



## Arboricultural Method Statement (AMS)

In accordance with BS 5837:2012 Trees in relation to design, demolition and construction. Recommendations. An Arboricultural Method Statement and Tree Protection Plan derived from the Arboricultural Implication Assessment, ref 221012

Address/ Project	Downlands Community School Dale Avenue Hassocks BN6 8LP
Ref No	221012 AMS
Client:	Faithfull and Gould
Instructed by:	Peter Myall Senior Building Surveyor
Documents referenced:	1. Tree Survey and Tree Constraints Plan – ref: 220012 2. Arboricultural Implication Assessment – ref: 220012
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Attachment – Tree Protection Plan

# 1: Introduction

## 1.1 Aspects dealt with within this Method Statement:

The Arboricultural Method Statement (AMS) is a methodology for the implementation of any aspect of development that has the potential to result in loss of or damage to a tree identified as suitable to be retained.

The AMS takes into consideration construction operations undertaken in the vicinity of the trees. It will deal with such issues as site access, intensity of construction activity, space needed for works, location of materials and location of service runs.

This AMS includes with it a Tree Protection Plan (TPP). The TPP outlines trees to be retained, removed, preliminary location of barriers and type of barrier to be installed. This method statement contains a timetable indicating when and how specific works adjacent to trees should be carried out

## 1.2 Aspects not dealt with within this Method Statement

Please also refer to Appendix 2.

This report does not deal with issues relating to Subsidence or Heave either as a result of retention or removal of trees. It does not consider the water demands of the trees present to enable decisions as to foundation type and depth. It is considered that such considerations are best dealt with in a different report having liaised with the structural engineer.

# 2. Background Information

## 2.1 Names and Contact numbers of Parties concerned

Contact Name	Company/ Organisation	Role	Contact details
Peter Myall	Faithfull and Gould	Senior Building Surveyor	Peter.Myall@fgould.com 07710495316
Oliver Booth	Writtle Forest Consultancy Ltd	Arboricultural Consultant	oliver@writtleforest.co.uk 01277 355970
TBC	Mid Sussex District Council	Local Authority Tree Officer	parksopenspaces@midsussex.gov.uk

## 2.2 Availability of this Method Statement

The Site Manager and appointed Contractor will each hold a copy of the document, including the Tree Protection Plan. Copies of this document will be made available for contractors visiting site.

## 3: Supervision and Monitoring

### 3.1 Monitoring and Supervision

Some aspects of the development will require Arboricultural monitoring. Key time points for such visits are noted within this method statement.

The Arboricultural Consultant's role is to advise on the development in relation to the trees, as well as liaise as necessary between the developer/ site manager and the local planning authority to ensure that appropriate protection measures are taken at all times to protect all aspects of the trees. The role will involve monitoring compliance with Arboricultural conditions and advising on any tree problems as they arise. A report will be issued by the supervising Arboriculturist after each site visit as required.

### 3.2 Site Management

All tree protection measures detailed in this document must be fully understood by all the parties involved in the development. Clarification or modifications to the consented details must be recorded and circulated to all parties in writing. These documents should then form the basis of any supervision arrangements between the Arboricultural Consultant and the proposer, as agreed with the Local Planning Authority where applicable.

It is the Site Manager's responsibility to ensure that the requirements set out within the Arboricultural Method Statement are known and understood by all site personnel. Copies of pertinent documents should be kept on site at all times. The site manager will brief all personnel who may have an impact on any trees and relay specific tree protection requirements.

This methodology should be a part of all site induction procedures and written into appropriate site management documents. The following pertinent points should be explained to all personnel who could have an impact on trees;

1. The specification of the Protective Barriers around retained trees.
2. The requirement for Protective Barriers to be sufficiently robust to prevent incursion by construction activity.
3. Why it is essential that the Protective Barriers remain throughout the works.
4. The importance of the 'exclusion zones' around retained trees.
5. The potential damage caused to trees and new tree planting by compaction of soils and the requirement for ground protection.

