

BEFORE ANY SITE / DEVELOPMENT ACTIVITY BEGINS CONTACT THE ARBORICULTURAL CONSULTANT:

- To attend a tree related pre-start meeting
- To clarify which trees require pruning or remova
- DURING DEVELOPMENT WORKS CONTACT THE ARBORICULTURAL CONSULTANT:

To check the tree protection

- To supervise ground works near trees If any new drawings show ground works near
- If the project manager or site manager change Before any tree protection is moved

IF WORKING NEXT TO TREES - STOP & THINK

ESPECIALLY IF DIGGING NEAR A TREE - ARE YOU DAMAGING ROOTS? IF IN ANY DOUBT STOP AND CALL THE ARBORICULTURAL CONSULTANT.

ARBORICULTURAL REPORT

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The author of this report is Mr Jamie Newman of JN Tree Consultancy. JN Tree Consultancy has been instructed to provide an Arboricultural Report in keeping with recommendations of British Standard BS 5837: 2012 - Trees in relation to design, demolition and construction -

TREE SURVEY METHODOLOGY

(Mattheck, C & Breloer, H. 1994).

A site visit and tree survey were carried out by Mr Jamie Newman of JN Tree Consultancy on 13.03.22. The trees have been surveyed to the criteria within BS 5837: 2012. The trees were inspected from ground level using the widely accepted Visual Tree Assessment (VTA) methodology (Lonsdale. D., 1999)

Heights of trees were estimated, tree locations not already supplied and crown spreads were measured using a digital laser device, stem diameters were measured using a diameter tape. Where appropriate other tools were used such as a metal probe and engineer's mallet. Any photographs were taken using a digital camera.

LIMITATIONS Tree survey limitations

JN Tree Consultancy has been instructed to survey only those trees within or directly adjacent to the identified area for development in

accordance with BS 5837: 2012. Trees which do not overhang the identified area and that are located beyond a distance of up to 12 times their estimated stem diameter as measured at 1.5m above ground level, or trees below 80mm in diameter as measured at 1.5m from ground level, have not been included. Off-site or inaccessible trees have only been surveyed from accessible areas; defects may be hidden from view and dimensions may be estimated. Site conditions (which may impact on tree root condition or morphology) have only been assessed from accessible

The trees were not climbed. No samples of soil, tree tissue, suspected

pests and diseases or pathogens were taken during the tree survey. A full hazard or risk assessment of the trees has not been undertaken as part of this survey. Obvious defects are noted in the tree survey schedule; which may also recommend remedial works. The findings of the survey represent the dimensions and conditions of the trees only at the day and time of inspection. Trees are dynamic organisms which undergo structural and physiological change as they continue to grow, age, and in response to changes in their local

upon after changes to the tree's environment or physiology. II. Report limitations

This report utilises information and tree data capture software provided by third parties. JN Tree Consultancy cannot guarantee the accuracies of documents or information provided by third parties and shall not be held liable for any issues that arise from any discrepancies

environment; the findings of the tree survey cannot be fully relied

within or between those items. Recommended specifications and methodologies within this report are primarily for the purpose of protecting trees during development works and do not cover the health and safety aspects of implementing or using the specifications (e.g. a trip hazard brought about by installing supports for protective fencing). It is expected that the recommendations will be checked by an appointed structural engineer or contractor so that an appropriate working methodology or design can be specified, if deemed necessary. Changes might require further

Site specific soil survey information has not been provided. Proposed drainage and services information has not been provided. Detailed ecological considerations are beyond the scope of this report. UK and European wildlife legislation may affect the timing and even prohibit works and operations described in this report. Most of the information regarding wildlife can be found in the Wildlife and Countryside Act 1981 (as amended). Bats are afforded particular protection and a specialist may be required to determine if bats are present or can be affected when carrying out tree works.

approval from the Local Planning Authority before being implemented

DESKTOP INVESTIGATIONS

Statutory controls: Tree Preservations Orders / Conservation Area **Status.** Email correspondence with Camden Council planning department (dated 14.03.2022) reveals that the site and surveyed trees are not within a Conservation Area and that none of the trees are protected by a Tree Preservation Order (TPO). Government guidance on TPOs and trees within conservation areas can be found

https://www.gov.uk/guidance/tree-preservation-orders-and-trees-in-conservation-areas The email states "however a horse chestnut at the front of 238/School next door that is a Camden owned asset", this might be T1 within this report. It is advised that before any pruning to T1 is carried out that clarity on the ownership and management of the tree is obtained.

