Crown Spread refers to the crown radius in meters from the stem centre and is shown above on each of the four compass points (i.e. N, E, S, W) clockwise.
- Ground Clearance is the height in meters of crown clearance above adjacent ground level together with the height and direction of the lowest branch
- Stem Diameter is the diameter of the stem measured in millimetres at 1.5m from ground level. The diameter may be estimated (e), where access is restricted. An average (a) may be taken for tree groups. A full inspection is always recommended.
- Protection Multiplier is 12 for single-stemmed trees; for multi-stemmed a cross-sectional area is calculated to derive the DBH, which in turn is multiplied by 12.

- Protection Radius is a radial distance measured from the trunk centre and is used to calculate the BS RPA.
- Growth Vitality - Normal growth, Moderate (below normal), Poor (sparse/weak), Dead (dead or dying tree).
- Structural Condition - Good (no or only minor defects), Fair (remediable defects), Poor - Major defects present or suspected.
- Landscape Contribution - High (prominent landscape feature), Medium (visible in landscape), Low (secluded/among other trees).
- B.S. Cat. refers to British Standard 5837:2012 Table 1 category and refers to tree/group quality and value; 'A' - High, 'B' - Moderate, 'C' - Low, 'U' - Remove or very poor quality.
- Sub Cat refers to the retention criteria values where 1 is Arboricultural, 2 is Landscape and 3 is Cultural including Conservation/ecological, historic and commemorative.
- Useful Life is the tree's estimated remaining effective contribution in years.

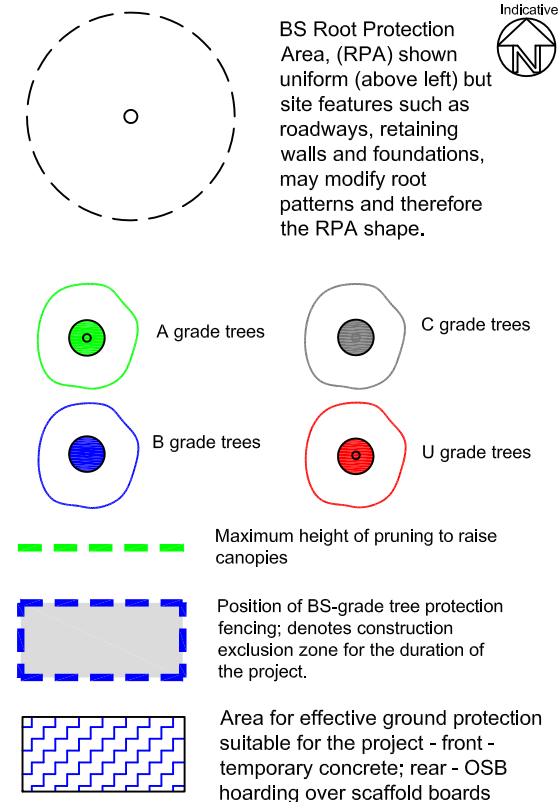
Table 1 Cascade chart for tree quality assessment

Category and definition	Criteria (including subcategories where appropriate)	Identification on plan
Trees unsuitable for retention (see Note)		
Category U Those in such a condition that they cannot realistically be retained as living trees in the context of the current land use for longer than 10 years	<ul style="list-style-type: none"> Trees that have a serious, irremediable, structural defect, such that their early loss is expected due to collapse, including those that will become unviable after removal of other category U trees (e.g. where, for whatever reason, the loss of companion shelter cannot be mitigated by pruning) Trees that are dead or are showing signs of significant, immediate, and irreversible overall decline Trees infected with pathogens of significance to the health and/or safety of other trees nearby, or very low quality trees suppressing adjacent trees of better quality <p><i>NOTE Category U trees can have existing or potential conservation value which it might be desirable to preserve; see 4.5.7.</i></p>	See Table 2
	1 Mainly arboricultural qualities	2 Mainly landscape qualities
		3 Mainly cultural values, including conservation
Trees to be considered for retention		
Category A Trees of high quality with an estimated remaining life expectancy of at least 40 years	Trees that are particularly good examples of their species, especially if rare or unusual; or those that are essential components of groups or formal or semi-formal arboricultural features (e.g. the dominant and/or principal trees within an avenue)	Trees, groups or woodlands of particular visual importance as arboricultural and/or landscape features
Category B Trees of moderate quality with an estimated remaining life expectancy of at least 20 years	Trees that might be included in category A, but are downgraded because of impaired condition (e.g. presence of significant though remediable defects, including unsympathetic past management and storm damage), such that they are unlikely to be suitable for retention for beyond 40 years; or trees lacking the special quality necessary to merit the category A designation	Trees, groups or woodlands of significant conservation, historical, commemorative or other value (e.g. veteran trees or wood-pasture)
Category C Trees of low quality with an estimated remaining life expectancy of at least 10 years, or young trees with a stem diameter below 150 mm	Unremarkable trees of very limited merit or such impaired condition that they do not qualify in higher categories	Trees with material conservation or other cultural value
		Trees with no material conservation or other cultural value

APPENDIX 2



ACS (Trees) Consulting LEGEND



Tree Protection Methods to be adopted on site.