## 4: Schedule of Tree Work

### 4.1 Tree works to be carried out prior to installation of Protective Barriers

Tree Number	Species	Works required
T1	Common Beech	The height of current crown clearance is 4m. Crown lift to 5m above ground level over road.
T4	Horse Chestnut	Lateral crown spread encroaches approx. 1.5m within road. Reduce lateral crown spread to the west by approx. 1.5m.
H9	Beech Hedge	Fell and grind stumps of approx. 20m hedgerow (as shown on the TPP).
H10	Beech Hedge	Hedgerow to be relocated with amendments and ameliorants as required (see below).
T39	Paper Birch	Tree to be relocated with amendments and ameliorants as required (see below).
T40	Paper Birch	Tree to be relocated with amendments and ameliorants as required (see below).
T41	Paper Birch	Tree to be relocated with amendments and ameliorants as required (see below).

Please also refer to Appendices showing extent of pruning works.

## 5: Sequence of Events

Sequence	Brief outline of events	Arboricultural input required
1	Install Protective Barriers and Ground Protection as shown on the Tree Protection Plan (TPP).	Yes - Site visit to check adequacy and location of Protective Barriers and Ground Protection.
2	Removal of existing hard surfacing within proposed area of development.	n/a
3	Construction of proposed development including new single storey detached building.	n/a
4	Hard and soft landscaping including the relocation of transplanted trees in new community garden area.	n/a
5	On completion of main build remove Protective Barriers and Ground Protection.	n/a
6	Re-inspection of all retained trees and hedges	Yes - Site visit to carry out the inspection of retained trees and hedges within six months of the completion of works.

## 6: Transplanting Trees T39, T40 and T41 and Hedge H10

### 6.1 Moving the Tree or Hedge

- Trees and hedge should ideally be lifted in dormancy. This time will minimise the tree's stress and maximise its chances of survival.
- If this is not possible then the trees and hedge should be lifted once in full leaf. The trees should not be lifted during bud burst and leaf fall, tree energy resources will be reduced through these periods.
- As much root and soil associated with the tree should be lifted along with the tree, as is possible. This should include a minimum soil mass of approximately 400mm X 400mm X by 400mm.
- Dig the perimeter of the area and underneath the tree and or hedge, being careful not to damage the roots. Were roots over 25mm Ø are encountered these should be left where possible, intact.
- Smaller roots outside of the area of soils and roots to be lifted can be cutback to suitable growth points.
- The tree and root-ball should be of a size that can be manually handled.
- Similarly, a number of trees and soil can be lifted from the hedge as long as this can be viably handled without detriment to the operative.
- The tree/ hedging should be lifted and immediately installed into its new planting pit/ area.
- If this is not possible then the root ball should be wrapped with hessian sacking, to avoid desiccation of the root system until such time as the trees/hedge can be planted. This is applicable over a 24hr period only.
- If the trees and hedges cannot be planted in the position required within a day of being lifted then provision to plant the trees and hedge in another area should be made, preferably on site. The trees and hedges should be planted such that there will be a barrier to prevent the plants re-rooting before they are lifted again and sited. This barrier maybe plastic or hessian. It will be important that the trees and hedge are regularly watered.

### 6.2 Pre-planting & Soil amelioration works

- Soil samples to be taken to allow laboratory testing for nutrient and pH levels prior to planting. Results should inform any additional amelioration required to address deficiencies at time of planting and to check for contaminants.
- In some areas it may be necessary to raise levels. It is suggested to use surplus soils from the on-site re-grading works, subject to laboratory testing. Imported topsoil should be of a suitable grade in accordance with BS3882.
- Where possible organic products should be used to ameliorate soil conditions.
- The addition of the macro nutrients such as slow-release Nitrogen and Phosphorous (Bone meal) will improve growing conditions for the newly planted trees.
- Amendments such as biochar will improve general porosity of soils allowing greater space to improve biodiversity and ecological functioning of soils.
- Correct doses should be calculated and applied as directed by the manufacturer and informed by the pre-planting laboratory testing.

### 6.3 Tree planting specification

- Trees to be planted within the dormant season, between the beginning of November and the end of February.
- Do not plant when soil is frozen or waterlogged.