SOIL. A soil assessment should determine whether the soil is shrinkable. If it is, trees and other vegetation have the potential to cause indirect damage to structures. Consideration should also be given to NHBC Standards Chapter 4.2 regarding technical requirements and recommendations for foundations when building near trees, hedgerows and shrubs, particularly in shrinkable clay soils. A check with the British Geological Survey (accessed 13.03.22) shows

Bedrock geology description: London Clay Formation - Clay, Silt And Superficial deposits description: None recorded.

RELEVANT STANDARDS

the following soilscape information:

Relevant standards of work to follow when working on and adjacent to

BS 5837: 2012 Trees in relation to design, demolition and construction - Recommendations

British Standard for recommendations and guidance on the relationship between trees and design, demolition and construction processes. It sets out the principles and procedures to be applied to achieve a harmonious and sustainable relationship between trees and

BS 3998: 2010 Tree work - Recommendations.

British Standard for general recommendations for tree work. It gives guidance on management options for established trees (including soil care and tree felling) and overgrown hedges. NHBC Standards Chapter 4.2. Foundations: building near trees. Technical requirements and recommendations for building near trees,

hedgerows and shrubs, particularly in shrinkable clay soils

WORKS CITED

3998: 2010. Tree Work - Recommendations 5837: 2012. Trees in relation to design, demolition and

construction - Recommendations. British Geological Survey (2022).

http://mapapps.bgs.ac.uk/geologyofbritain/home.html. Helliwell, D.R. (1967). The amenity value of trees and woodlands. Journal of Arboricultural Association 1, 128–131 Kutschera. L & Lichtenegger. E. (2002). Root atlas of Central European

forest trees and shrubs (2nd ed). Leopold Stocker Verlag Graz and Stuttgart 2002. Lonsdale. D. (1999). Principles of Tree Hazard Assessment and Management: Research for Amenity Trees. No. 7.

The Stationary Office Books. Mattheck, C & Breloer, H. (1994), Field Guide for Visual Tree Assessment (VTA), Arboricultural Journal: The International Journal of Urban Forestry, 18:1, 1-23.

NHBC (n.d.). NHBC Standards Chapter 4.2. (building near trees) National House Building Council.

ARBORICULTURAL IMPACTS ASSESSMENT

To allow working access & opportunity to remove & replace a large growing shrub that will become problematic if retained.

TREES & SHRUBS TO BE REMOVED

loval of poor quality (category 'U') tree & to allow access B - of moderate quality Robinia U - of low quality Removal of poor quality (category 'U') tree & to allow access. Cononeaster C - of low value To allow access.

TREES TO BE PRUNED

TREE NO. SPECIES PRUNING WORKS Horse chestnut Crown reduce to about 1.5m To bring the tree back into pruning management & to lower risk of limb / branch failure above the previous most

recent points of reduction TREES WITH GROUND WORKS WITHIN RPAS

DETAILS OF GROUND WORKS TREE NO. SPECIES

C - of low value

Horse chestnut Shed base to be constructed above soil (no dig)

Hard-surfacing to be repaired and replaced going no deeper than existing sub-base Holm oak Manual excavation for new steps

