

Tree Protection Method Statement

Collis Primary School, Fairfax Road Teddington.T11 9BS

For: Extraspace

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Reference: BA5897AMS



VALIDATION STATEMENT FOR LPA REGISTRATION

This is an arboricultural method statement describing how the trees will be protected and managed during the development of the site. As outlined in Table B1 of BS5837. It is based on the best available information at this stage in the planning process and may need to be updated in the context of a specific planning condition when the full details are known.

Its purpose is to explain how and when the protection measures should be installed and how they will be maintained for the duration of the development activity.

The following explanations relate specifically to this site and they shall be read in conjunction with the attached plan.

This revolves around two primary protection methods:

Stage 1 Protection - Tree Protection Fencing & Ground Protection - **Highlighted in Red**

Stage 2 Protection - Incursion Methods - **Highlighted in Blue**

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ARBORICULTURAL METHOD STATEMENT FOR THE PROTECTION OF TREES AT Collis School, Teddington

This is an arboricultural method statement describing how the trees will be protected and managed during the development of the site as explained in Table B1 of BS5837. It is based on the best available information at this stage in the planning process and may need to be updated in the context of a specific planning condition when the full detail is known.

Its purpose is to explain how and when the protection measures should be installed and how they will be maintained for the duration of the development activity.

The following explanations relate specifically to this site and they should be read in conjunction with the attached plan. Please note that this plan is not a 'dimensioned tree protection plan' at this stage because as BS5837 advises in Table B1 that this is not required at the planning application stage.

1.0 INTRODUCTION

- 1.1 **Status.** This document takes president to all other tree protection documentation in relation to the site to date. This document provides information regarding the timing, type of protection and the manner in which protection and improvements shall be undertaken to improve the chances of tree retention.
- 1.2 **Arboricultural Restrictions.** This Method Statement has been prepared to outline tree protection measures and this document is submitted for approval as part of the Planning Approval.
- 1.3 **The Project.** It details the protection measures for the trees in relation to the development.
- 1.4 **General.** This information is to be read in conjunction with the Tree Protection Plan (TPP), Drawing no. BA5897 attached to this document as appendix C, and sets out the methodology, design changes and site improvements required to improve the chances of tree retention on site.
- 1.4.1 Compliance with this method statement will be a requirement of all relevant contracts associated with the development proposals and shall be appended on to all contractors and subcontractor documentation. Attention is drawn to the '*Construction (Design and Management) Regulations 2015*'.
- 1.4.2 Copies of this document will be available for inspection on site. In addition, copies of the Tree Protection Leaflet 'SUMMARY OF TREE PROTECTION MEASURES' included as appendix B. These shall be handed out to all site visitors and delivery personnel.
- 1.5 **Tree Protection.** The protection methods will revolve around the need to prevent significant negative changes to the existing soil close to retained trees. To achieve this '*Prevention is Better than Cure*', which is cost effective in comparison to root zone rectification or enforced stoppages.
- 1.6 Appropriate site organisation and management are essential. to protect enough rooting volume to sustain growth as

recommended in section 5.5.2 BS5837:2012 and are highlighted on the Tree Protection Plan BA5897 attached to this document as appendix C.

- 1.6.1 Protection is to be achieved by establishing:

Construction Exclusion Zones (CEZ)

Where no, Access, Storage or Changes shall be carried out and these area will be fenced off to prevent access.

Tree Precautionary Zones (TPZ)

Where controlled Access will be permitted. Typically, these areas will be accessed via existing hard surfacing or ground protection. Typically, these areas will be temporarily fenced off until access is required.

- 1.6.2 Protection is required for the commencement of any works on site. I have highlighted the appropriate sequence for protection this is detailed in Table 1 on page 7, which highlights the key phases and the monitoring required. In addition, this information also includes the Tree Protection Plan drawing number no BA5897 in appendix C.
- 1.6.3 Specific protection methods are included on page 11, which highlights the type of protection, installation techniques, improvements and management required. In addition, this information is also included on the Tree Protection Plan drawing number no BA5897 in appendix C.

2.0 DESIGN CHANGES

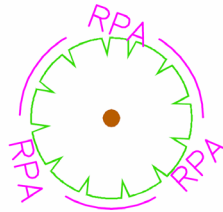
- 2.1 **Evolution of the Design.** The proposal needs to acknowledge the requirements of the trees and their protection needs. The proposal is located close to and within the trees Root Protection Area's with several of the changes being located within the Tree Precautionary Zones (TPZ).
- 2.2 **Limiting Risks to Trees.** To help reduce the potential impact of site changes BS5837:2012 recommends in Section 3.7 that a Root Protection Area (RPA) is included as a layout design tool. This indicates the minimum area around a tree deemed to contain sufficient roots and rooting volume to maintain the tree's viability, and where the protection of the roots and soil structure is treated as a priority. These distances are included as magenta circles on the Tree Protection Plan BA5897 attached to this document as appendix C.
- 2.3 **Design changes:** These are partly a result of works to reduce the overall threat to retained trees, namely changes to the proposed construction techniques, materials, soil removal techniques along with ground protection during works.
- 2.3.1 Principal Changes are:
- The creation of Construction Exclusion Zones, through the formation of the Tree Protective Fencing as detailed on the Tree Protection Plan.
 - Installation of Ground Protection prior to the commencement of works as detailed on the Tree Protection Plan.
 - The adoption of safe working methods for the demolition of the walls and existing hard surfacing. Principally this will rely upon the removal of hard surfacing being undertaken from existing hard surfacing, starting at the furthest point and working back to the existing drive.
 - Hard surface shall be removed by hand or tracked excavator working on the existing hard surfacing. The area within reach if the machinery shall be cleared or debris, before the exposed soil on the underside of the hard surfacing is exposed.
- A thin layer of soil max depth 100mm is to be over laid onto the exposed soil to protect surface roots of the existing trees and enable landscaping.
 - Please Note - Where trees are on neighbouring land you have no right to undertake the recommended works without the consent of the tree's owner, other than trimming the canopy to the boundary as detailed in common law, providing that the tree has no other form of legislative protection. The effect of none compliance requires legal interpretation, which is beyond the scope of this report.
- 2.3.2 The key changes to limit ongoing damage to trees: -
- I. Form Construction Exclusion Zones, to be free from change.
 - II. Form Tree Precautionary Zones using ground protection and fencing.
 - III. Substitute traditional construction for Low Impact Methods.
 - IV. Undertake periodic assessment and circulate findings
- 2.3.3 As the scheme evolves, this may result in further variations to the design and further variations to this Method Statement and additional updates may be required.