- The pit should be dug at least 2 times wider than the root ball and as a shallow bowl. Ensure sides and base of pit are forked to prevent glazing.
- Once excavated return some of the excavated soil back into the hole until it is the same depth as the container/ root-ball.
- Locate staking within pit ensuring that root ball is not damaged by the stakes. Drive in stakes until firm (peeled softwood stake with a top diameter suitable for the size of tree that is to be supported. Use a stake with a minimum diameter of 60mm for larger trees). When firm, ensure stakes are upright, at an equal height and parallel to kerb-line, fence line or prevalent wind.
- Height of stakes should be no more than 1/3 height of clear stem.
- Place tree in pit at the correct level, so that the nursery mark is level with the surrounding soil level.
- Back fill using excavated soils. To improve soil structure on heavy or sandy soils incorporate organic matter at 50/50 ratio with good quality topsoil (to BS 3882. Firm to remove air pockets.
- Ameliorate soils, based on the laboratory testing.
- Secure the tree to stakes using rubber belt/spacer as specified. Remove all plant labels/nursery tape, ties or string from tree. Attach and secure any recommended guards.
- Apply a 1m x 1m x 75mm deep layer of the agreed mulching material around rooting zone of the tree. It is important to avoid any build-up of mulch around stem.
- Add appropriate water to the root-zone of each tree.
- Remove all arisings and excess soil from site, leaving site safe and tidy.



## 6.4 Five Year Maintenance Schedule

Time	Health inspection	Watering	Soils/ Mulch	Pruning	Staking	Replacement planting
Year 1: Spring/Summer	Health check of all trees and hedging	All trees and hedging	Addition of slow release fertiliser suitable for root growth is added as a top dressing to trees.	-	-	-
Year 1: Autumn/Winter	-	-	Addition of mulch as required to all trees and hedging	-	Check all trees	All trees and hedging
Year 2: Spring/Summer	Health check of all trees and hedging	All trees and hedging	-	-	-	-
Year 2: Autumn/Winter	-	-	Addition of mulch as required to all trees and hedging	-	Check all trees	All trees and hedging
Year 3: Spring/Summer	-	All trees	-	-	-	-
Year 3: Autumn/Winter	-	-	Addition of mulch as required to all trees.	Light formative pruning of all trees.	Check all trees	All trees and hedging
Year 4: Spring/Summer	Health check of all trees.	All trees.	-	-	-	-
Year 4: Autumn/Winter	-	-	Addition of mulch as required to all trees and hedging	-	Check all trees.	All trees.
Year 5: Spring/Summer	Health check of all trees and hedging	All trees.	-	-	-	-
Year 5: Autumn/Winter	-	-	-	Lightly trim hedging to thicken growth.	Check all trees.	All trees.

## 6.5 Watering

All trees and hedging should receive appropriate water according to their needs and with regard to moisture retention capacity of the soils and rainfall through the growing season.

All trees and hedges will require watering in the spring and summer months as a minimum on a weekly basis. Evergreen trees may require some watering in Winter months if there has been little rainfall.

The contractor will be required to use their judgement of the situation as well as meteorological information relating to rainfall to assess the rate of water application through the growing season. Water should be applied slowly, under low pressure, to ensure that the soil retains the water and the water is not lost to run off when applying.

The water must be evenly distributed within the rooting area to encourage even root development.

Requirements for watering of trees will be dependent upon tree species, climatic conditions as well as soil and environmental conditions. The diverse variables mean exact calculations for water requirements are not prescriptive. Moisture meters can be used to ascertain water condition of soils. Soil testing will provide an understanding of soil porosity and water retention properties.

## 6.6 Soils and Mulching

In order to aid establishment, bark mulch will be applied at time of planting. The mulch will decrease water evaporation, prevent run off in heavy soils, control weed growth, buffer soil temperature gradients. Mulch will generally improve soil health by increasing microbial activity, nutrient- and water-holding capacity, soil pore space and air penetration as it decomposes.

The levels to the base of the tree and within the rooting zone will need to be checked to ensure that the main stem is not covered by the mulch but that there is a generally covering of mulch, approx.75mm thick within the root zone. Mulch should be between 50 and 100mm deep and be kept at least 75 to 150mm from the trunk of the tree.

## 6.7 Formative pruning

Each tree should be inspected and subject to the following pruning within 3 years of planting, as required;

1. Remove any strongly upward-growing branches that threaten to dominate the canopy or overtake the central leader.
2. Remove any crossing or rubbing branches.
3. Lightly, shorten the canopy branches and side-shoots to balance the shape. Pruning cuts should be made to an outward facing bud to encourage open growth.
4. Clear the desired height of trunk of any growth. If new growth is stimulated from the trunk by this pruning, rub off the shoots as soon as they emerge.

