



the tree bureau

Arboricultural consultancy, design and management



Arboricultural Method Statement
for demolition, construction and landscaping
Church End House, 44 Totteridge Village
London N20 8PR

Report date: 12 05 21
Report reference: AMS 7627

Client

Fausto Furlotti

Construction contractor

To be appointed

Project arboriculturist

Claire Nash BA (Hons) Dip Arb (RFS) FRSPH MArborA MIOd

The Tree Bureau

Old Warwick Studio, 2a Warwick Road

St Albans, Herts, AL1 1TW

01727 855006

Contact: Claire Nash info@thetreebureau.co.uk

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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 permitted construction of a garage with accommodation at Church End House, 44 Totteridge Village, London N20 8PR and with the replacement of trees and enhancement planting.
- 1.2 The details, which must be read in conjunction with the *Tree Protection Plan* (TPP 7627) and *Structural Landscape Plan* (drawing LAND 7627), comply with the planning conditions in Annex A of APP/N5090/D/20/3257489:
 - 1.2.1 Condition 2 — this method statement complies with the *Arboricultural Impact Assessment* (document AIA 7367 rev b) and *Tree Constraints Plan* (drawing TCP 7367 rev b)
 - 1.2.2 Conditions 4a and 4b
 - 1.2.3 Condition 5a and provision for Conditions 5b and 5c.
- 1.3 Changes to the existing tarmac drive permitted under 20/6026/LBC will form a part of the necessary tree protection measures. Please note that the specification and materials for the driveway *must* follow *this* method statement and cross-sectional drawing in Appendix B of this document because the method and materials given in 20/6026/LBC are unsuitable and inadequate near trees.
- 1.4 All paragraphs in this method statement are in good faith, but are subject to possible minor changes once the construction contractor has been appointed. Any such changes affecting tree and soil protection or landscaping would be notified to the council in good time.
- 1.5 It is most important for contractors to note that the measures specified in this *Arboricultural Method Statement* and the associated *Tree Protection Plan* become legally enforceable when approved by a local planning authority.

2 Sequence of events

- 2.1 Installation of tree and soil protection measures – new gravel drive forming a part of the ground protection measures, temporary ground protection and protective fencing.
- 2.2 Installation of personal welfare provision and site administration facilities.
- 2.3 Demolition.
- 2.4 Trial trenches.
- 2.5 Ground work, construction and fit out.
- 2.6 Removal of tree protection measures.
- 2.7 Replacement and enhancement planting.

3 Communication, supervision and contingency

- 3.1 The site manager must discuss tree and soil protection with the project arboriculturist *before* any work starts, and the position of storage areas, site office, welfare facilities, skips and contractor parking will be agreed before works starts.
- 3.2 The site manager at any stage will ensure that everyone working on the site is aware of tree, soil and other environmental protection measures.
- 3.3 A copy of this *Arboricultural Method Statement* (AMS 7627), the *Tree Protection Plan* (TPP 7627) and the *Structural Landscape Plan* (LAND 7627) will be available on the site throughout work 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 provide the project arboriculturist with a schedule of work and a sketch plan of the position of any site welfare and administration facilities and storage areas before any work on the site begins. On request from the project arboriculturist, the site manager will email photographs of the tree and soil protection measures during the demolition and build.
- 3.5 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.
- 3.6 The project arboriculturist will assess the situation and make recommendations, liaising with the local planning authority's tree officer where necessary.

Arboricultural monitoring

- 3.7 The project arboriculturist will visit the site:
 - 3.7.1 during the removal of the existing drive surface
 - 3.7.2 before any demolition, ground work or construction starts to confirm that the installed tree and soil protection measures are in place and fit for purpose
 - 3.7.3 if necessary to inspect the trial trenches
 - 3.7.4 at the end of construction and before protective measures are removed
 - 3.7.5 if there is any concern about the protective measures or if the site manager, client or tree officer request arboricultural input requiring a site visit.