3.0 SEQUENCING

- 3.11 **General.** This Method Statement indicates protection for the principal elements of the development which should be appropriate to typically address the following areas of work: -
- Installation of temporary ground protection/tree protection to undertake works to the existing stable.
 - Partial demolition of the walls and hard surfacing.
 - Initial Excavation and creation of ground protection.
 - Installation of the piles.
 - Partial demolition and connection of the stable.
 - Preparatory works for new landscaping.
- 3.12 Where, elements are not included explicitly you must contact the Project Arborist to enable the formation of suitable protection, incorporating relevant information from other specialists as required.
- 3.2 **Phasing of Development:** The phasing will typically be governed by operational constraints and may be subject to change. The Project Arborist must be informed of any changes that may result in either design or sequence changes.
- 3.2.1 Each Phase of the development is expected to follow broadly the sequence given in Table 1 'Development Sequencing', and will be subject to site meetings at commencement, followed by signing off, of the protective measures and tree friendly construction methods in addition to ongoing appraisal.
- 3.2.2 Following site meetings information regarding the tree protection measures will be circulated to interested parties to ensure the continuity of tree protection is maintained.

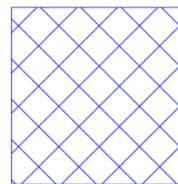
Table 1 - Development Sequencing & Site Supervision Schedule.	
Construction Phase	Supervision Required
PHASE 1 PRE-DEVELOPMENT STAGE Pre-commencement site meeting between LPA, client, site manager and Project Arborist, to confirm the final design and location of protective measures, to include: -	<ul style="list-style-type: none"> Approved Tree pruning to improve safety. Tree protection measures to be installed. Location of site compound, WC, materials storage and waste. <u>Phase I to be signed off.</u>
PHASE 2 DEVELOPMENT STAGE Subject to regular monitoring by Project Arborist & meetings at the beginning of high risk operations such as: -	<ul style="list-style-type: none"> Site Clearance. Ground works within or close to CEZ Development within the CEZ. Completion of development. <u>Phase II to be signed off.</u>
PHASE 3 FINAL DEVELOPMENT STAGE Subject to visits by project arboriculturist at the beginning of high risk operations such as: -	<ul style="list-style-type: none"> Final level grading. Landscape operatives briefed by Project Arborist. <u>Phase III to be signed off.</u>
PHASE 4 POST DEVELOPMENT STAGE Periodic visits by project Arborist to the end of the condition period to manage tree population transition into the landscape.	<ul style="list-style-type: none"> Periodic Tree health & Risk assessment. Remedial tree work and plant health care advice. <u>Phase IV information to be circulated.</u>

Retained Trees. Trees that needs to be protected throughout the approved scheme are highlighted with a green canopy, complete with a magenta circle to represent their minimum Root Protection Area (RPA) as shown opposite and on the Tree Protection Plan BA6672TPP no trees are proposed for removal.

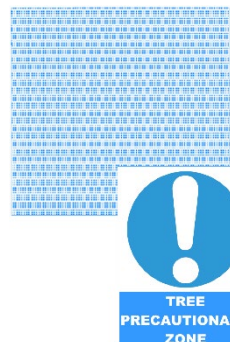


3.3 **Reducing Risks to Retained Trees.** Trees can be damaged during the construction process. These foreseeable risks to the retained trees can be readily defended through the creation of a Construction Exclusion Zone (CEZ) and controlling activity within the area close to the Root Protection Areas of retained trees by establishing a Tree Precautionary Zone (TPZ) as detailed below.

3.3.1 The location of Construction Exclusion Zone's is indicated by the pink net hatching, within the line of Tree Protective Fencing and signage as shown below and located on the Tree Protection Plan BA5897.



3.3.2 Tree Precautionary Zone's (TPZ) indicate areas that require work within the Root Protection Area and these are indicated by the blue dot hatching and signage as shown opposite indicates the location of the Tree Precautionary Zones on the Tree Protection Plan BA9140. Examples of ground protection and low impact construction methods and materials are included both on the plan and within this report.