TREE SURVEY SCHEDULE

| Tree no. | Name | Height | Stem | Branch Spread | Crown Hgt | FSB | Age | Physiology | Structure | Value | ULE | Comments | Category | RPR | RPA |
|----------|---|--------|--|-------------------------------|--------------|-----|-----|------------|-----------|----------|-----|--|-----------|------------------------------|----------------------------------|
| T1 | Horse chestnut (Aesculus hippocastanum) | 12m | 720mm @1m | NE6m SE7m SW6m NW7m | E4m W5m | 5m | М | Good | Fair | Moderate | 20+ | Largest, most significant tree in the property. Four-stemmed from 2.5m, historically pruned at 5m; multi-stemmed from 5m. Decay pockets / cavity openings on main limbs (potential for bat habitat); recommend climbed inspection to check for weakness / decay. Regrowth now about 7m long and should at least be reduced to about 1.5m above the previous most recent points of reduction, to bring the tree back into pruning management (pruning completely back to the previous points will create large wounds and further rot pockets). | B (2) | 8.6m | 234.5m |
| T2 | Apple (Malus sp.) | 3m | 80mm | NE2m SE1m SW1m NW1m | 1m | 1m | Υ | Fair | Fair | Low | 10+ | Small fruit tree; unbalanced crown as suppressed. | C (1) | 1.0m | 2.9m² |
| Т3 | Wild cherry (Prunus avium) | 5m | 120mm 3 stems @ 100mm | NE2m SE0m SW0m W2m NW3m | 3m | 3m | SM | Poor | Poor | Low | <10 | Dead crown SE side; unbalanced crown as suppressed. | U | 2.5m | 20.1m² |
| T4-7 | Holm oak (Quercus ilex) | 8m | #T4 140mm #T5 140mm #T6 100mm #T7 100mm #T7 80mm | 2m | 2m | 2m | SM | Good | Fair | Low | 10+ | Etiolated specimens. Likely to become problematic for residents in adjacent building as they mature; due to light and branches touching windows. | C (1) | 1.7m 1.7m 1.2m 1.5m | 8.9m² 8.9m² 4.5m² 7.4m² |
| Т8 | Wild cherry (Prunus avium) | 8m | 280mm | 4.5m | 4m | 4m | EM | Good | Fair | Moderate | 20+ | Front boundary tree; twin-stemmed from 2m. Of boundary screening merit. | B (12) | 3.4m | 35.5m ² |
| Т9 | Robinia (Robinia pseudoacacia) | 6m | 140mm @1m | NE2m SE1m SW1m NW2.5m | 3m | 3m | SM | Good | Poor | Low | <10 | Self-seeded; tight forks; supressed. Metal pole embedded in trunk at ground level. | U | 1.7m | 8.9m² |
| T10 | Cabbage palm (Cordyline australis) | 5m | 160mm ivy | 1.5m | 3m | 3m | EM | Good | Good | Low | 10+ | Small palm. | C (1) | 1.9m | 11.6m² |
| S1 | Himalayan tree-cotoneaster (Cotoneaster frigidus) | 4m | 7 stems @ 75mm est | 3m | 1m | 2m | SM | Good | Fair | Low | 10+ | Shrub; location and dimensions estimated. | C (1) | 0.9m | 2.5m² |
| S2 | Photinia | 4m | 4 stems @ 75mm est | 1.5m | 1m | 2m | SM | Good | Fair | Low | 10+ | Shrub; dimensions estimated. | C (1) | 0.9m | 2.5m² |
| S3 | Laurel (Prunus laurocerasus) | 5m | 7 stems @ 90mm est | 2.5m | 1m | 1m | EM | Good | Fair | Low | 10+ | Multi-stemmed shrub. | C (1) | 2.9m | 25.7m |

Sequential reference number of trees or groups of trees commencing at "1". Prefixed with a letter indicating type: T: Tree. G; Group. H: Hedge, S; Shrub, W; Woodland. A: Area Species listed by common name, followed by Latin names (in

mated height of tree rounded up or down to nearest metro Trunk diameter measured at approx. 1.5m above groun where the trunk forks into separate stems between grou structural component(s) of a tree that supports its branches) are either shown by the number of entries or by direct reference. Branch spread taken at the four cardinal points (or 1 measurement for trees with equal crown spreads or for off-site trees). Clearance of lowest branches above ground level (given in metres) Height (metres) and orientation of first significant branch (where orientation is not specified the tree has more than one significant branch at the height). Y: Young: Obviously planted within the last three years. SM: Semi Mature: Recently planted and yet to attain mature stature; up to 25% of attainable age. EM: Early Mature: Almost full height, crown still developing and seed bearing, up to 50% of attainable age. M: Mature: Full height, crown spread, seed bearing; over 50% LM: Latemature: Full size, die-back, small leaf size, poor growth Value: A: Ancient: A tree that has reached a great age in comparison with others of the same species.

Poor: Signs of physiological stress or dysfunction; extension

Dead: Dead specimen.

evidence of disease, or crown dieback. Significant enough that the

Low: e.g. Trees which cannot be seen from any public vantage point Trees which can only be seen with difficulty or by a very small Good: Typical for species and age: no evidence of disease or dieback. **Fair:** Signs of physiological stress or dysfunction; minor evidence of disease. Not life threatening.

ospitals, colleges etc.

ees in public parks, close to public footpaths, in grounds of

importance as the principal feature of a public place.

