the tree bureau

Arboricultural consultancy, design and management

Arboricultural Method Statement

for tree and soil protection during construction

5 Albert Terrace
London NW1 7SU

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Contents

1 Introduction

1.1 This arboricultural method statement deals with the tree and soil protection measures that must be carried out before, during and after the approved work at 5 Albert Terrace, Primrose Hill, London NW1 7SU.

1.2 Please this report in conjunction with the *Tree Protection Plan* (drawing TPP 7628) and the architect's and garden designer's drawings, which are provided as separate documents.

2 Sequence of events

2.1 Vegetation removal.
2.2 Installation of protective measures.
2.3 Installation of hygiene, personal welfare and site administration facilities.
2.4 Part-demolition, ground work, construction and fit out.
2.5 Removal and adjustment of tree protection measures.
2.7 Installation of rear wall and completion of the hard surfacing
2.8 Tree planting.

3 Communication, supervision and contingency

3.1 The site manager at any stage of work, including landscaping, will discuss tree and soil protection with the project arboriculturist *before* any work starts.

3.2 The site manager will ensure that tree protection measures are incorporated into every stage of work and that everyone working on the site is aware of tree, soil and other environmental protection measures and has easy access to all tree-related documents.

3.3 A copy of this *Arboricultural Method Statement* (AMS 7628) and the *Tree Protection Plan* (TPP 7628) will be available on the site throughout operations (including tree planting) and the person in charge of each stage of work will be responsible for ensuring that operatives adhere to the methods.

3.4 The site manager will inform the project arboriculturist immediately of any proposed changes to site logistics, methods, materials or other matters that were not initially foreseen, and work will be stopped until decisions have been made. Adequate time will be allowed to ensure that adequate and suitable consideration can be given to tree and soil protection and any necessary permissions and measures can be put in place.

3.5 The project arboriculturist will assess the situation and make recommendations, liaising with the local planning authority's tree officer where necessary.

Arboricultural monitoring

3.6 The project arboriculturist will visit the site:
- 3.6.1 to check the installed tree protection measures before work starts
- 3.6.2 at least once during development
- 3.6.3 if there is any concern about the protective measures or if the site manager, client, architect or tree officer request arboricultural input requiring a site visit.

3.7 On request from the project arboriculturist at any time, the site manager will email photographs of the tree and soil protection measures in place at that time.

4 Access, parking, storage and site facilities

Access

4.1 Access for personnel, materials and tools will be via Albert Terrace.

Site parking

4.2 There is limited street parking outside the house so adequate arrangements will need to be made for parking and deliveries.

Location of storage and site facilities

4.3 The positions of site administration, hygiene and welfare facilities, as well as materials and equipment storage, will be outside construction exclusion zones and root protection areas.

5 Vegetation removal

5.1 Before any other work takes place, the hege H4 will be removed.

5.2 The appointed tree surgeons will work to the recommendations of the British Standard BS3998:2010 *Tree work – Recommendations*, paying particular attention to tree phenology; soil protection during tree operations; avoiding the transmission of pests and diseases, especially the movement of pathogens from tree to tree on pruning equipment; and wildlife protection.

5.3 Wood chip will be retained on site for later use as a mulch or soil dressing. Other arisings will be removed from the site and reused elsewhere or disposed of in an environmentally sound manner.

6 Installation of protective measures

Protective fencing

6.1 After vegetation removal and before any demolition, ground work or construction take place, construction exclusion zones will be formed by protective fencing installed in the position shown on the *Tree Protection Plan* (TPP 7628).

6.2 The protective fencing will consist of sections of at least 1.8m-high, steel mesh panels (such as Heras panels) that are wired to a framework. All the fencing will be braced/stabilized, as described in section 6.2.2 and shown in Figure 3 of the British Standard BS5837: 2012 *Trees in Relation to Design, Demolition and Construction – Recommendations*. (Figure 3 is shown in Appendix A of this report.) The panels will be securely fastened one to another to prevent them from being opened like gates.