## 6.8 Staking/ Guying

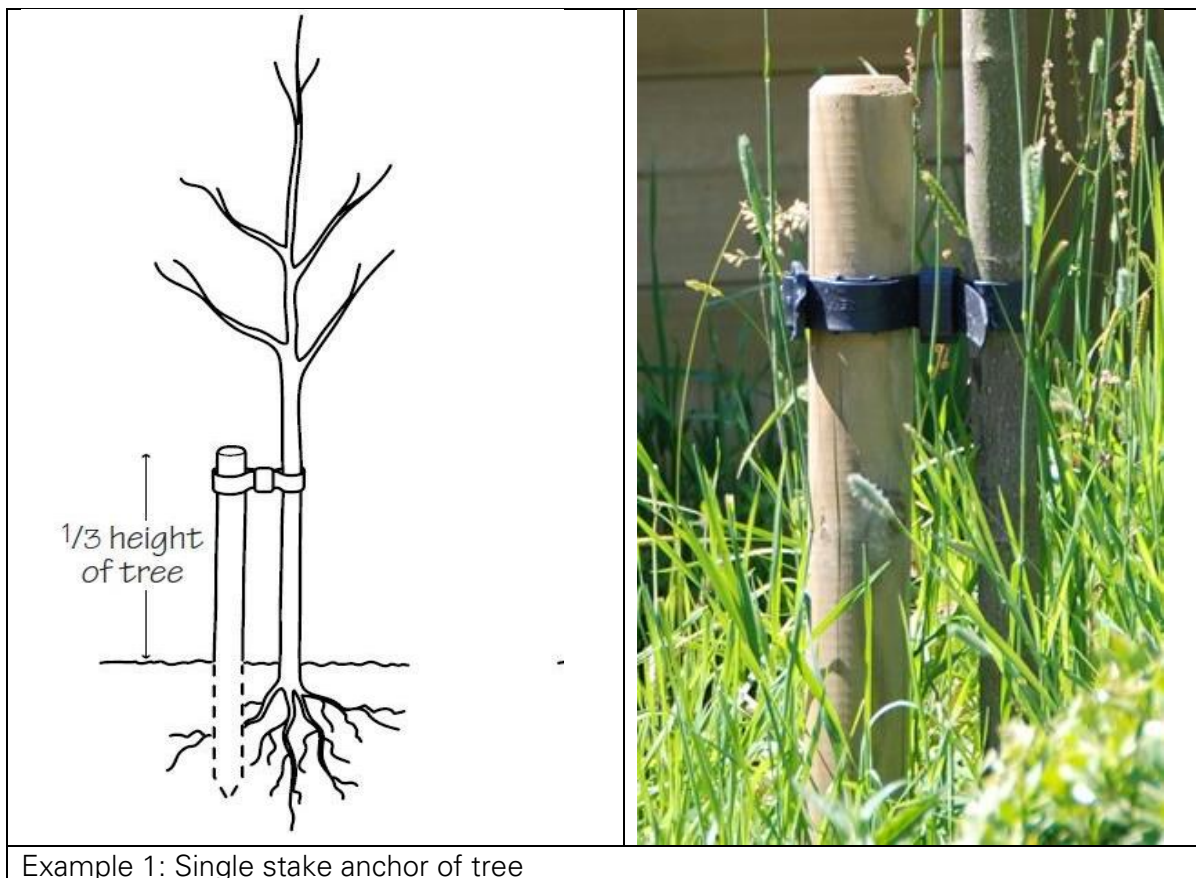
In conjunction with on-going maintenance it will be necessary to check and adjust all staking (and guying) annually, post planting. It is imperative that stakes and ties are removed once the tree has established and is wind-firm, which is generally 3-5 years post planting.

