

BS5837:2012

Arboricultural Method Statement

For

East Grinstead Sports Club – Car Park extension,

Saint Hill Road,

East Grinstead, West Sussex, RH19 4JU

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Arboricultural Method Statement (AMS)

assessed in accordance with

BS5837:2012

'Trees in relation to design,

demolition and construction

-Recommendations'

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1.0 Introduction

1.1 Client Instruction

1.1.1 Simon Ffoulkes Tree Consulting was instructed by Les Humphrey architects, to undertake an Arboricultural Method Statement (AMS) and a Tree Protection Plan (TPP) for the proposed car park extension to the south of the grounds. The assessment was to consider trees around the proposed area to be extended and how that could be a constraint to the proposal. The survey was carried out in accordance with BS5837:2012 – Trees in relation to design, demolition and construction – Recommendations.

1.1.2 The requirements of this survey were;

- To record relevant information showing the Root Protection Area (RPA) on the trees around the proposed build.
- Provide information to show how mitigation measures within the Arboricultural Method Statement (AMS) will be put in place to provide suitable protection for trees affected by the proposed construction process.
- To provide a TPP showing where Protective fencing will be erected.

1.2 Documents Provided

1.2.1 A plan drawing Job No 220214-01 Drg Scale 1:500

2.0 Arboricultural Method Statement (AMS)

2.1 General Advice

2.1.1 The AMS is a set of instructions that will be used to allow development or construction within the Root Protection Area (RPA) of a tree or trees whilst managing the trees canopy, structure and root system to minimise any health effects on the trees by the building process either short term or for the foreseeable future.

2.1.2 The AMS will provide a clear pattern of what the process of how the work will be carried out.

2.1.3 There will be the requirement for a Tree Protection Plan (TPP) that will show where the protective fencing will be erected and where ground protection will be incorporated. The area will be shown in the **Appendix 6**.

2.2 Specific Advice - Tree Protection Plan

2.2.1 The trees T17, T19, T20, T21, T22, T23, T24, T25 and W1 will need to be protected from the proposal.

2.2.2 The woodland trees will have a 4m offset constraint around the entire field edge to ensure the woodland trees are not affected by the proposal.

- 2.2.3 The trees T1, T2, T3, T18 and group G16 will need to be removed before the process for protecting the other trees is instigated as they are a constraint to the development process
- 2.2.4 The access road will be covering a large majority of the RPA of the trees T17, and the only feasible way of protecting this area is with a 'No Dig' road construction. The access road around T17 has already compacted the ground to an extent that the crown is dying back. The tree will require some form of crown reduction to ensure its long-term retention.
- 2.2.5 The No Dig Road way will allow the site to be accessed without affecting the roots of the surrounding trees and will allow for the long-term survival of these trees.
- 2.2.6 The process will be explained in the **Appendix 4**. This Roadway can then be left in place as part of the car park access once constructed. The extent of the roadway area is shown in the **Appendix 6**.
- 2.2.7 The areas surrounding the constructed Roadway will have Tree Protection Fencing at the edges to ensure the areas within the woodland are off limits to any site traffic and plant. The construction of the fencing is detailed in **Appendix 1 and 2**.
- 2.2.8 The tree T17 although a 'C' grade tree is to be retained owing to its size and Arboricultural significance. After tree surgery to reduce the size to live wood the entire trunk will need to be protected during the road construction phase from physical damage by machinery and plant. The construction will involve constructing a protective wooden hoarding similar to the one shown in **Appendix 3**. This must remain in place until the Road way has been completed.