4.0 ARBORICULTURAL WORKS

- 4.1 **Tree Works:** Based upon the current supplied drawings, no tree works are required other than those proposed for general tree management, these are detailed in the tree survey BA5897 these works need to be undertaken prior to the start of the fencing operation.
- 4.2 **Tree Pruning to enable construction.** There may be the requirement to crown lift T10 and T14 to allow the access to plant and machinery this works will need to be completed in line with BS3998.
- 4.3 **Tree removals to facilitate construction.** The development requires the removal of 47 trees as marked on BA8597AMS with a red crown and a red 'X' through the centre.
- 4.4 **Arboricultural Works:** All arboricultural operations shall be subject to the following conditions:
- No vehicles shall be allowed to enter areas to be protected by fencing.
 - Works undertaken on site will need to adopt ground protection as detailed within this Method Statement.
 - All works shall be carried out in accordance with the BS3998:2010 Recommendations for Tree Work and /or the *European Tree Pruning Guide* - European Arboricultural Council (English Version).
 - Contractors shall undertake work in strict accordance with current arboricultural best practice.
- Contractors shall ensure that any pruning works accord with current target pruning methodology.
 - Contractors shall abide by all relevant legislation for health and safety, including highway requirements, including the New Road & Street Works Act 1991 for works in proximity of highways, and The Working at Heights Regulation 2004.
 - Works shall be planned to avoid times when birds are nesting and be aware that a bat survey may be needed on significant tree hollows.
 - The works shall be timed to avoid times when the soils are excessively wet to limit the risk of compaction within the Tree Precautionary Zone.

5.0 TREE PRECAUTIONARY ZONE

- 5.1 **Sequencing:** Before the commencement of any works on site (other than those set out in the schedule of tree works contained in this document), protective fencing shall be erected in the positions shown on the Tree Protection Plan BA5897 attached to this document as appendix C.
- 5.1.1 Once the fencing is in place it shall be inspected and signed off by the project arboriculturist and the local planning authority shall be notified in writing.
- 5.1.2 The locations of Construction Exclusion Zones are indicated on the Tree Protection Plan BA5897 attached to this document as appendix C.
- 5.1.3 Access, within the Construction Exclusion Zone represented by the red line to show the position of Tree Protection Fencing and signage both are shown opposite. The position of these areas is detailed on the Tree Protection Plan BA5897 attached to this document as appendix C. Examples of protective fencing types are included on the plan and shown below.
- 5.1.4 The blue dot hatching indicates the location of the Tree Precautionary Zone. These areas are shown on the Tree Protection Plan BA5897 attached to this document as appendix C. Examples of ground protection and low impact construction methods and materials are included on the plan. Principally, protection of retained trees will limit excavation and minimise soil level changes.
- 5.2 **Restrictions.** The design and access requirements for the site show that the Construction Exclusion Zones needs to be set back in several places. I have highlighted these areas as Tree Precautionary Zones (TPZ) shown on the Tree Protection Plan BA5897 attached to this document as appendix C.
- 5.2.1 Specific fencing and ground protection methods are detailed in Tables below, which are required to ensure a reasonable chance of tree survival.
- 5.2.2 This information can become outdated as the scheme progresses or designs change and typically will need to be refined to include input from other professionals such as building control, structural engineer, highway engineer and the site manager.
- 5.2.3 Tree protection will need to be installed following the initial tree works and before the onset of any demolition or ground works. The CEZ & TPZ should remain in position for the whole of the construction and demolition phase.
- 5.2.4 To avoid disturbance to the physical protection, it is essential to make allowance for, and plan, all construction operations, which will be undertaken near trees and may need to be adjusted to meet the specific phases of the development process, with protection methods differing at Demolition, Construction & Practical Completion.

Tree Precautionary Zone (TPZ) Management within the Root Protection Area (RPA).

Protection Methods		Required	Phasing & Schedule
BARRIER – TSP TREE STEM PROTECTION VERY HIGH RISK AREAS			<p>TSP – TREE STEM PROTECTION. To be protected from impact damage by Boarding or Plywood Boxes constructed clear of the stem. Boxes are to contain compressible material to absorb shock loading. To be located where vehicles may come into direct contact with existing trees.</p> <ul style="list-style-type: none"> ▪ <u>To be installed before plant or vehicles enter the working area in area.</u> ▪ <u>To installed where a High likelihood of contact the main stem is likely.</u>
BARRIER – TPF1 TREE PROTECTION FENCING HIGH RISK AREAS			<p>TPF1 - TREE PROTECTION FENCING. This is to be provided by Braced Heras Fencing or solid panels. Post-holes shall be excavated by powered hand auger or low ground-pressure plant working of ground protection or outside the Precautionary Zone.</p> <ul style="list-style-type: none"> ▪ <u>Tree Protection Fencing (TPF1) installed to protect trees prior to excavation or soil movement.</u> ▪ <u>Installed in High Risk Areas during Demolition and Build Phase.</u>
BARRIER – TPF2 TREE PROTECTION FENCING MODERATE RISK AREAS			<p>TPF2 - TREE PROTECTION FENCING. This is to be erected as a temporary barrier to protect areas designated for later construction or landscaping the Precautionary Zone. This shall consist of Heras type panels mounted onto rubber/concrete 'boots' as shown opposite.</p> <ul style="list-style-type: none"> ▪ <u>Tree Protection Fencing (TPF2) To be installed before plant or vehicles enter the working area.</u> ▪ <u>Installed in Moderate Risk Areas.</u>
BARRIER – TPF3 TREE PROTECTION FENCING LOW RISK AREAS			<p>TPF3 TREE PROTECTION FENCING. This is to be erected as a visual barrier to protect areas designated for no or later construction. Consisting either stock fencing, post and rail fencing, Chestnut Pale fencing or Orange Extruded Plastic Netting.</p> <ul style="list-style-type: none"> ▪ <u>Tree Protection Fencing (TPF3) installed to protect trees prior to excavation or soil movement.</u> ▪ <u>Installed in Low Risk Areas.</u>
SITE MONITORING - PROJECT ARBORICULTURIST			<ul style="list-style-type: none"> ▪ <u>Assessment to be undertaken as outlined in Table 2 Site Supervision Schedule.</u> ▪ <u>Findings circulated to all interested parties throughout the active project.</u>