6.3 All-weather notices will be attached to all the barriers, with words to the effect: 'Tree and soil protection. Legally enforceable construction exclusion zone — keep out.'

6.4 There will be no construction access or activity within the construction exclusion zones. No work will be undertaken there and no equipment, machinery, plant, materials or spoil will be stored there.

6.5 The site manager will be responsible for ensuring that the fencing remains fit for purpose, is secured and that there is no access or storage there.

6.6 All the fencing will remain in place until the project arboriculturist approves its removal.

Temporary and permanent ground protection and hard surface permeability

6.7 Modules of ArborRaft or Cellweb geocellular tree root protection systems will be laid to the depth and by the method recommended by the manufacturers across the back garden, excluding the construction exclusion zone.

6.8 A temporary 'sacrifical layer' of 4-20mm angular, clean no-fines aggregate will be laid over a landscape fabric on top of the cellular confinement sub base to a depth of at least 25mm. This layer will be removed when construction has been completed.

7 Foundation design

7.1 The foundations will take account of any off-site trees that are within the zone of influence of a house on a shrinkable soil and any trees to be planted.

7.1.1 'Influencing distance' is defined as the distance given in the Kew Root Survey (Cutler & Richardson 1989) at which 75% of all cases of damage for a given genus or species have been recorded. In the case of large forest type species, the 90% distances is used. Where a species of tree is encountered that is not listed in the Kew Root Survey, the influencing distance is estimated using the Kew Root Survey data for similar species with respect to size and scale.

8 Demolition, groundwork, construction and fit out

Demolition

8.1 Demolition will be carried out with care to avoid creating any flying debris that could damage trees. Extra care will be taken when removing any concrete slab because roots often grow close to the underside of concrete. The provisions of Sections 8 and 9 will be followed at all times.

Dust

8.2 In the unlikely event that dust caused by demolition/construction is visible on the trunks, branches or leaves (if present) of the retained trees, they will be rinsed with clean water running at low pressure from a hose. As trees are living organisms, the site manager will be responsible for ensuring that the trees are not 'jet-washed' and are not rinsed in freezing temperatures.

Waste and waste removal

8.3 Waste will not be piled or stored within any root protection area or construction exclusion zone.

8.4 It will not be possible to deliver skips to the site, so other arrangements will be made to remove waste and rubbish promptly from the site.

Working practices

8.5 Extreme care will be taken when storing, mixing and using materials to avoid spilling them or enabling them to be washed down slopes to tree roots. Material that could contaminate the soil, such as concrete mixings, oil, diesel or any other fuel, will not be transferred within 5m of any protective fencing.

8.6 Activities involving potentially polluting/harmful materials or high levels of dust that could block the movement of water and air through gravel will not take place on the drive.

8.7 Fires will not be lit on the site.

Site supervision

8.8 There will be provision for adequate and appropriate supervision of construction work to protect trees from immediate, long-term, direct or indirect harm.

9 The protection of tree roots

9.1 If work of any kind at any stage reveals either individual roots with a diameter of 25mm or more, or clumps of smaller roots, work will stop, the roots will be protected as described in paragraphs 9.2 to 9.3 and the arboriculturist's advice will be sought.

9.2 No individual roots larger than 25mm diameter, or clumps of smaller roots, will be pruned without first obtaining the arboriculturist's advice, as to do so could compromise the health or stability, or both, of a tree. If work reveals a few individual roots below 25mm diameter, a competent person may cut them cleanly, using a sharp saw or sharp secateurs, to a side-branching root if it is absolutely necessary to do so.

9.3 Individual roots of 25mm diameter or larger and groups of roots will not be left exposed, but will immediately be wrapped in clean hessian, or similar breathable material, (ideally, as if bandaged) to protect them from desiccation, exposure to wind or sudden temperature changes.