3.0 Site Monitoring

3.1 Pre-commencement meeting

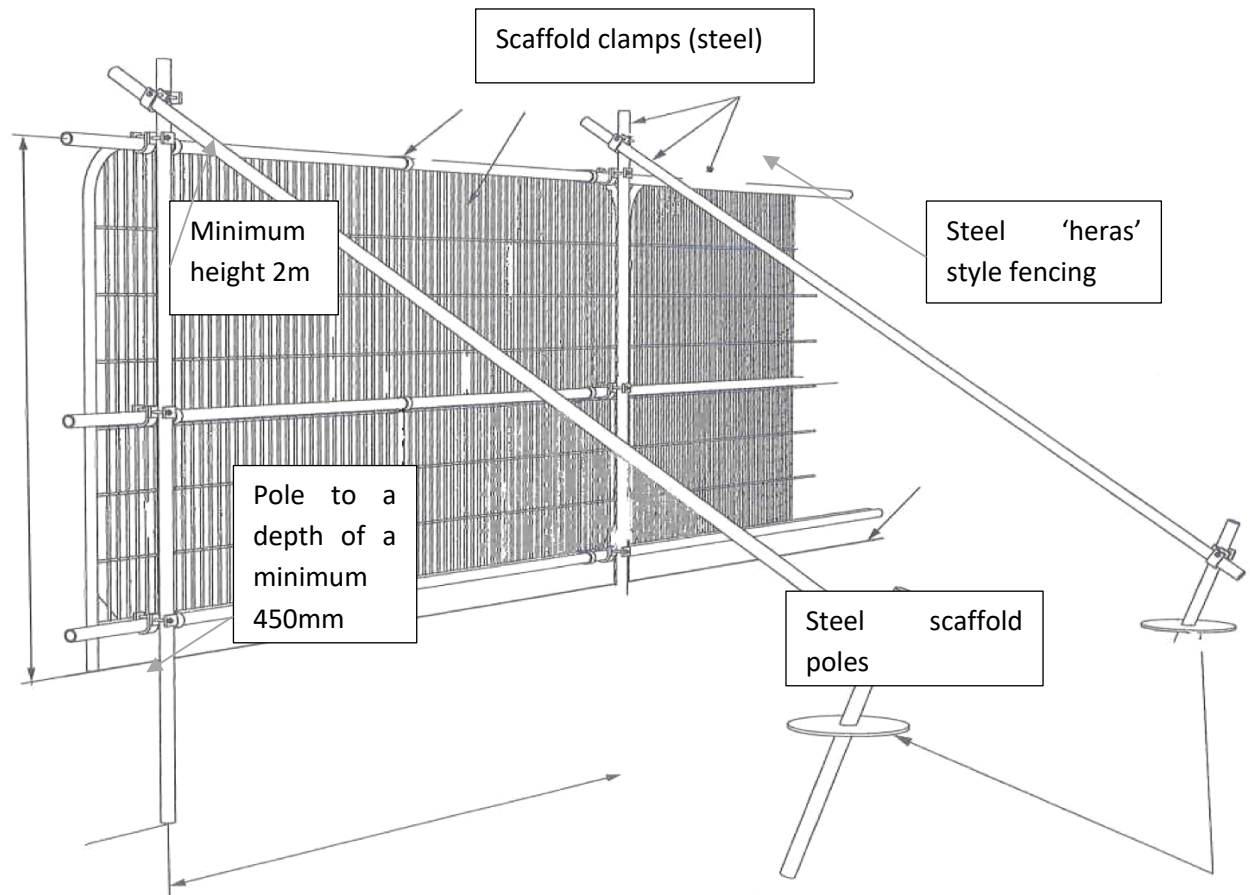
- 3.1.1 The Local Planning authority may require a pre-commencement meeting. This maybe a face to face on site meeting or a telephone conference meeting of interested parties.

3.2 On site supervision

- 3.2.1 To ensure that the Tree protection barriers and Ground protection are installed correctly and left in place during construction will be achieved by a photographic dated record of all the processes involved during construction. The photographic evidence will be sent to the consultant as a record of proof of compliance.
- 3.2.2 There is a signing off form in **Appendix 5** that ensures all on site have agreed the compliance measures for protecting the trees and these have been carried out and the monitoring of the site has been carried out as instructed.
- 3.2.3 On completion of the building work, pre-landscaping photographs are required to show the process of the tree protection fencing removal and ground protection removal. The process of removal is to be carried out by hand, or if machinery is used, this must be from the constructed road way. A photographic record must be taken by the site manager, to be dated

and sent to the arboricultural consultant before the landscaping process is started to confirm the processes of compliance.

Appendix 1 – Diagram of BS5837:2012 recommended Tree Protection fencing



Fencing description:

All the supporting framework will be made of scaffold poles. The upright supports will be high enough to allow a 450mm fixing into the ground with an exposed upright height of a minimum of two metres. The supports will be either dug in or hammered in and no concrete will be used to retain the supports. All the pole clamps will be suitable scaffold clamps that are fixed using a nut and bolt system.

The fencing supports will be scaffold poles positioned at an angle of 45 degrees to the uprights. They will be secured into the ground at a depth of 450mm.

The fencing used to cover the framework of scaffold poles will be a typical galvanised steel 'heras' fencing, secured in place either by welding to the poles or with suitable retention clamps so that it cannot be easily removed. The fencing will be a minimum of 2.0m in height.

Appendix 2 - Fencing Notices



Appendix 3 - Tree Trunk Hoarding



The tree trunk protection system must be similar in construction to the image above.