6.0 PROHIBITIONS WITHIN & NEAR TREE PROTECTION ZONES

6.1 **General:** Other than works detailed within this method statement or approved in writing by the local Planning Authority, no works, including storage or dumping of materials shall take place within the exclusion zones defined by the protective fencing.

6.2 Inside the exclusion area of the fencing, the following prohibitions shall apply: -

- No linear mechanical excavation whatsoever.
- No excavation by any other means without arboricultural site monitoring.
- No hand digging without a written Method Statement having first been approved in writing by the Project Arborist.

6.3 In addition to the above, further precautions are necessary adjacent to trees: -

- A 10m separation distance shall be observed between any tree and substances injurious to tree health, including fuel, oil, bitumen, cement (including cement washings), builders' sand, concrete mixing and other chemicals.
- No fire shall be lit such that flames come within 5m of tree foliage; this shall be taken to mean a fire separation distance of 20m from any tree's canopy.

6.4 No works shall commence until appropriate protection has been installed and signed off by the Project Arborist:

Tree Protection Fencing shall be before the development activities including	
<ul style="list-style-type: none"> ▪ Site Clearance ▪ Groundworks ▪ Plant Delivery ▪ Materials Delivery ▪ Demolition 	<ul style="list-style-type: none"> ▪ Soil Stripping ▪ Construction Works ▪ Utility installation ▪ Hard surfacing ▪ Landscaping

7.0 TREE PROTECTION METHODS

- 7.1 **General:** Retention of trees on this site is subject to statutory protection by Planning Condition/s and in some cases Tree Preservation Orders. Damaging them is a criminal offence and is contrary to planning conditions, that if breached could lead to all work on the site being stopped by the local planning authority.
- 7.1.1 Hereafter, the above listed operations are collectively referred to as 'development'. Once installed, permanent Tree Protection Fencing shall not be taken down or relocated at any time without the written approval of the Project Arborist. Prior to the start of the fencing operation, the Site Agent & Project Arborist shall walk fence-lines to identify locations where access facilitation pruning is required. The project arboriculturist shall prepare a specification for this work and shall oversee its satisfactory completion.
- 7.2 **Protection of Trees.** The approved scheme has the potential to harm trees and requires defending through the tree protection. In general, tree protection requires a combination of Tree Protective Fencing and / or Ground Protection, examples of which are included in tables above.
- 7.3 Changes to the soil or construction within the Root Protection Area can be undertaken only when changes to the design, materials and techniques that can help sustain normal tree growth. Retained trees need to be considered as part of any site changes and protected from the potentially negative effects of alterations or construction.
- 7.4 **Inspection:** Tree protection shall be subject to regular inspection by the project arboriculturist and the results of the findings will be circulated to all interested parties.
- 7.5 **Maintenance:** All Tree protection shall be maintained in good, robust and effective condition until all development has been completed. It shall then only be removed ie all plant, materials and site compounds have been removed.
- 7.6 **Signage:** To inform site personnel of the purpose of the fencing, information notices shall be fixed to the fencing at approximately 10m intervals on all TPF. A specimen is provided for copying in appendix A of this Method Statement.
- 7.7 **Information:** To provide site personnel with additional information regarding tree protection, a leaflet shall be issued to all staff at the time of their site induction. Spare copies of this leaflet shall be available in the site office as replacements. A specimen leaflet is attached at appendix B of this Method Statement for copying.
- 7.8 **Avoiding damage to stems and branches.** Care shall be taken when planning site operations in proximity to trees to ensure that wide or tall loads or plant with booms, jibs and counterweights can operate without coming into contact with retained trees. Such contact can result in serious injury to them and might make their safe retention impossible.
- 7.8.1 Consequently, any transit or traverse of plant in proximity to trees shall be conducted under the supervision of a banks man; to ensure that adequate clearance from trees is at all times maintained. In some circumstances, it may be impossible to achieve this, necessitating tree pruning. This is known as 'access facilitation pruning'. This shall be kept to the *barest minimum* necessary to facilitate the development and shall be carried out strictly in accordance with the standards laid out in section 2.
- 7.8.2 Pruning operations *shall only be undertaken by suitably qualified and experienced professional arborists*, working according to a specification prepared by the Project Arborist, and the appropriate national standards of the Arboricultural Industry. *Under no circumstances shall construction personnel undertake any tree pruning operations.*