9.4 Root wrapping and covering must be removed before backfilling, which will take place as soon as practicable. The backfill must consist either of: the excavated soil, after removing stones or debris that could damage the root bark, replacing the subsoil and topsoil in their original position levels, or good quality topsoil, or a mix of good quality topsoil and sharp sand. (Builder's sand must not be used because it has a salt content that is harmful to trees.) The backfill will be gently consolidated so that it is in contact with the roots, but without compaction.

10 Installation of new services

10.1 New services, including electricity and water, will be connected to existing provision.

10.2 New service trenches will be created within root protection areas.

Soil levels

10.3 No other soil on site will be regraded, other than as described in Section 12.

11 Removal and adjustment of protective measures

11.1 All protective fencing will stay in place until construction and fit out are finished and the site manager has discussed its removal with the project arboriculturist and obtained emailed approval for the removal.

11.2 After the protective fencing has been removed, new temporary ground protection will be laid adjacent to the neighbouring magnolia T5 in the area previously included in the construction exclusion zone. The temporary ground protection will consist of a landscape fabric laid directly on the ground and covered by a 100mm-deep layer of tree woodchip or bark. A single layer of scaffold board will be laid on the wood chip.

11.3 Access over this temporary ground protection will be strictly controlled by the site manager and will include personnel using only hand-held and hand-propelled equipment only during the installation of a new fence. The position of the ground protection is shown on the *Tree Protection Plan* (TPP 7628).

11.4 The temporary ground protection will remain in place until the project arboriculturist approves its removal.

11.5 The 'sacrificial layer' over the rest of the back garden may be removed upon approval by the project arboriculturist.

12 Installation of a new rear wall and completion of the hard surfacing

12.1 When temporary protective ground protection has been installed as described in paragraphs 11.2 to 11.4, a trial trench will be hand dug parallel to the rear boundary using hand-held tools only and observing the provisions of Section 9.

12.2 A structural engineer will specify 'bridging' to accommodate any tree roots found, or another suitable way to protect tree roots.

12.3 The steps and hard surface in the former construction exclusion zone will be installed without digging within the root protection area of the neighbouring magnolia T5 and the wearing course will be over a three-dimensional sub base system, as outlined in paragraph 6.7.

13 Tree planting and maintenance

13.1 Tree planting will be carried out when construction and fit out are complete. The provisions of Section 9 will be followed.

Preparation

13.2 The soil in the new planting bed will be dug over to at least the depth of one spade. Soil improvement measures may need to be specified and carried out.

Species selection

13.3 These trees, selected and specified by the garden designer, will be planted during the first planting season after construction is complete:

Quantity	Species	Root treatment	Size
1	*Amelanchier x grandiflora* 'Ballerina'	Container	multi-stem min. 2.5-3m tall
1	*Malus* 'Evereste'	Container	multi-stem min. 2.5-3m tall
1	*Ficus carica*	Container	multi-stem min. 2.0-2.5m tall.

13.4 The trees will be containerised (grown in a container for at least a season after lifting), ideally in a light pot or air pot, and will have well-established radial root growth in the container, without any circling or girdling roots and with a significant amount of fibrous

roots. The hedging plants will be bare root with a significant amount of fibrous roots.

13.5 The tree will be of at least the minimum size specified, true to type and free from discernible pests and diseases. Where formative pruning has been carried out, the wounds will have healthy and continuous bark occlusions. In case of doubt, the recommendations of BS8545 2014 *Trees: from nursery to independence in the landscape – Recommendations* will be followed.

Planting trees

13.6 An individual square planting pit will be dug by hand to a diameter of at least 500mm wider than that of the diameter of the root ball. The pit will be deep enough to facilitate the depth of the root ball up to the root-collar, but no deeper. The trees will be planted to the depth of the root-collar only, level with the top of the finished level of the surrounding soil. (If in doubt about the planting depth, consult the project arboriculturist for advice because deep planting is a common cause of poor tree health and structural problems.)

13.7 The planting pit will be back-filled with the excavated soil (after stones and any other sharp materials have been removed) and no additional material will be added. Backfilling will be carried out in stages so that the soil can be lightly consolidated in layers of about 150mm to ensure that no air pockets are left around the root ball, but without compacting the soil to a high bulk density.