4 Tree work

- 4.1 Before any other work takes place, the following tree work will be carried out by suitably qualified, competent and insured tree surgeons:
 - 4.1.1 the bay T8 will be removed and the roots ground out to at least 300mm below existing soil level, or will be pulled/winched out with as many roots as possible
 - 4.1.2 the eastern crown of the yew T2 will be pruned back by up to 1m from branch tips
 - 4.1.3 southern secondary and tertiary branches of the pine T5 will be crown lifted over the adjacent laburnum T6 to provide about 1.5m vertical and horizontal clearance, carrying out the minimal work necessary and cutting to nearest branch junction.
- 4.2 The appointed tree surgeon will work to the recommendations of the British Standard BS3998:2010 *Tree work – Recommendations*, paying particular attention to soil protection during tree operations; avoiding the transmission of pests and diseases, especially the movement of pathogens from tree to tree on pruning equipment; tree phenology; and wildlife protection.
- 4.3 Arisings such as wood chip will be reused on site where possible, or will be removed from the site and reused or disposed of in an environmentally sound manner.

5 Site-specific tree and soil protection measures

Ground protection by replacement and adaptation of a new gravel drive

The following method assumes that no vehicle over 6 tonnes will park on the drive, that the California Bearing Ratio is at least 5%, and that the site manager checks the specification with Wrekin Products before ordering and installing it. Contractors must make themselves aware that the new driveway is to be constructed by a no-dig method and without compaction. No substitution of specified products is permitted without first checking with the project arboriculturist, as apparently similar products might not provide adequate tree root protection.



- 5.1 Before the existing driveway surface is removed, the area of the exposed surface roots of the pine T3 (shown in the photograph, left) will be completely covered in sharp sand and no attempt will be made to remove the existing drive surface surrounding the roots. The sharp sand will be covered temporarily by landscape fabric or clean hessian, which will be removed later – see paragraph 5.4.

- 5.2 The edges of the drive will be marked out with a treated timber edge, held in place by treated timber pegs, ensuring that the height is adequate – see paragraphs 5.5 and 5.7 to 5.9.

- 5.3 The removal of the existing surface will be carried out using hand-held tools only anywhere within root protection areas shown by blue lines on the *Tree Protection Plan (TPP 7627)*, and the site manager will ensure that there is minimum access within root protection areas during the work. Only the surface material will be removed and there will be no digging below the tarmac (or other ground surface). Great care will be taken to ensure that no tree roots present are severed or their bark damaged.
- 5.4 The existing landscape fabric covering the surface roots of the pine T3 will then be removed but the sand will be retained. **Without further digging, soil stripping or further alteration to existing ground levels and without compacting any soil**, a layer of Root-Tex 30 geotextile fabric will be laid on the newly exposed soil throughout the driveway, with joints overlapped by at least 300mm. See also the *Drive Cross-section* in Appendix B.
- 5.5 A 100mm-deep ProtectaWeb Tree Root Protection System will be placed over the geotextile fabric, ensuring that the cells of the web are fully expanded. The web may be cut to shape where necessary, using a heavy-duty knife or a band saw.
- 5.6 Adjacent panels of the web will be stapled or tied together.
- 5.7 The ProtectaWeb cells will be filled with a 40-20mm clean, angular, no-fines aggregate, allowing an additional 25mm to 50mm depth of 'overfill' at the top of the cell to allow for settlement. (Note: MOT type 1 is *not* suitable.) There will be **no attempt to compact the aggregate**.
- 5.8 A layer of Root-Tex 10 geotextile will be placed over the filled ProtectaWeb cells and covered with a 25mm deep layer of a 40-20mm clean, angular, no-fines aggregate on top, as a temporary 'sacrificial' layer.
- 5.9 At the end of construction, the 'sacrificial' layer will be removed and replaced with a fresh 25mm deep layer of a 40-20mm clean, angular, no-fines aggregate as the wearing course.