## 6.9 Replacement Planting

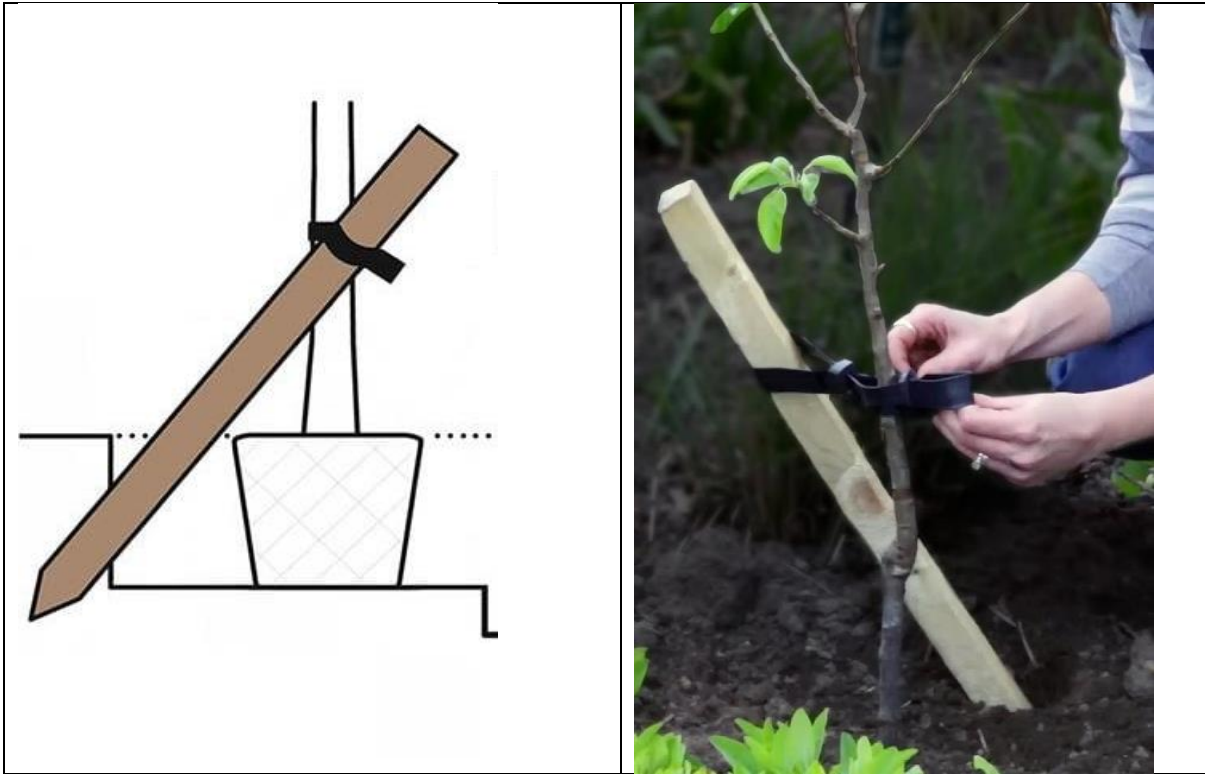
Any trees that fail within the first 3 years of planting must be replaced. It is also prudent to ascertain the cause of failure to ensure that the loss is not repeated.

If there are multiple failures of the same species it may be prudent to replace the species choice originally selected dependent upon the cause of failure and whether this is related to pest and disease or environmental conditions.