The trunk must initially be hessian wrapped and the hoarding constructed around it. The ground fixing for the hoarding can either be steel rods or timber posts. The post holes must be hand dug and avoidance of any roots is paramount. No concrete is to be used to support the posts holes, just back fill with the excavated soil and tamp down.

The hoarding must be constructed of a suitable water resistant boarding a minimum of 15mm thick. This will be fixed in place to just below the first branch union and no part of the hoarding is to be able to touch the structure of the tree.

All hoarding is to stay in place until the final landscaping faze has been completed.

Appendix 4 – No Dig Road way Construction process

A No-Dig Roadway construction is implemented to avoid damage to tree roots within the Root Protection Areas (RPA) of the retained trees, the footpath within those areas will be constructed using a No-Dig methodology.

Most tree roots are present in the upper 100cm of soil, they grow more-or-less parallel with the soil surface and radiate widely, usually to a distance at least equal to the height of the tree.

The soil provides for:

- the inflow of oxygen to the soil
- the outflow of carbon dioxide from the roots
- water and minerals in soil water
- supports root taper quickly as they grow away from the tree and most tree roots which are beyond 3m from the tree are of 25mm diameter or less. It is the mass of small roots upon which a tree depends.

Damage to trees during construction may be caused by:

- Direct root severance.
- Indirect damage from soil compaction.
- Changes in the levels of the ground. Damage to tree roots, and other major environmental changes, may lead to the long-term decline of the tree, and decay organisms can gain entry to the tree through wounds. The supporting roots and the stem base may be exposed to severe long-term degradation because of wounds to roots of greater diameter >25mm.

The No-Dig Construction process is a three-dimensional Cellular Confinement System (CCS), such as 'Cellweb' or similar will be used as an integral component of the sub-base, to act as a suspension layer by creating cells into which recommended material is contained. A geotextile layer will be installed between the ground and the cells to prevent mixing and the cellular materials being pressed into the ground. Infill materials will include no-fines aggregate (granular) sub-base layer which when compacted is free draining and allow gaseous. Type 1 road stone will not be used due to its high fines content. Clean angular stone 4-20mm or 20-40mm in diameter, or angular gravel over 4mm in diameter and able to create a positive interlock with the CCS is acceptable.

Final Surfaces (Wearing-course) are to be washed gravel, permeable block paving edging where applicable and permeable block paving between highway and gate. No excavation, soil stripping, site grading, lowering or raising of soil levels or digging will take place within the BS 5837:2005 prescribed Root Protected Zone, as shown on the plan. A method of working is to be used to prevent the passage

of vehicles and/or machinery across unprotected soil surface within the Root Protection Zone prior to, during and post construction.

Ideally construction will begin at the entrance and 'rollout' the footways in front of the machinery that remains on the sub-base.

Ground vegetation will be killed off using a translocated herbicide (eg. Glyphosphate). Once dead all organic material, rocks, etc, will be removed. Hollows will be filled in using sharp sand. This process will be carried out by hand.

The edging for the Road will be wooden tanalised boards that will be at the height of the wearing course (400mm). These will be secured in place with 10mm diameter steel reinforcing rods.

There will need to be edging around the wooden hoarding as the base of the tree must not be covered with the infill.

The ground between the edges will be covered with a permeable geotextile membrane and then 400mm honeycomb cellular confinement system will be laid on top and secured with stell pins.

The infill will be a 'No fines' angular stone to allow water and air movement that will be vibrated in place to 320mm leaving 80mm for the wearing course.

The wearing course can be gravel, a permeable tarmacadam that allows water penetration or clay pavers that allow percolation of water.

The No Dig Road way will be higher than the surrounding, existing car park and access road height, so this will need to be blended into the car park on a 1:100 slope. This will ensure that the two differing forms of the car park/road allow for traffic movement with the minimum of disturbance.

Appendix 5 – Tree Protection Compliance Form**Tree Protection Compliance Form**

Work Specification	Site signature	Approval signature
Tree Surgery Works • Work carried out as specification. • Completed to BS 3998 Tree Recommendations	Tree Surgeon sign/date	Consultant sign/date
Tree Protection Fencing • Installed as per TPP	Site foreman sign/date • Photos to be taken	Consultant sign/date
Ground Protection Plan • Installed as per the AMS	Site foreman sign/date • Photos to be taken	Consultant sign/date
• Tree Protection Fencing Removal	Site foreman sign/date • Photos to be taken	Consultant sign/date
Landscaping Compliance	Site foreman sign/date • Photos to be taken	Consultant sign/date

Appendix 6 – Tree Protection Plan (TPP)