8.0 SOFT LANDSCAPING WITHIN THE TREE PRECAUTIONARY ZONE (TPZ)

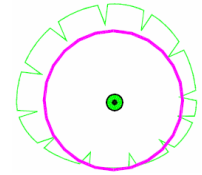
- 8.1 **General:** The preparation of any landscaping works within in the TPZ shall be carried out under the supervision of the Project Arborist, with final details being agreed during the site meeting prior to commencement of the third phase of the development.
- 8.1.1 Where landscaping is proposed within the CEZ, work shall be undertaken by hand or specialised methods of cultivation that avoid the severance of roots i.e. The use of Compressed Air – Air Spades.
- 8.1.2 Works shall be limited to minor works to amend the difference within the final landscape levels.
- 8.1.3 More significant changes shall remain distinct and not be graduated across the root zone of the retained trees.
- 8.1.4 Care shall be taken to avoid excessive build-up of mulch as these can affect the physical characteristics of the soil. Organic mulches should be a maximum depth of 50mm. Mulches that are liable to cap, consolidate, or degrade into an impermeable layer should not be used.
- 8.1.5 Planting within the CEZ, shall adopt the use of small containerised stock such as P9's which can be planted using a hand trowel and require planting holes of only 100mm x 100mm x 100mm or the adoption of bare root material which can be slit planted in hollows orientated to run away from the tree. Adoption of this material and methods will significantly reduce the need for excavating large planting holes.

9.0 INCURSIONS WITHIN TREE PRECAUTIONARY ZONE

- 9.1 **Protection Methods.** Within this section are a series of specific guidelines which outline protection methodologies to be adopted throughout the development phase as detailed on the Tree Protection Plan BA5897 attached to this document as appendix C, or as directed by the project Arborist.
- 9.1.1 The reference code for each methodology within the report is related to the individual Incursions (CEZ & TPZ incursions) detailed on the Tree Protection Plan BA9140 attached to this document as appendix C.
- 9.2 **Ambiguities.** Any points that are unclear from the plan or require variation due to changes in site layout, sequencing or design should be confirmed with the project arborist prior to commencement.
- 9.3 **Protection.** The principal protection to occur within the Construction Exclusion Zone (CEZ), which shows the minimum Root Protection Area as shown on the Tree Protection Plan BA5897 is attached to this document as appendix C.

9.4 Details of the Minimum Root Protection Area are also on the Tree Protection Plan BA5897AMS as a magenta line around each of the trees, as shown opposite.

- 9.5 Protection includes a Construction Exclusion Zone (CEZ) to protect sufficient rooting volume to sustain growth as recommended in section 5.5.2 BS5837:2012, highlighted with red tree fencing or Blue Hatching on the Tree Protection Plan BA5897 attached to this document as appendix C, as shown opposite.



All Tree Protection Fencing to be installed & Signed off prior to any of the following taking place:

- Plant and materials delivery
- Demolition
- Soil stripping
- Construction works
- Utility installation
- Landscaping

PROTECTION METHOD - TREE PROTECTION FENCING - TPF 1

Protection Method - Temporary Tree Protective Fencing.

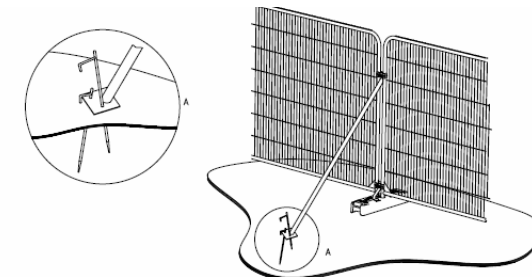
Potential Risk - High to Moderate Risk - The Essential rooting area of the trees may be irreparably damaged through compaction, excavation, soil level changes or contamination.

Proposed Control - Establish a barrier preventing access to the root Protection area for the duration of the project until access is required.

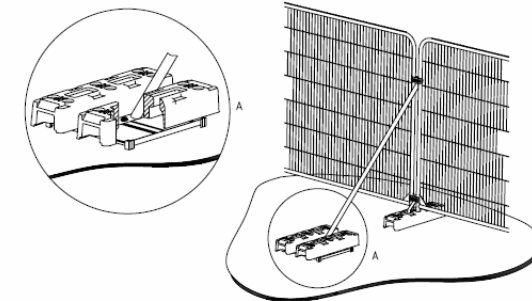
Method:

- Prior to the start of the fencing operation, the site agent & Project Arboriculturist shall walk fence-lines to identify locations where access facilitation pruning is required.
- Unmade ground is to be protected with anti-compaction boarding during construction.
- TPF1 is to be erected as a temporary barrier to protect areas designated for later construction within TPZ, which shall consist of Heras type panels mounted onto rubber/concrete 'boots' as shown in diagram 1.
- In high intensity areas security tokens may be used to prevent removal.

Diagram 1



a) Stabilizer strut with base plate secured with ground pins



b) Stabilizer strut mounted on block tray

Photograph 1



PROTECTION METHOD - TREE PROTECTION FENCING – TPF 3

Protection Method - Permanent Tree Protective Fencing.

Potential Risk – Moderate to Low Risk - The Essential rooting area of the trees may be irreparably damaged through compaction, excavation, soil level changes or contamination.

Proposed Control - Establish a barrier preventing access to the root Protection area until permanent protection is established or until practical completion.