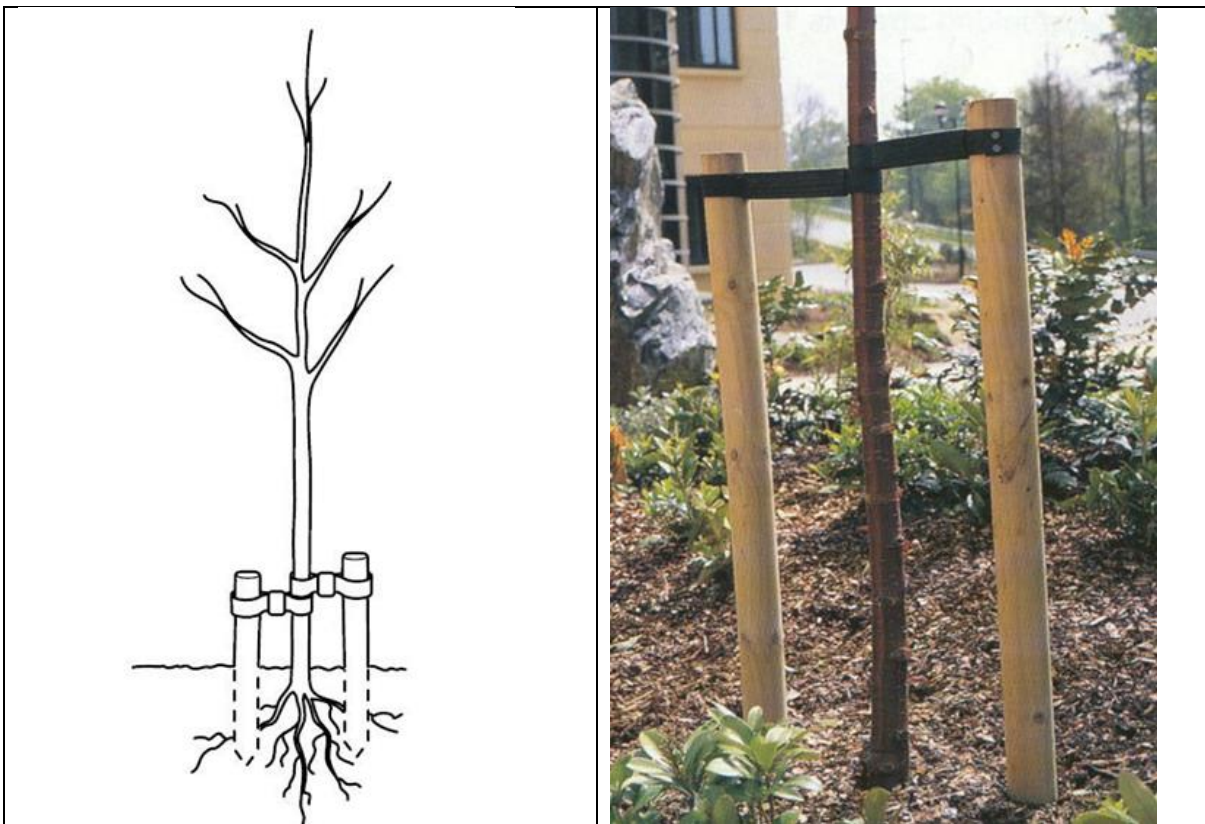
## 7. Examples of Tree Planting Anchor Systems



