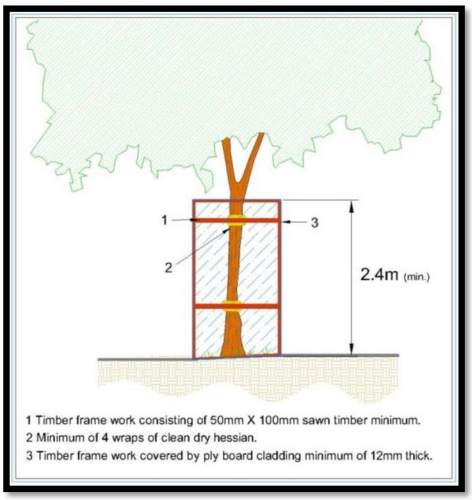
9 CHALCOT GARDEN TREE PROTECTION MEASURES

Trunk Protection

Protective trunk wrapping is to compromise of a minimum of three wrappings of a clean dry hessian around the trunk from ground level up to 2.4m high and held in place with sisal. Onto the hessian, there is to be a minimum of three wraps of Chestnut palling around the trunk; the Chestnut paling is to be held in place by 2.50mm galvanized mild steel wire at the top , middle and bottom of each wrap. The wire is to be secured to the paling using fencing staples.

Protective barrier hording should be appropriate for the intensity and proximity of the development to protect trees where development activity is in close proximity. To compromise of 2.4m high wooden site hoarding constructed upon a timber framework situated around the outside of the planting pit. Where the timber frame is constructed around the tree trunk, a minimum of four layers of clean dry hessian is to be wrapped around the trunk to protect the bark. This will be implemented for T004.

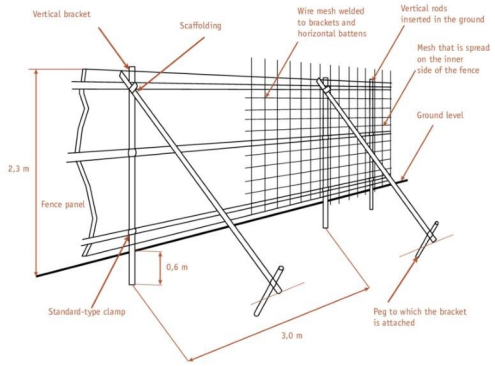


9 CHALCOT GARDEN TREE PROTECTION MEASURES

Protective Barrier Fencing

Protective barrier fencing should be appropriate for the intensity and proximity of the development to protect trees where development is in close proximity.

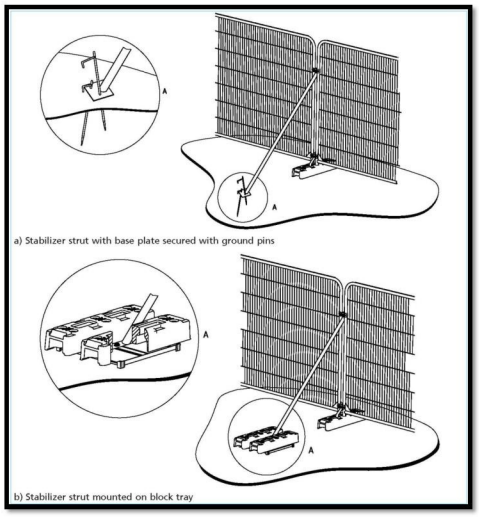
The default specification is to comprise of either a 2.4m wooden site hoarding; or a 2.3m high scaffold framework, well braced to resist impacts, with uprights to be spaced at a maximum distance of 3m intervals and driven into the ground by a minimum of 600mm. On to this, standard anti-climb welded mesh panels are to be securely fixed to each other with at least two scaffold clamps and to the scaffold frame with wire.



The secondary specification fencing will comprise of 2m tall welded mesh panels on rubber or concrete feet. Panels are to be joined together using a minimum of two anti-tamper couplers, installed so that they can only be removed from inside the fence. The panels should be supported on the inner side by stabilizer struts, which should be attached to a base plate secured with ground pins.

Signage denoting the words '*tree protection area'* at 5.0m intervals should be fixed to the protective barrier fencing facing outside the CEZ.

9 CHALCOT GARDEN TREE PROTECTION MEASURES



Ground Boarding

New temporary ground protection should be capable of supporting traffic entering or using the site without being distorted or causing compaction to underlying soil. The minimum area of all ground protection has been demarked on the tree protection drawings provided

Where it is determined during construction by the project engineer that any hard surfacing is not adequate protection from any expected loading, ground boarding is to be installed to the engineers specification on top of the hard surfacing within the root protection areas of retained trees.

In the event that machinery will be stored or used from the ground boarding within an RPAs of retained trees an impervious barrier and or bunding to prevent oils, fuel or other harmful chemicals is to be installed to prevent leaching into the soil within or adjacent to the RPAs.