1. Undertake pre-commencement site meeting to agree tree protection methods and timings.
2. Carry out any permitted tree works - ask before beginning.
3. Erect and fix in place all tree protection (see Appendix 3).
4. Undertake ground works in accordance with contractor's specification
5. Clear spoil from site.
6. Construction phase.
7. Remove tree protection.
8. Undertake new landscaping.

0 1 m 5 m 10 m



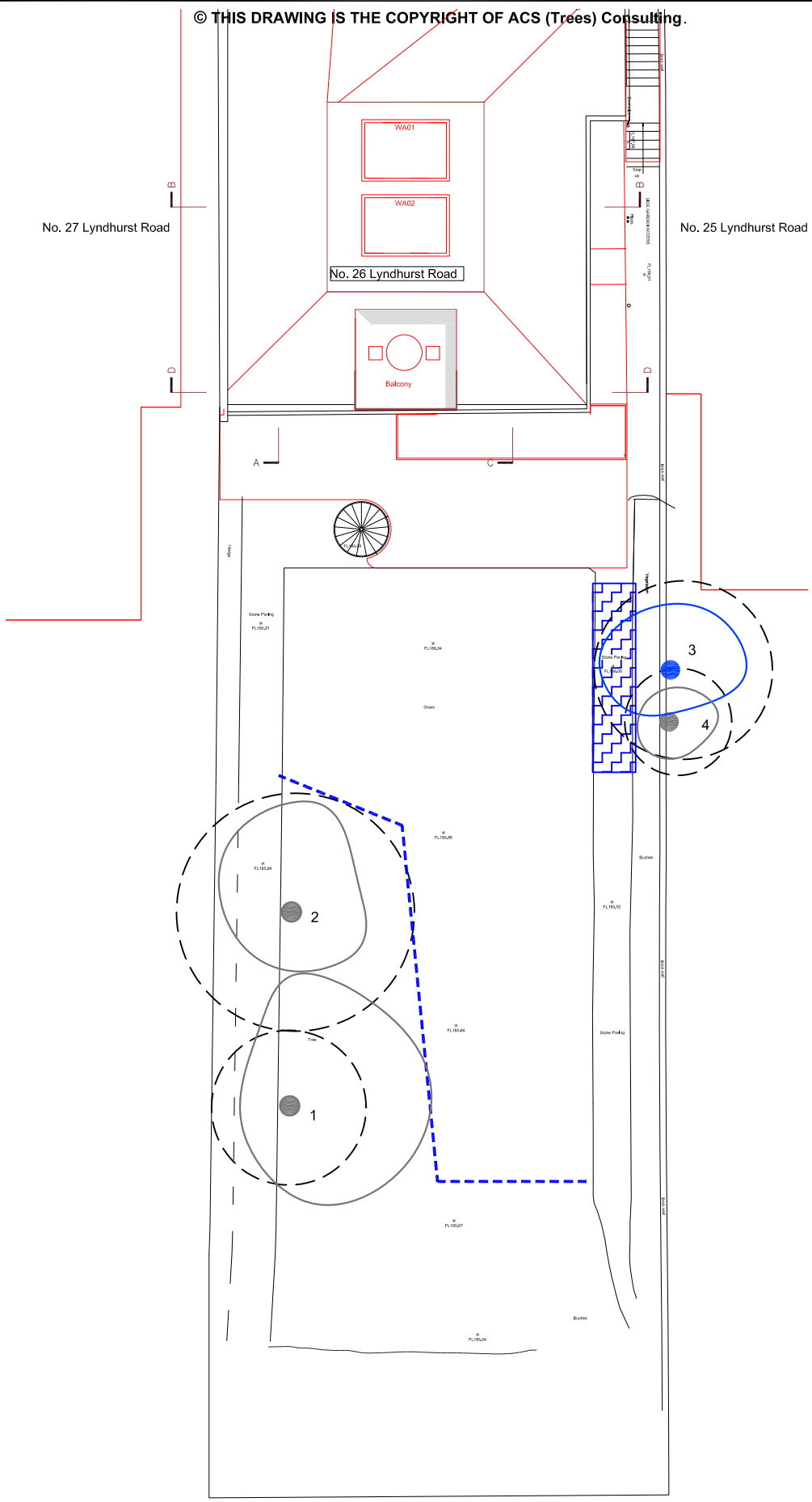
Scale: 1:100

Client : Mr Fitzpatrick		
Project : 26 Lyndhurst Road NW3		
Title : Tree Protection Plan		
Scale : 1:100 A3	Dwg No : TPP2_LR	Rev : A
Date : Nov. 2016		

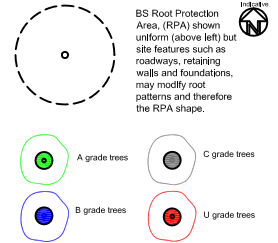
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ACS (Trees) Consulting LEGEND



Position of BS-grade tree protection fencing; denotes construction exclusion zone for the duration of the project.

Area for effective ground protection suitable for the project e.g. hoarding fixed over scaffold boards; scaffold boards over low scaffold framework

Client: Mr J Fitzpatrick		
Project: 26 Lyndhurst Road NW3		
Title: Tree Protection (rear)		
Scale: 1:200 A4	Dwg No: TPP2_LR_re	Rev: -
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APPENDIX 3

Tree Protection Fencing

Specifications (specifically identified by outline box)

2.4m Hoarding

3.0m 100 X 100mm square wooden posts

3 X 38 X 87mm wooden rails affixed to posts

2.4m X 1200 outside grade ply panels (12mm) affixed to rails.

50 X 100mm angled supporting struts affixed internally (quantity as required).

(Supporting posts fixed into position using concrete. All post holes to be hand excavated. Post holes to be no larger than 300 X 300mm.)