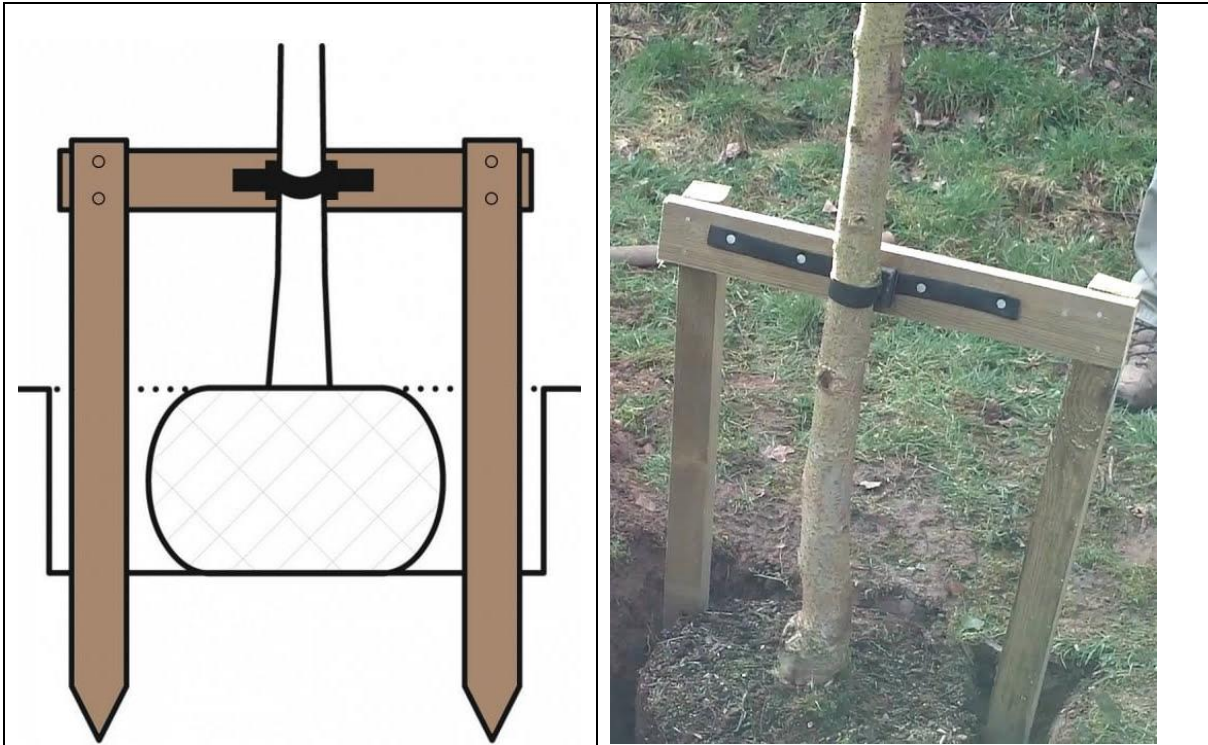
Example 1: Single stake anchor of tree



Example 2: Single stake anchor of tree - angled



Example 3: Double stake anchor of tree



Example 4 Double stake anchor of tree with support bar

## Appendix 1: Site Conditions and Tree Protection Measures

### Storage of Materials

Designated areas for storage of materials and site office will be decided by the Site Manager before any works can commence. It is advisable to consult with the Arboriculturist if the storage areas or site office are located within the RPA of any of the trees to be retained.

### Discharge of Contaminants

No materials that are likely to have an adverse effect on tree health, such as oil, bitumen or cement will be discharged within the RPA of any of the trees to be retained. It is advised that the disposal of all waste materials is carried out in an appropriately sustainable fashion.

### Contingency Plans

Should there be any contamination of soils either within or adjacent to the RPA these should be dealt with as quickly as possible with a proprietary emergency clean up kit. The situation should then be assessed as to whether it is appropriate to remove soils. An Arboriculturist should be consulted before a decision is made. The protection barriers erected should be able to be removed relatively easily to access the area in event of an emergency.

### Changes in Ground Levels and Soft Surface Ground changes within the RPA's of trees

It is considered certain operations may require ground level changes, but these changes should be limited to a minimum. Landscaping operations within the RPA of trees to be retained should be carried out with minimum disruption to the existing landscape avoiding removal of topsoil and re-introduction of foreign soils.

Where there are areas to be re-turfed within the RPA of trees to be retained, existing turf should be removed with minimum disruption to the soils, removing no more than 25 to 50mm of topsoil. Similarly, in new amenity grass areas that encroach RPAs, the ground levels should not be raised in excess of 50mm above existing. Soils used should be from the site or clean imported topsoil. It will be necessary to review the proposed Soft and Hard Landscaping with the consulting Arboriculturist prior to commencement.

### Access to the area of proposed works

Main access to the site is understood to be from Dale Avenue located north of the site. It is considered that this would be the only access point into the site for the purposes of carrying out the development as proposed. If there are any other proposed access points into the site, this should be agreed prior to use with the Arboriculturist.

### Cranes and Lifting Equipment

All lifting equipment, including cranes if utilised, should be so positioned that they operate without contact with the retained trees. Care must be taken so that the arc of the boom fitted to the lifting equipment is sufficiently clear of the retained trees.

### Boundaries/ Scope of the Site

The appointed Arboricultural Supervisor must be consulted if the boundaries of the site are extended or if excavations/ storage/ construction related to this development is to be carried out on other parts of the wider area, outside of the development site as indicated on the Tree Protection Plan.

## Appendix 2: Protective Barriers

Before the commencement of any works on site (other than those set out in the schedule of tree works, contained in this document), protective vertical barriers must be erected. The location of the barriers is illustrated on the Tree Protection Plan.

The barriers are to be erected to exclude construction activity in the RPAs of retained trees and to protect soils in areas designated to receive new replacement tree plantings.

The barriers will remain in place until completion of the main construction phase and then only removed with the agreement of the consulting Arboriculturist.

Other than works detailed within this method statement or approved in writing by the local planning authority, no works shall take place within the exclusion zones defined by the protective fencing. No vehicles will be allowed to enter areas to be protected by the barriers.

### Specification of Protective Barriers

The barriers should be fit for purpose of excluding construction activity. At this site, it is considered sufficient to install two-metre-tall welded mesh or solid panels on concrete feet (please refer to figures 1a and 1b. The panels (Heras type) should be joined together using a minimum of two anti-tamper couplers and installed so they can only be removed from the inside. The distance between the couplers should be at least 1 metre and should be uniform throughout the protective barrier.

The panels should be supported on the inner side by angled stabilizer struts installed every 3.5 metres at the join of the Heras panels. Both the concrete feet and the stabiliser strut base plates should be secured with ground pins. Where barriers are to be erected on retained hard surfaces or it is otherwise unfeasible to use ground pins stabilizer struts should be mounted on a block tray.