High: e.g. Prominent individual trees in well frequented places sucl

(<10, 10+, 20+, 40+) 10+ more than ten years 20+ more than twenty years 40+ more than forty years 3: Trees of moderate quality & value Noderate: e.g. Most trees in woodlands, back gardens, or in group f trees etc. Individual roadside trees, trees close to busy roads.

C: Tree of low quality & value pe retained as living trees for longer than 10 years Sub categories (suffix): 1: Trees with mainly arboricultural value, 2: Trees with mainly landscape value, 3: Trees with mainly cultural / conse

ARBORICULTURAL METHOD STATEMENT

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aspect of development that is within the root protection area or has the potential to result in loss of or damage to a tree.

PLANNING

The project manager will appoint an arboricultural consultant to

The site manager must bring the details of this method statement to the attention of all relevant parties. If there is any confusion on the identification of trees or specifications within this report contact must be made with the appointed arboricultural consultant for clarification. The project or site manager will immediately inform the arboricultural consultant if at any time the site manager, the fencing contractor or the groundwork contractor(s) are replaced, so that the arboricultural

Any new or revised drawings which might result in works within the RPAs or crown spreads of trees are to be sent to the arboricultural consultant so that he can give appropriate advice; any such works must not be carried out until the arboricultural consultant has seen and commented on the drawings as further approval from the Local

Planning Authority might be required. **SEQUENCE OF WORKS**

The following actions shall be undertaken, in the order specified in the below. Unless otherwise agreed with the Local Planning Authority.

- Pre-start meeting.
- 2. Remove & prune trees.
- Install protective fencing. 4. Start & complete development works, including ground works
- Remove protective fencing.
- PRE-START MEETING Before any site clearance or construction works takes place the project manager will arrange a tree related pre-start site meeting to go over report and any issues that could arise during works; the meeting shall be attended by the site manager, the fencing contractor, the
- groundwork contractor(s) and the arboricultural consultant. At the meeting contact details shall be exchanged and the scheme of tree protection shall be discussed, so that all parties are clear on:
- 1. the specifications of the tree protection the chronological sequence of events
- 3. any special requirements (such as ground works within RPAs) 4. service and drainage routes
- 5. It may be the case that unforeseen changes arise from the meeting; which might need to be formally agreed by the Local Planning Authority before being implemented.

MONITORING AND SUPERVISION

Once the tree protection barriers have been installed, the arboricultural consultant will undertake a visit to inspect them. If the tree protection measures comply with this report, the arboricultural consultant will 'sign off' the tree protection and will send a record of compliance to the project manager.

If the specifications or locations of these items does not comply with this report, the arboricultural consultant will inform the relevant party of what adjustments are required and if necessary will undertake a further visit to check that these have been carried out. Once compliance has been made this will be signed off (as per the previous

Throughout the construction process the arboricultural consultant will undertake regular visits to monitor the condition of the trees and effectiveness of the protective measures; timings to be agreed at the pre-start meeting. This shall include a final visit (once works are complete) to check the condition of trees and soil next to trees and may lead to mitigation recommendation

The arboricultural consultant shall be given at least three working days' notice of any supervision activity that requires attendance (sethe sequence of works). The arboricultural consultant will make records of all monitoring and supervisory visits, and will send these to the project manager. In this way it can be shown that the planning conditions are being adhered to and will allow the Local Planning Authority to sign off the relevant planning conditions.

CONSTRUCTION EXCLUSION ZONES

the arboricultural consultant will make a visit to inspect it. The tree

Construction Exclusion Zones shall protect the soil within RPAs as well as above ground tree parts. Once the physical tree protection is in situ,

protection must not be moved or altered without the permission of the approved arboricultural consultant. In the event that the physical tree protection is accidentally damaged or knocked out of position, those sections must be repaired or replaced as soon as practicably possible. Once all construction works are completed the arboricultural

> consultant will be notified before any physical tree protection is The physical tree protection (detailed in the following sections) shall form the edge of Construction Exclusion Zones (CEZs) and will restrict access into these areas. The tree protection and the CEZs must be

consultant can meet with the relevant person and make clear the On the tree side of protective fencing requirements of arboricultural method statement. 1. No personnel, plant or vehicles shall enter

No excavation for foundations, drainage or service runs 3. No storage of equipment or materials

- 4. No clearance of existing vegetation No changes to soil levels (including topsoil)
- In areas covered by ground protection:
- 1. No excavation for foundations, drainage or service runs
- No storage of wet cement or materials that might be toxic to tree roots (unless special provisions are made to prevent spills or run
- off into the surrounding soil; e.g. a cement mixing area made

edges to prevent run off. Cement is toxic to tree roots.