Temporary ground protection

- 5.10 Temporary ground protection will be installed in the position in the top NNE corner of the site shown on the *Tree Protection Plan (TPP 7627)*.
- 5.11 Provided that the access is for pedestrians only, using only hand-held tools and equipment, then the temporary ground protection will consist of a:
- 5.11.1 layer of geotextile (landscape fabric) laid on the soil
 - 5.11.2 100mm-deep layer of wood chip/bark
 - 5.11.3 single layer of scaffold planks across the whole area to be protected.
- 5.12 The site manager will be responsible for ensuring that the temporary ground protection is stable and safe for use throughout work and will arrange to top up the wood chip from time to time as necessary to retain the 100mm depth.

Construction exclusion zones

- 5.13 Before any demolition, ground work or construction work take place, construction exclusion zones will be formed by protective fencing installed in the positions shown on the *Tree Protection Plan (TPP 7627)*.
- 5.14 For the protective fencing type A, shown by a solid red line 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.

- 5.15 Protective fencing type B, shown by a dashed red line on the *Tree Protection Plan* (TPP 7627), will be formed by tape on metal pins driven into the soil.
- 5.16 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.'
- 5.17 There will be no construction access or activity within the construction exclusion zone. No work will be undertaken there and no equipment, machinery, plant, materials or spoil will be stored there.
- 5.18 The site manager will be responsible for ensuring that the fencing remains fit for purpose and is secured to prevent access.

6 General tree protection measures

- 6.1 If any work 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 paragraph 6.3 and the arboriculturist's advice will be sought. 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.
- 6.2 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.
- 6.3 Individual roots and groups of roots will not be left exposed, but will immediately be wrapped in clean hessian, or similar, (ideally, as if bandaged) to protect them from desiccation, exposure to wind or sudden temperature changes. The hessian will be removed before any backfilling. Where any temporary backfill is required, it will consist of consolidated, but not compacted, good quality topsoil or sharp sand (not builder's sand, which has a salt content that is harmful to trees) so that the soil is in good contact with the roots but without compaction.
- 6.4 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 or diesel, will not be discharged within 10m of a tree trunk.
- 6.5 Fuels will not be transferred within 5m of the protective fencing.
- 6.6 Fires will not be lit on the site.
- 6.7 There will be provision for adequate and appropriate supervision of construction work to protect trees from immediate, long-term, direct or indirect harm.

7 Materials storage and welfare facilities

- 7.1 Materials and equipment storage, welfare and administration facilities, and any skips will be outside the construction exclusion zones.

8 Dust and debris, waste and spoil removal

- 8.1 Any demolition/dismantling and construction will be carried out with care to avoid creating any flying debris that could damage trees.
- 8.2 If the unlikely event that dust caused by demolition/construction is visible on the trunks, branches or leaves (if present) of the retained trees on or off site, 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.
- 8.3 Waste and spoil will be removed promptly from the site and will not be piled or stored within any root protection area.
- 8.4 If skips are used, they will be positioned outside root protection areas and their manoeuvring will be supervised by a banks person to ensure that damage is not caused to trees.

9 Services and ground levels

- 9.1 No new service trenches or inspection chambers will be opened within root protection areas.
- 9.2 The three-dimensional cellular confinement sub base and its permeable filling and permeable permanent wearing course (paragraphs 5.1 to 5.9) will raise the finished drive level by between about 150mm and 175mm above its existing level, but there will be no soil regrading within the root protection areas of retained trees.