Method:

- Prior to the start of the fencing operation, the site agent & Project Arboriculturist, shall walk fence-lines to identify locations where access facilitation pruning is required.
- Unmade ground is to be protected with anti-compaction boarding during construction.
- TPF3 is to be erected as a barrier to protect areas designated for later construction within TPZ, which shall consist of Chestnut Pale fencing or similar mounted onto a timber frame shown in photograph 1.
- Alternatively, TPF3 is to be erected as a temporary barrier to protect areas designated for later construction within RPA, which shall consist of Orange Extruded Plastic Netting, supported on ground pins as shown in photograph 2.
- TPF3 is to be erected as a temporary barrier to protect areas designated for later construction; any such construction shall proceed strictly in accordance with this Method Statement.

Photograph 1



Photograph 2



GROUND PROTECTION - SMALL PLANT GROUND PROTECTION – GP2

Protection Method – Pedestrian foot traffic & Small Plant Ground Protection within TPZ.

Potential Risk – High Risk - The essential rooting area of the trees may be irreparably damaged through compaction, excavation, soil level changes or contamination.

Proposed Control - Establish a temporary surface above the existing soil level to reduce compaction of the soil.

Method:

- Type 1 TPF to be installed in accordance with the Tree Protection Plan.
- To enable Foot Traffic and Scaffolding within the TPZ a system of supportive boarding will be required as detailed in the section Ground Protection on Tree Protection Plan.
- For pedestrian movements within the TPZ the installation of ground protection in the form of a single thickness of scaffold boards on top of a compressible layer laid onto a geotextile, or supported by scaffold, may be acceptable as shown in Photograph 1. Alternatively, a modular sheeting system such as DuraDeck or Ground Guard panels or similar as shown opposite in photograph 2 can be used.
- The position of the barrier may be shown within the TPZ at the edge of the agreed working zone, but the soil structure beyond the barrier at the edge of the TPZ should be protected with ground protection.
- Each section of Ground Protection shall be constructed from a point supported by the previously installed section and at no time will free access to the TPZ be allowed.
- Hollows within the ground shall be filled with grit sand to create a level surface and avoid the weight being transferred through a small area.
- **It is essential that all construction is non-invasive within TPZ.**

Photograph 1



Photograph 2



GROUND PROTECTION – PEDESTRIAN GROUND PROTECTION – GP3

Protection Method – Pedestrian Foot Traffic Protection within TPZ.

Potential Risk – High Risk - The essential rooting area of the trees may be irreparably damaged through compaction, excavation, soil level changes or contamination.

Proposed Control - Establish a temporary surface above the existing soil level to reduce compaction of the soil.

Method:

- Type 1 TPF to be installed in accordance with the Tree Protection Plan.
- To enable Foot Traffic and Scaffolding within the TPZ a system of supportive boarding will be required as detailed in the section Ground Protection on Tree Protection Plan.
- For pedestrian movements within the TPZ the installation of ground protection in the form of a single thickness of scaffold boards or Plywood above a compressible layer laid onto a geotextile, or supported by scaffold, may be acceptable as shown in Photograph 1. Alternatively, a modular sheeting system such as DuraDeck or Ground Guard panels or similar can be used.
- The position of the barrier may be shown within the TPZ at the edge of the agreed working zone, but the soil structure beyond the barrier at the edge of the TPZ should be protected with ground protection.
- Each section of Ground Protection shall be constructed from a point supported by the previously installed section and at no time will free access to the TPZ be allowed.
- Hollows within the ground shall be filled with grit sand to create a level surface and avoid the weight being transferred through a small area.
- **It is essential that all construction is non-invasive within TPZ.**

Photograph 1



TPZ INCURSION - HARD SURFACE REMOVAL & DEMOLITION.

TPZ Incursion ref.	HSR
Nature of incursion:	Hard Surface Removal and demolition within both the TPZ and the TPZ.
Potential Risk:	High Risk Trees maybe irreparably damaged through excavation and ground level changes within the TPZ.
Proposed Control:	Adopt the use of low impact excavation.

Method

- Services will need to be installed in line with the guidance contained within the National Joint Utilities Guidelines (NJUG volume 4, issue 2, 19/11/2007) for the installation of services close to trees. Types 1 TPF to be installed in accordance with the Tree Protection Plan.
- TPF to remain in situ throughout.
- Unmade ground to be protected with built-up Ground Protection GP1 anti-compaction boarding during the construction process.
- Tree protection measures will remain in place until work commences and when removed all personnel to be working within the area are to be made aware of the extent and nature of the area.
- The initial 'breaking up' of any surface should be carried out preferably by hand. If this is not possible, low impact pneumatic tools may carry out the removal of the surface.
- Removal of the surface will occur in 2m strips working from undisturbed surface. This will enable any roots exposed to be covered with a good quality topsoil to avoid desiccation and the ground to be 'made good' as the operation progresses, avoiding the need for excessive travel on exposed ground.
- Where practicable subsequent removal of debris will be carried out by hand. Should mechanical means be required due to the size of the debris, then a small (1.5 ton) digger may be used providing that, when picking up debris, no tines/teeth from the bucket does not cause any damage to the underlying soil surface. Once left with manageable size pieces, hand removal will be used. Where the digger is employed, it will only travel on the undisturbed hard surface (within the TPZ), clearing debris as it progresses out of the TPZ.
- No reduction in levels of the underlying soil surface will occur.
- The underlying soil may be levelled by the addition of up to 100mm of good quality topsoil to BS3882:2012. Hand tools only will be used for any levelling works; this work will not disturb the underlying soil.
- Should any roots over 25mm diameter, have grown above the final soil level and be a hindrance to the final surface installation, their removal will only be carried out under arboricultural supervision and with the approval of the LPA.
- If the area around the retained trees is to be left following the removal of the existing hard surface, before a new hard surface is laid, then the line of protective fencing MUST be correctly re-established immediately after the hard surface removal work has been completed.
- If the area around the retained trees is to be landscaped following the removal of the existing hard surface, then the line of protective fencing MUST be correctly re-established immediately the hard surface removal work has been completed. This area should then be de-compacted as detailed in the section Ref. SDC, this will enable appropriate conditions for root growth.
- If, for whatever reason there is a delay before the area is left exposed prior to awaiting a new surface, then a temporary surface must be implemented or the area fenced off.