The specification of the temporary barriers will be installed in accordance with the specification as discussed in the paragraph above and referenced in figures 1a and 1b.

Notices will be affixed to all protective fencing 'Construction exclusion zone - Keep Out' (please refer to figure 2).

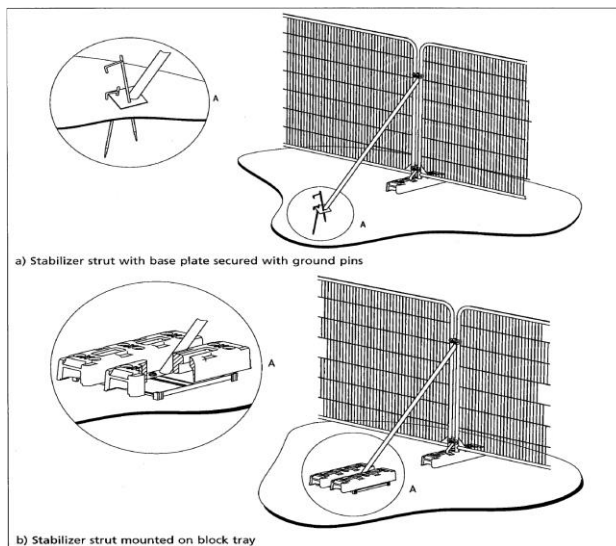


Figure 1a and 1b - Diagram of protective barrier taken from BS 5837 (2012)



Figure 2 - Example of suitable warning sign affixed to protective barrier

## Appendix 3: Limitations of Arboricultural Method Statement

### Limitations of the Report

Please also refer to sections 1.2 and 1.3 at the beginning of this report.

- The report is based on information provided by third parties and the specifications and recommendations is dependent upon information provided therein.
- This report does not consider the possible implications to any present or future built structures other than those considered within the report.

### Findings of the Survey and the Report

- Validity, accuracy and findings of the report will directly relate to the accuracy of information provided at the time of the tree survey.

### Timing of the Survey and the Report

- The considerations/ findings in this method statement are valid for one year.
- Such considerations/ findings will become invalid if any building works are undertaken, soil levels are altered or tree work undertaken outside of the scope of works as detailed and presented at the time of compiling this report.
- If there are any alterations to either the property or soil levels, or if tree works are carried out, it is recommended that a new tree report is undertaken.

### Trees in relation to other Properties:

- This report/survey only considers the trees in relation to the site as identified.
- It does not comment on possible effects of trees on neighbouring properties, including in relation to subsidence or heave, or with regard to possible hazards presented by trees surveyed.
- Neighbouring owners of trees that are identified as posing a possible risk to the property/site in question should seek their own advice as to possible effects of the recommendations given within this report.
- Damage to, or possibility of damage to, any other structure that is not referred to within the report is not considered unless otherwise specified. This includes both neighbouring structures and any other structure on the property.

### Trees in Relation to Subsidence, Heave and Direct damage

- This report does not deal with issues relating to subsidence or heave in relation to any built structures and surrounding vegetation whether the structure or vegetation falls within the boundaries as considered or lies beyond the boundaries.
- The report does not consider issues relating to subsidence or heave in relation to any proposed built structures or future vegetation whether within the boundaries as considered or beyond the boundaries
- It is prudent to consider the effects of heave on any property if trees are removed.
- Similarly, the issue of direct damage (when the roots of a tree have physical contact with a structure) is not considered within this report.



#### Trees subject to statutory controls:

- If the trees are covered by a Tree Preservation Order or are located in a conservation area it will be necessary to consult the local authority before any pruning works, other than certain exemptions, can be carried out.
- The works specified above are necessary for reasonable management and should be acceptable to the local authority. However, tree owners should appreciate that the local authority may take an alternative point of view and have the option to refuse consent.

#### Trees are subject to changes outside man's control:

- Trees are living organisms subject to changes outside man's control. Trees and environment alter with the seasons it is as well to inspect trees whilst in full leaf and when out of leaf.
- If there are any harsh or unexpected weather conditions, or heavy storms it is also prudent to inspect trees.
- Changes to ground water conditions will affect the root growth of a tree. Such changes are not always the result of man's influence and other factors may be involved.

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