10 Foundations

- 10.1 Two preliminary trial trenches will be opened using hand tools only in the positions shown on the *Tree Protection Plan (TPP 7627)* in lime green. The provisions of Section 6 of this method statement will be observed.
- 10.2 Depending on what is found, additional trial trenches may be needed to help the structural engineer to determine the type, depth and position of foundations in consultation with the project arboriculturist.
- 10.3 A structural engineer, or other suitably qualified person, will determine the type and position of foundations taking into account factors including the:
 - 10.3.1 findings from the trial trenches
 - 10.3.2 soil type and plasticity
 - 10.3.3 presence of the adjacent neighbouring ash T37
 - 10.3.4 potential removal of the ash T37 within the lifespan of the garage, and possibly within ten years
 - 10.3.5 presence of other trees within influencing distance and their potential removal
 - 10.3.6 intention to plant new trees near the new building
 - 10.3.7 potential for a void below the garage floor of a maximum 300mm depth
 - 10.3.8 potential for the direction of some of the rainwater from the roof to under the building and there to be dispersed through a perforated hose.

11 Removal of protective measures

- 11.1 All tree protection measures will stay in place until the site manager has discussed their removal with the project arboriculturist and obtained emailed approval for their removal.

12 Soft landscaping

Replacement and supplementary planting

- 12.1 The following trees will be planted in the positions shown on the *Structural Landscape Plan* (LAND 7627) during the first planting season after construction is completed:
- 2no. *Fagus sylvatica* (beech), minimum 12-14cm girth at 1m above ground level, container grown
 - 2no. *Laurus nobilis* (bay), minimum 1.5-1.75m tall, container grown
 - 4no. *Taxus baccata* 'Fastigiata' (Irish yew), minimum 1.2-1.4m tall, container grown
 - 1no. *Koelreuteria paniculata* (golden rain tree/pride of India), minimum 12-14cm girth at 1m above ground level, container grown
 - 1no. *Hamamelis mollis* (witch hazel), minimum 10-12cm girth at 1m above ground level, container grown
 - 1no. *Philadelphus* 'Manteau d'Hermine' (dwarf mock orange), 2-3l container
 - 2no. min. *Clematis armandii* (evergreen clematis), 3l min. container.
- 12.2 The replacement trees and shrubs will be containerised (grown in a container for at least a season after lifting). Trees will ideally be in a light pot or air pot. All the plants will have well established radial root growth in the container, without any circling or girdling roots and with a significant amount of fibrous roots.
- 12.3 The trees 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 the case of any doubt, the recommendations of BS8545 2014 *Trees: from nursery to independence in the landscape – Recommendations* will be followed.

Preparation

- 12.4 There will be no mechanical cultivation within the root protection areas of retained trees and care will be taken at all times to avoid damage to roots.
- 12.5 Where it is strictly necessary, the soil will be raked, using hand tools only, to smooth flowing contours, ensuring minimal soil level changes and ensuring that soil is not piled around the trunk bases of retained trees where it could 'suffocate' roots, or removed so that surface roots are exposed.
- 12.6 The planting method described in paragraphs 12.7 to 12.12 will be followed.

Planting

- 12.7 When the soil is not frozen an individual square planting pit will be dug by hand to a diameter greater 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 than required by paragraph 12.8.
- 12.8 The tree 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 unduly deep planting is a common cause of poor tree health and structural problems.)

- 12.9 The planting pit will be back-filled with the excavated soil 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.
- 12.10 If trees have been grown in air-pots or light pots, no staking may be necessary. Otherwise, trees apart from the irish yews will be secured in place by a single 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.
- 12.11 After planting, each tree and shrub 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').
- 12.12 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