Note the ground protection might comprise of one of the following;

a) for pedestrian movements only, a single thickness of scaffold boards placed either on top of a driven scaffold frame, as to form a suspended walkway, or on top of a compression-resistant layer (e.g. 100mm depth of woodchip), laid onto a geotextile membrane.
b) for pedestrian-operated plant up to a gross weight of 2t, proprietary inter-linked ground protection boards placed on top of a compression-

resistant layer (e.g. 150mm depth of woodchip), laid onto a geotextile membrane.

c) For wheeled or tracked construction traffic exceeding 2t gross weight, an alternative system (e.g. proprietary system or pre-cast reinforced concrete slabs) to an engineering specification designed in conjunction with arboricultural advice, to accommodate the likely loading to which it will be subjected.

In all cases, the objective of the ground boarding is to avoid soil compaction in that area so that the tree root function remain unimpaired.

Demolition VERY LITTLE DEMOLITION REQUIRED

All demolition work within or immediately adjacent to RPA's or canopies of retained trees is now to be undertaken under the direct on-site supervision of an arboriculturalist.

Demolition and removal of the existing extension and hard landscaping beneath the canopies and within the RPA's of retained tree are to be undertaken carefully following this method statement. Arboricultural supervision will be available upon request.

The structures are to be taken down so that all debris and materials are to fall outside of the RPA's and away from the canopies of all retained trees.

Foundations within and adjacent to the RPAs of retained trees are to be left in situ where ever possible. Where this is not possible, demolition of the existing foundations are to be undertaken to the minimum depth to allow for the installation of new soft and hard landscaping.

Any removal of existing foundations within the RPA of retained trees are to be undertaken using a hand held pneumatic breaker, hand tools and wheel barrows to break up and remove the debris out of the RPA. In some situations and only at the discretion of the arboriculturalist, it may be possible to use an excavator using a hydraulic breaker and suitably sized toothless grading bucket.

It may be permitted by the project arboriculturalist for an excavator to undertake the demolition and removal of the foundation but it must be outside of the RPA, on top of the hard surface working away from any RPAs or from suitable ground boarding

9 CHALCOT GARDEN TREE PROTECTION MEASURES

If it is likely that there will be any soil collapse or the trench begins to collapse within the RPAs of any retained trees which will lead to the loss of rooting environment, excavations are to be stopped immediately and the trench is to be shored up to prevent further soil collapse.

Where the removal of foundations occurs within the RPAs of retained trees, these voids are to be back filled with clean top soil.

Hard Surfacing

Where it is required for hard surfacing to be removed or re-surfaced within the RPAs of retained trees it is to be undertaken under the direct supervision by the on-site arboriculturalist during the landscape phase of development.

All hard surfacing will remain in place until the last possible moment and replaced/renewed immediately afterwards to limit disturbance to the soil and tree roots below.

The wearing course will be broken and removed up using a hand held pneumatic breaker, hand tools and wheel barrows. Where it is necessary to remove sub base, this is to be undertaken using a fork to loosen material and moved using shovels and wheel barrows.

In some situations and at the discretion of the project arboriculturalist, it may be possible to use an excavator using a hydraulic breaker and suitably sized toothless grading bucket but it must be outside of the RPA, on top of the hard surface working away from any RPAs or from suitable ground boarding

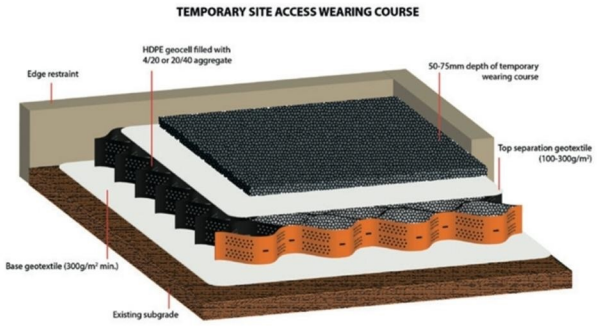
Whichever system is used, there is to be **NO** disturbance of the soil beneath. If roots are found, they are to be immediately covered with damp hessian and a layer of either sharp sand, wood chip or top soil be applied as soon as practically possible to prevent desiccation.

Existing Underground Services

Existing services within the site should be retained wherever possible. Where existing services within the RPA require upgrading, the upmost care must be taken to minimise disturbance and where feasible, trenchless techniques are to be employed.

9 CHALCOT GARDEN TREE PROTECTION MEASURES

If a multi-dimensional confinement system (such as CellWeb or similar) is to be used, it is to be laid entirely above the existing soil surface as shown in the diagram below (taken from Guidance Note 12 – The Use of Cellular Confinement Systems Near Trees – a guide to good practice 2020). This guidance document is available as a free download.



To install a multi-dimensional confinement system you must;

a) Prepare the surface
   - Remove any surface rocks and debris;
   - Create a level surface by filling in any hollows with sharp sand or clean angular stone;
   - Do not level off any high spots or compacted soil through rolling.

b) Layout geotextile membrane
   - Layout the permeable Geotextile membrane, overlaying edges of the required area by 300mm;
   - Overlap any joints by 300mm.

c) Layout multi-dimensional confinement system (MDC)
   - Layout the collapsed MDC system on top of the Geotextile membrane;
   - Place one steel pin into the center cell at one end of the panel to secure it to the ground;
   - Pull out the MDC to its full length (see manufactures specifications) and secure each corner into the ground with steel pins;
   - Create a panel to the correct size using the required number of steel pins (see manufactures specifications);
   - Make sure all cells are fully extended (see manufactures specifications);