13.8 If a tree has been grown in air-pots or light pots, no staking may be necessary. Otherwise, the trees will be secured by a stake of pressure-treated, peeled timber, and tied with a biodegradable tie at a height of no more than one third the height of the clear stem of the tree.

13.9 After planting, each tree/woody plant will be watered slowly under low pressure until the soil immediately around the trunk and an area equivalent to a circle with a diameter of at least 1000mm around the stem is thoroughly moistened (ie. to 'field capacity').

13.10 An area equivalent to a circle with a diameter of at least 1000mm around each tree will be mulched with bark, wood chip or well-composted garden/kitchen waste laid directly on the soil to a depth of between 80mm and 100mm. The mulch will not be in direct contact with the trunk, which can lead to disease.

Maintenance

13.11 New trees and other woody plants will be watered at least once a fortnight during March to October. This frequency will be adjusted according to rainfall and temperature. The ground is to be watered until it is thoroughly moistened (ie. to field capacity) around the plant.

13.12 The mulch will be topped up every few years in mild weather when the soil is moist and not frozen – usually spring or autumn – to ensure that the specified coverage and depth is maintained but taking care to ensure that anaerobic layers are not inadvertently created. In the event of doubt, allow the mulch levels to drop a little before topping up.

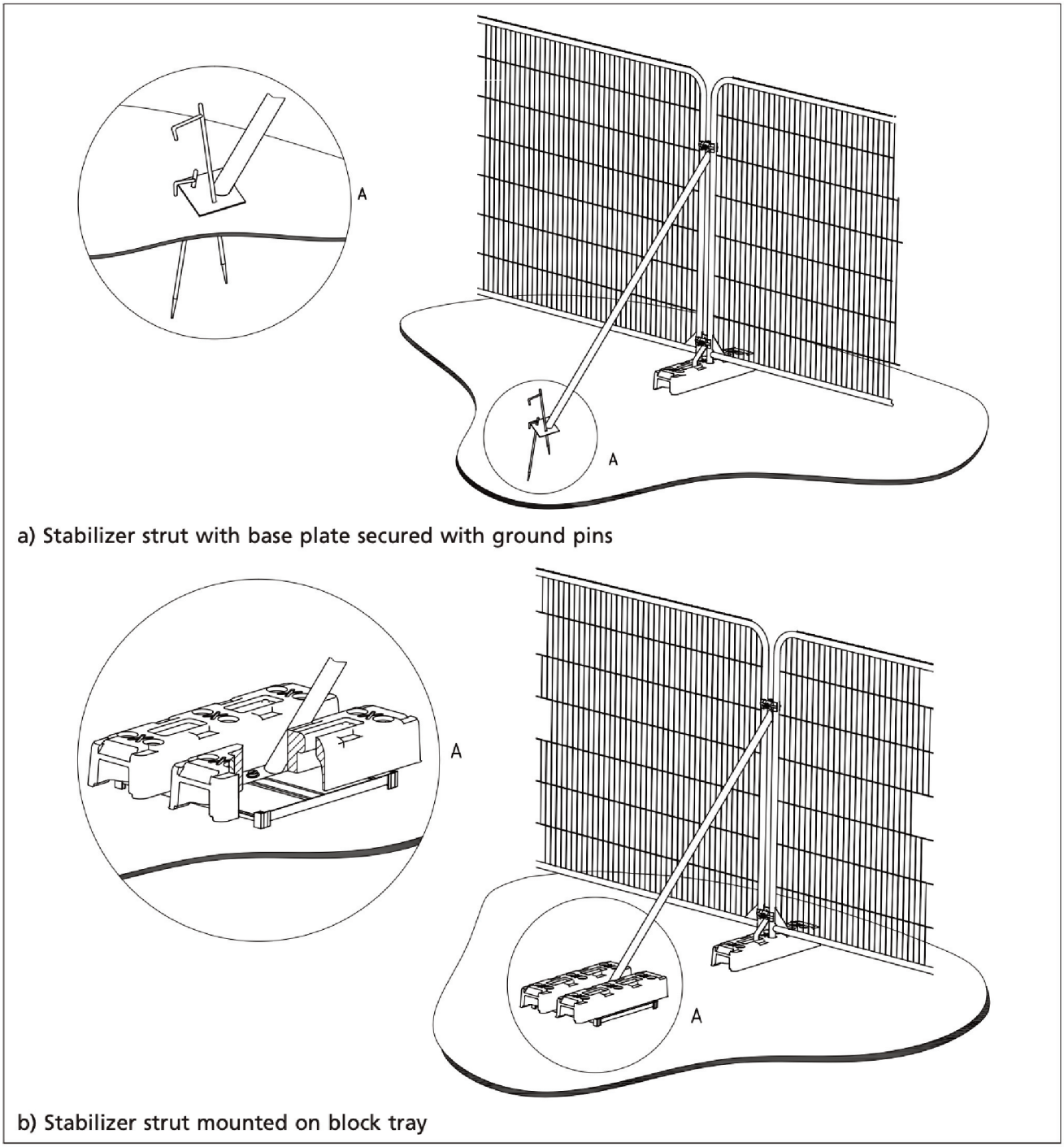
13.13 Tree stakes and ties will be removed within 18 months.