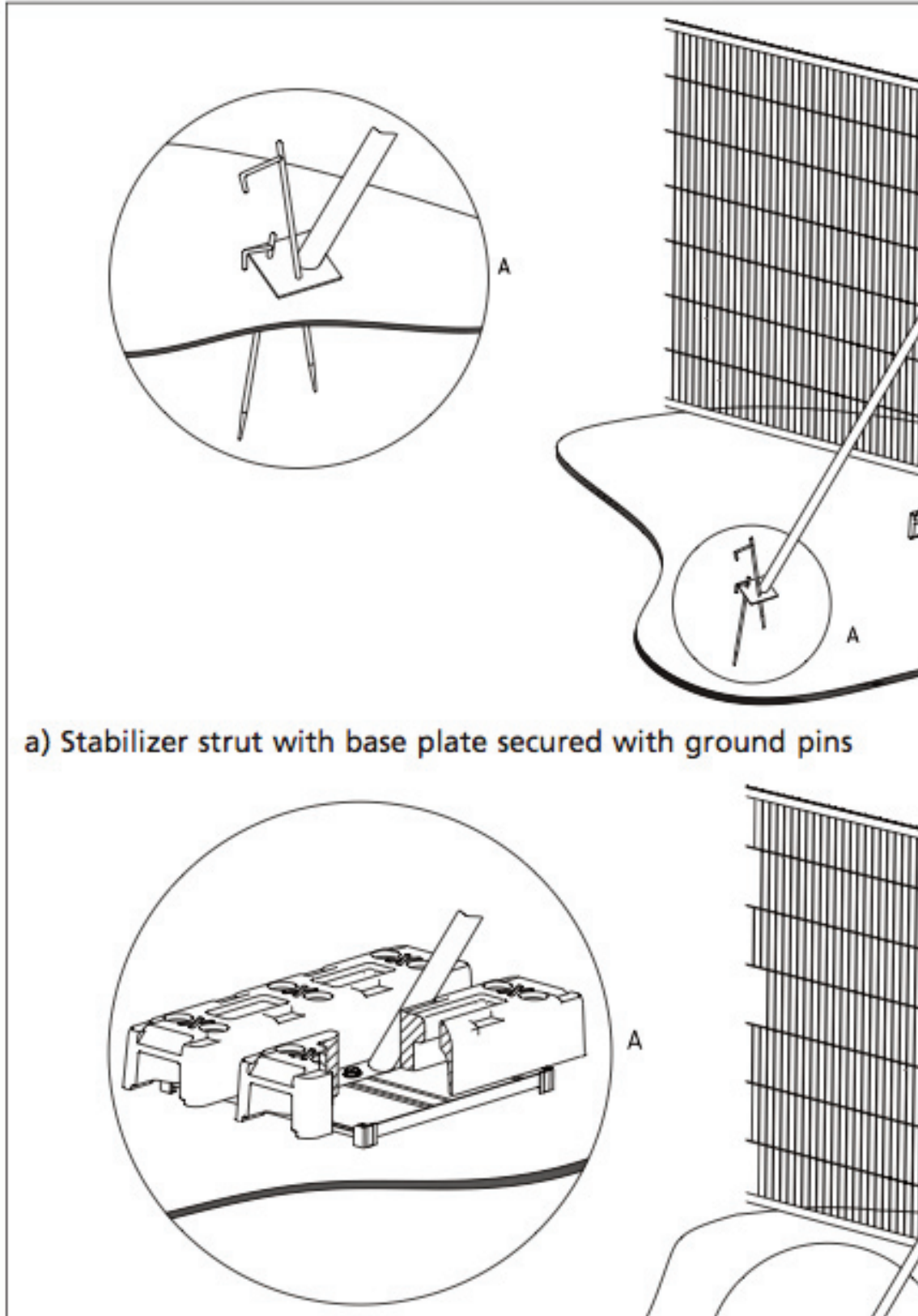
- 12.13 There will be no mechanical cultivation under the crown spread of any tree. Any necessary work will be carried out by hand only and care paid not to damage roots.
- 12.14 The new trees will be watered at least once a fortnight during March to October. This frequency will be adjusted according to rainfall and temperature. The ground is to be watered until it is thoroughly moistened (ie. to field capacity) around the plant.
- 12.15 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 mulch levels to drop a little before topping up.
- 12.16 Tree stakes and ties will be removed as soon as possible, ideally within 18 months.