10.0 SUPERVISION AND MONITORING

- 10.1 **General.** The Project arboriculturist shall be responsible for monitoring of all arboricultural works and issuing a certificate of practical completion. The client / project manager MUST advise the project arboriculturist to enable visits and signing off works to be undertaken.
- 10.2 In addition, the Project Arborist shall inspect the protective fencing and monitor any works within the TPZ, the client/ project manager MUST liaise with the arboriculturist to ensure monitoring can and is done at the appropriate times.
- 10.3 A record of site visits shall be maintained for inspection on site and copies forwarded to the developer / agent and to the Local Planning Authority.
- 10.4 Monitoring visits shall be undertaken by the project arboriculturist at the beginning of each phase of the development to agree the details of the
- o The arboricultural operations.
 - o Setting out of the site and location of the fencing inspected by LPA.
 - o During the construction phase.
 - o Installation of ground protection.
 - o During the completion stage removal of the fencing.

tree protection plan and make appropriate variation in line with arboricultural best practice as the programme of the build develops or as variations within the development may occur.

- 10.5 In addition to random visits the key stages that require inspection following notification of commencement by the site agent are: -

Reporting damage to trees and tree protection fencing. Shall any damage occur to trees this shall be reported to the site agent immediately. The site agent shall report up the chain of responsibility to the **Project Arborist**, to allow any remedial measures to be implemented as necessary.

If fences become damaged to impair their function in protecting trees, all work shall cease in the vicinity of the damage until the fence has been returned to standard.

11.0 QUERIES

11.1 Any queries regarding this Method Statement shall be addressed, in the first instance, to Barnes & Associates

Project Arborist - Ian Barnes
Telephone: 01423 322371
Mobile: 07831 530563
Email: info@barnesassociates.co.uk

Site Agent -
Telephone:
Mobile:
Email:

Site Manager -
Telephone:
Mobile:
Email:

Project Manager -
Telephone:
Mobile:
Email:

Local Authority Arboriculturist –
Telephone:
Mobile:
Email:

Arboricultural Contractor –
Telephone:
Mobile:
Email:

Fencing Contractor –
Telephone:
Mobile:
Email:

Landscape Contractor –
Telephone:
Mobile:
Email:

APPENDICES

APPENDIX A - TREE PROTECTION SIGNAGE

ENTRANCE SIGNAGE FOR THE CONSTRUCTION SITE:



**CONSTRUCTION
EXCLUSION
ZONE**

TREE PROTECTION AREA KEEP OUT!

ALL TREES ENCLOSED BY THIS BARRIER ARE PROTECTED
BY PLANNING CONDITIONS (TOWN & COUNTRY PLANNING ACT 1990)
AND ARE THE SUBJECTS OF A TREE PRESERVATION ORDER,
CONTRAVENTION OF A TREE PRESERVATION ORDER MAY
LEAD TO CRIMINAL PROSECUTION

THE FOLLOWING MUST BE OBSERVED BY ALL PERSONNEL

- THE PROTECTIVE FENCING MUST NOT BE MOVED
- NO PERSON SHALL ENTER THE PROTECTED AREA
- NO MACHINE OR PLANT SHALL ENTER THE PROTECTED AREA
- NO MATERIALS SHALL BE STORED IN THE PROTECTED AREA
- NO SPOIL SHALL BE BEPOSITED IN THE PROTECTED AREA
- NO EXCAVATION SHALL OCCUR IN THE PROTECTED AREA

ANY INCURSION INTO THE PROTECTED AREA MUST BE WITH THE
WRITTEN PERMISSION OF
THE LOCAL PLANNING AUTHORITY

PROTECTIVE FENCING SIGNAGE FOR THE TREE PRECAUTIONARY ZONE:



**TREE
PRECAUTIONARY
ZONE**

TREE PROTECTION AREA

TREES ENCLOSED BY THIS FENCE ARE PROTECTED BY PLANNING CONDITIONS AND ARE SUBJECTS OF A TREE PRESERVATION ORDER
(TOWN & COUNTRY PLANNING ACT 1990)

CONTRAVENTION OF TREE PRESERVATION ORDERS MAY LEAD TO CRIMINAL PROSECUTION

THE FOLLOWING **MUST** BE OBSERVED BY ALL PERSONS:-

- THE PROTECTIVE FENCING MUST NOT BE REMOVED
- NO PERSON SHALL ENTER THE PROTECTED AREA
- NO MACHINE OR PLANT SHALL ENTER THE PROTECTED AREA
- NO MATERIALS SHALL BE STORED IN THE PROTECTED AREA
- NO SPOIL SHALL BE DEPOSITED IN THE PROTECTED AREA
- NO EXCAVATION SHALL OCCUR IN THE PROTECTED AREA

ANY INCURSION INTO THE PROTECTED AREA MUST BE WITH THE WRITTEN PERMISSION OF THE LOCAL PLANNING AUTHORITY

KEEP OUT!