Where it is not possible to insert post holes into the ground (e.g. existing hard surfacing) alternative support for posts, such as concrete-filled drums, may be used.

Heras Fencing

Heras fencing describes the 2.4m galvanised steel mesh panelled fencing normally supplied with pre-cast concrete bases. **Bases are to be replaced with a fixed frame to which panels are clamped/ firmly fixed.** For extra stability, scaffold poles/4x4 wooden posts are to be firmed into the ground as supporting posts and supporting struts are to be attached at a 45 degree angle on the 'tree-side' of the fencing and fixed into the ground. Supporting posts will be braced at the top and base for added support.

Example 1.

Heras Fencing with supporting by a scaffold framework fixed (tree side) for extra support.



Example 2.

Hoarding-style fencing with robust wooden posts with supports to ensure minimal movement.



Example of Tree Protection Box Frame

Designed to provide immediate protection from impacts and damage to the trunk and root crown.



Specification:

Uprights x 4, min. 100 X 100 treated wood

Batons top, middle and base min. 25mm x 75mm

45° angled batons to and base for rigidity 25mm x 75mm

Fix 12mm OSB sheeting to framework

Affix 'Tree Protection' signage.

Example of temporary reinforced concrete root cover - ground/root protection.

Note:
Effective for confined work areas or areas for intensive and heavy construction.

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www.acstrees.co.uk

NOT TO SCALE

Wooden shuttering boards (scaffold boards or similar)

Temporary reinforced concrete ground protection (100mm)