Tree replacement

13.14 Trees and other woody plants will be replaced like for like if they die within ten years of being planted.

APPENDIX A – PROTECTIVE FENCING

Figure 3 **Examples of above-ground stabilizing systems**



a) Stabilizer strut with base plate secured with ground pins

b) Stabilizer strut mounted on block tray

APPENDIX B – SCOPE

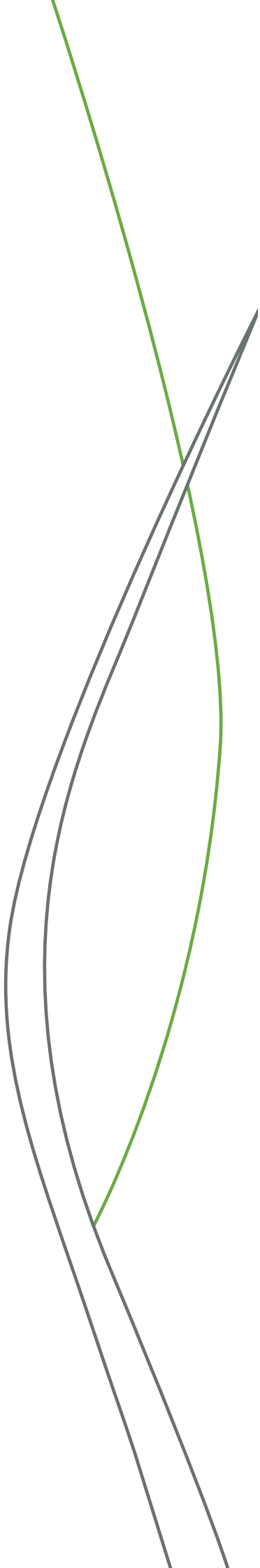
1 This report and its associated *Tree Protection Plan* are based on arboricultural criteria only. Comments and drawings relating to non-arboricultural matters must be viewed as provisional and referred to appropriate specialists for confirmation and specification.

2 The site manager is responsible for ensuring all health and safety provision, including safe working practices covered by the Construction (Design and Management) Regulations 2015 and any amendments.

3 The site manager is responsible for keeping the project arboriculturist up to date and for informing of any proposed change from this method statement.

4 Construction started before this method statement was produced but advice was given on site and by email about protecting the roots of a neighbouring tree. That advice is incorporated into this document. The Tree Bureau/project arboriculturist is not responsible for any activity or omission, or its consequence, that is carried out in breach of this method statement either before or after its approval by the local planning authority.

5 The Tree Bureau/project arboriculturist is not responsible for having selected or specified the trees to be planted.



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