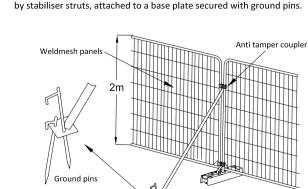
- 3. No clearance of existing vegetation
- 4. No changes to soil levels (including topsoil) Furthermore:
- 1. No notice boards, or power or telephone cables, shall be attached

from a polythene sheet laid onto boarding with a lip around the

2. No fires shall be lit within RPAs of trees to be retained or within 10m of the canopies of any trees to be retained (whichever is the

PROTECTIVE FENCING - alternative specification

rotective fencing shall consist of a scaffold framework in accordance with figure 3 of British Standard 5837 (2012); comprising 2m tall welded mesh panels on rubber or concrete feet. Onto this, weldmesh panels shall be securely fixed with wire or scaffold clamps joined together using a minimum of two anti-tamper couplers, installed so that they can only be removed from inside the fence. The distance between the fence couplers shall be at least 1m and shall be uniform throughout the fence. The panels shall be supported on the inner side



Base plate Stabilser strut with base plate secured with ground pins

TEMPORARY GROUND PROTECTION

For pedestrian movements only, a single thickness of scaffold boards shall be placed either on top of a driven scaffold frame, so as to form a suspended walkway, or on top of a compression-resistant layer (e.g. 100 mm depth of woodchip), laid onto a geotextile membrane. For pedestrian-operated plant up to a gross weight of 2t, proprietary inter-linked ground protection boards (or similar) shall be placed on top of a compression-resistant layer (150 mm depth of woodchip), laid

onto a geotextile membrane. Protection Boarding ::Woodchip 100mm to 150mm

— — Geotextile-membrane – — —

REBUILDING WALL CLOSE TO T1

The wall to be demolished and rebuilt close to T1 shall be constructed on the existing footings so that any roots below will be retained

(undamaged). **REPLACEMENT HARD SURFACING WITHIN RPAS** Existing hard surfacing within RPAs to be replaced going no deeper than the existing sub-base so that the soil and roots beneath the

existing hard surfacing or associated sub-base are not disturbed. The new hard surfacing shall be installed above the undisturbed soil. **EXCAVATION FOR STEPS WITHIN RPA OF T4**

Excavation for the steps within the RPA of T4 shall be carried out using handheld tools; any roots encountered shall be pruned back to the face of the excavation, making a clean cut with a suitable sharp tool (e.g. bypass secateurs or handsaw).

SERVICES & DRAINAGE All underground services and drainage must be installed outside of the

RPAs of trees to be retained. LANDSCAPING, FENCING & REINSTATEMENT Final fencing, soft landscaping and reinstatement shall only be

undertaken after all the protective fencing and ground protection has

peen removed (following written consent of the Arboricultural

Consultant for removal of the tree protection). It is important to note that great care is needed by all contractors to avoid damage to the The Arboricultural consultant shall be contacted for advice before any ground works close to trees is undertaken

not be used for re-grading of soil within the RPAs of trees and heavy mechanical cultivation such as ploughing or rotavation must not occur Digging (for fence posts etc.) shall be undertaken using handheld tools. If roots or clumps of 25mm diameter and above are

Heavy machinary (e.g. tracked excavators with digger buckets) shall

encountered they shall be retained and protected; the position of the proposed post will be re-located. All roots exposed shall be back-filled with the original soil. After the removal of the tree protection and final landscaping works

the arboricultural consultant shall make an assessment of the condition of the trees, which might result in a requirement for remedial works such as soil decompation.



Drawing Number: TPP 01

Based on: Topographic survey & external works plan Date: 16.03.22 Drawn by: JN Paper Size: A1