Tree protection fencing or frame

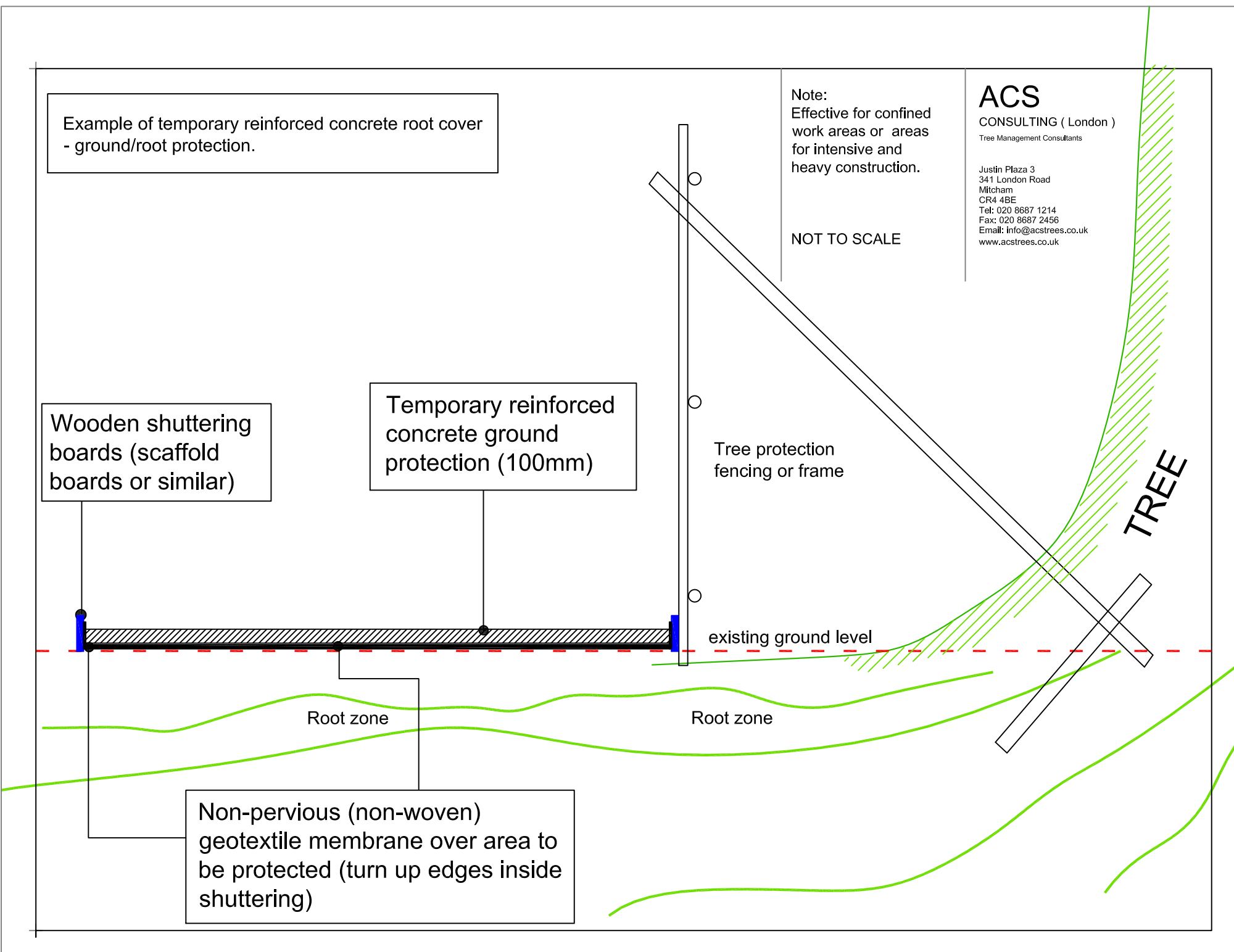
existing ground level

Root zone

Root zone

Non-pervious (non-woven) geotextile membrane over area to be protected (turn up edges inside shuttering)

TREE



Ground protection of temporary, reinforced concrete.



Depth of concrete is no more 150mm and is broken out and removed from site before final soft or hard landscaping. Suitable for heavy machinery and deliveries.



Concrete strips laid directly over the ground can be readily broken out and before soft landscaping. Effective for multiple pedestrian passes and light machinery.

Fig. 1 Ground protection – hoarding over sharp sand and wood chip



Installing heavy-duty OSB boarding over a depth (min. 50mm) of sharp sand and/or wood chip between the tree protection fencing and the foundation line of new development is effective in protecting roots, which grow in the soil beyond the position of the fencing.

Fig.2 Side-butting scaffold boards and covered and fixed with 20mm OSB boarding



APPENDIX 4

Arboricultural Site Supervision

Site: 1 Hyde Park, London
Inspected By: H .Appleyard
Client: RPC
Site Agent: Shaun Clark

Date of Inspection: 15/02/2007
Time of Inspection: 3:30pm

Tree Protective Fencing

Tree protection in correct location

Comments/Action

No action at this time



Effective fencing in position

Agreed Construction Exclusion Zone

No debris within construction exclusion zone

Comments/Action

No action at this time



Fencing with signs

Amendments to Documentation Required

No amendments required

Comments/Action

Building works outside scope of Method Statement

Remedial Works

General Comments

Tree protection and on-site supervision effective and understood.

*Tree Damage is defined as: any unauthorised/accidental exposure of tree roots; any accidental or unauthorised branch removal; any exposure of fresh wood (pruning or accident); any removal of bark.

Procedure for reporting and action following inadvertent damage to a protected or retained tree(s) on a construction site.