APPENDIX B – SUMMARY OF TREE PROTECTION MEASURES

This guide shall be issued to all site personnel as part of their induction briefing. It summarises the precautions that site personnel shall follow, to ensure that the existing trees on the site survive the development process.

Do's ✓

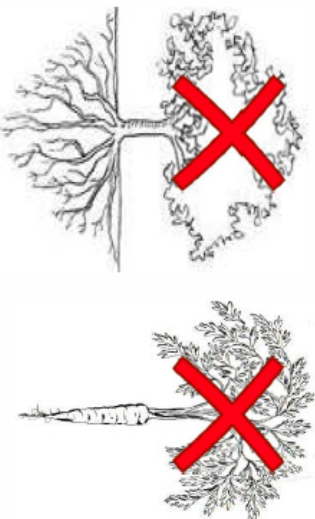
TREE PROTECTION

Don'ts ✗

Trees add value to the site, provide shade, improve habitat, improve Air quality and are typically protected as part of any planning approval, so their protection is in everyone's interest to avoid costly stoppages and damage.

Tree Roots - Spread out a lot further than the branches over a large area and are usually found close to the surface of the soil, making them susceptible to damage.

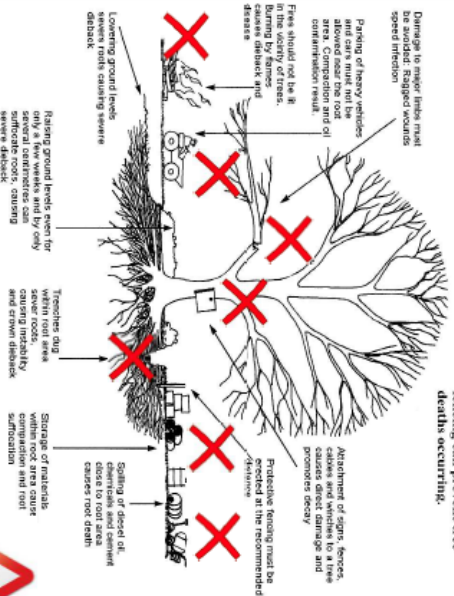
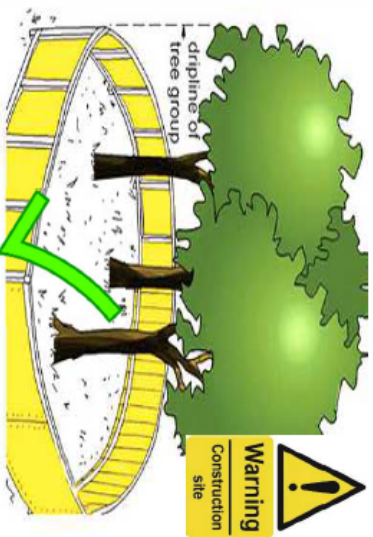
Trees Roots – Many People believe tree roots extend as deep as the tree is high or simply plug into the ground like carrot, which is untrue.



To Help Trees Survive any proposed changes a minimum amount to undisturbed rooting area needs to be protected or provided to help the tree feed itself and survive this can easily be done by creating a Construction Exclusion Zone. These are normally detailed on a Tree Protection Plan or detailed within an Arboricultural Method Statement. Please look at these before you start work to understand what Fencing & Ground Protection are to be used where.

We must all avoid any unauthorised damage to trees.

The use of properly positioned protective fencing can prevent tree deaths occurring.



Results of Breaching the CEZ

- Soil Compaction** – Starves roots of Oxygen and Nutrients and increases water run off the site. ✗
- Excavation** – Cuts or damages the roots, which can affect a trees health or stability. ✗
- Turf or Soil Removal** – Even shallow excavations can remove or damage fine feeder roots. ✗
- Canopy or Branch Damage** – Limits food production and encourages pest or disease. ✗
- Chemical spill including cement** – Kills roots, Starving the tree Oxygen, Water and Nutrients. ✗
- Fires** – Scorch & Burn Leaves, Stems & Branches. ✗

Tree Protection is not a puzzle, everything you need is on the Tree Protection Plan or can be found in the Arboricultural Method Statement

Before Work Starts Erect & Maintain the correct fencing and ground protection.

Tree Protection is usually a Planning condition and breaches can result in a Stop notice, Prosecution or fines.

Tree Damage Can Be Avoided, If in Doubt - Ask for Help

Help Avoid Costly Shut Downs & Financial Penalties



Email - info@barnesassociates.co.uk
Telephone - 01423 322 371

Tree Protection Plan – BA5897

(A1 Plan Attached)

Tree Surveys & Condition Reports

Tree Health & Safety Reports

Tree Risk Assessments

Tree Population Site Inventories

Estate Tree Management

Woodland Management

Tree Work Specification & Tenders

Insurance & Mortgage Reports

Decay Detection & Mapping

Wind load & Stability Assessments

Development Site Tree Reports to BS5837

Arboricultural Implication Assessments (AIA)

Arboricultural Method Statements (AMS)

Construction Exclusion Zone Management

Tree Protection Plan Design

Tree Valuation & Replacement Costing

TPO Objections & Appeals

Tree planting Schemes

Landscape visual impact assessment

Landscape architecture



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