Tree replacement

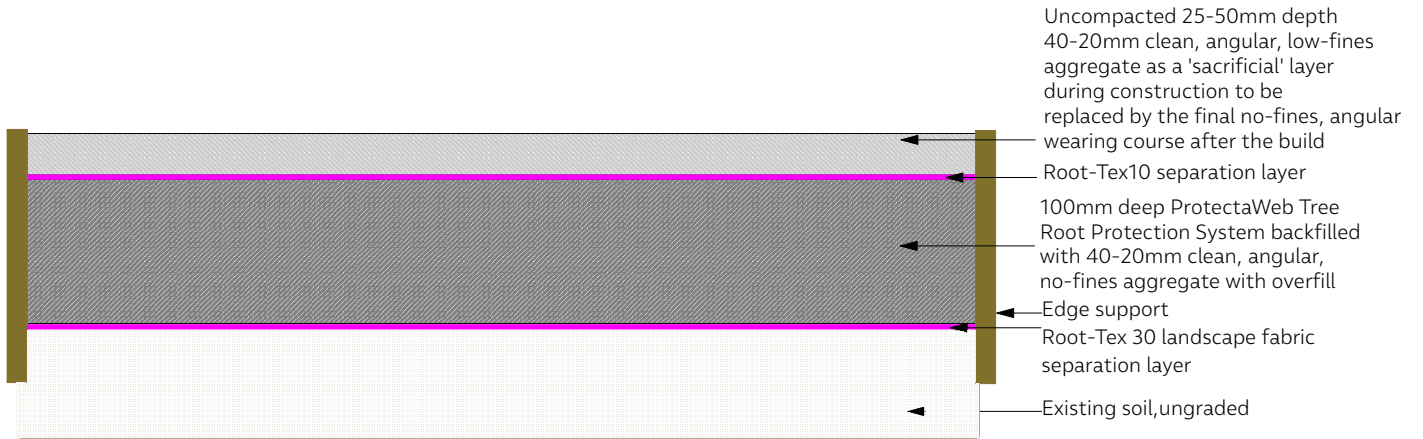
- 12.17 If any replacement tree dies within five years' planting, it will be replaced with a tree of the same species and size and subject to paragraphs 12.1 to 12.3.

APPENDIX A – PROTECTIVE FENCING

Figure 3 Examples of above-ground stabilizing systems

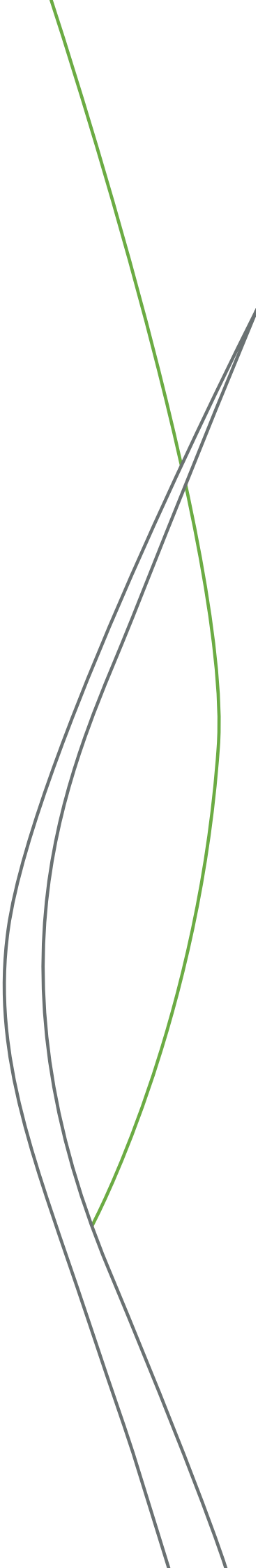


APPENDIX B – DRIVE CROSS-SECTION



APPENDIX C – 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 project manager or/and the site manager is responsible for checking the materials and method for ground protection/new drive with Wrekin Products and for informing the project arboriculturist of any proposed change from this method statement before purchase and installation.
- 4 The project arboriculturist is not responsible for any activity, or its consequence, that is carried out in breach of this method statement.



the tree bureau

Old Warwick Studio
2a Warwick Road
St Albans Herts AL1 4DL
01727 855 006