



Tree Protection Specification for
Valley Gardens
Lewes Road
Brighton
East Sussex BN3 4LR

Client: Untitled Practice Llp
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1.0 EFFECTS OF TEMPORARY EVENTS ON TREES

1.1 Impacts

- 1.1.1 The primary impact that even temporary events of a short duration have, is on the soil. Trees are unable to thrive or survive where the upper soil horizons are compacted. This deprives the soil of water, significantly reduces the tree's capability for root growth thereby reducing nutrient up-take. This has the immediate effect of reducing annual incremental growth and vitality. This renders the tree susceptible to disease and fungal attack. Thereby significantly reducing the long-term sustainability of the tree population.
- 1.1.2 The primary cause of soil compaction is usually the vehicles that bring the tents and equipment onto site. It only takes one pass by an HGV over the rooting zone of a tree for the soil to be permanently compacted within the footprint of the tyre. This situation is exacerbated when the vehicles are parked for any length of time, usually under the canopies of the trees.
- 1.1.3 Significant compaction may also be by the passage of high numbers of pedestrians, such as might be found at the access points for these events. The human footprint has a ground pressure per sq inch greater than that of a car, when this is multiplied by numbers in excess of a thousand this will destroy the existing soil structure in a very short time.
- 1.1.4 Other impacts that the trees may be subject to, include;
- a) Direct damage from HGV and other vehicles particularly during erection and dismantling.
 - b) Poisoning, due to leakage of noxious materials, especially diesel, cleaning chemicals and effluent.
 - c) Severance of roots due to un-authorized excavation within the Root Protection Areas of the trees.
 - d) Hanging items in trees and nailing fixtures to branches and trunk.
 - e) Storage of materials and equipment under the canopies of trees.
- 1.1.5 The following section sets out a proposed methodology for mitigating some of these effects and thus ensure the long term sustainability of the trees within the gardens.

2.0 TREE PROTECTION REQUIREMENTS

2.1 Tree Protection Measures

- 2.1.1 The following measures comply with BS5837 (2012) '*Trees in relation to Design, Demolition & Construction – Recommendations*'. This standard is the nationally accepted minimum standard for protecting trees on construction sites where the problems experienced are identical to those faced by the trees in Valley Gardens during the period of the events.
- 2.1.1 Definitions - for the purposes of identification and monitoring of compliance, a "root protection area" is defined as the area within a distance from any existing established tree on the site equal to 12 times the diameter of its trunk, measured at 1.5m above ground level.
- 2.1.2 "Unsurfaced" ground means ground that is not covered by an existing permanent hard or load-bearing surface, such as tarmac, asphalt, concrete or gravel on a hardcore sub-base. "Protected" ground means ground that is covered either by a permanent hard surface, or by a temporary load-bearing or load-spreading surface appropriate to the likely vehicle or pedestrian usage anticipated for the area concerned. "Unprotected" ground means ground with no permanent or temporary surface, ie open grassland or bare soil.

2.2 Site Vehicular Traffic and Parking

- 2.2.1 Within root protection areas, site vehicles will travel as far as possible on existing hard surfaced roadways (asphalt, gravel) only. Any routes required over unsurfaced ground will be protected with a suitable temporary roadway surface. No vehicle movements will be permitted over unprotected ground within root protection areas, except for site reinstatement (for which see relevant sections below).
- 2.2.2 Within root protection areas, all vehicles or mechanical plant will be parked on protected ground only.

2.3 Stationing and Storage

- 2.3.1 Within root protection areas, stationing of temporary cabins on unprotected ground will require the prior placement of load-spreading slabs or timber baulks (railway sleepers or similar) beneath the legs or corner supports of the cabin, as appropriate.
- 2.3.2 Where the stationing of cabins or parking of vehicles or mechanical plant is to take place within 2m of any tree trunk, the lower trunk of the tree concerned shall be protected by means of cladding with either exterior ply fastened to a height of 1.8m or 1.2m chestnut paling fencing, securely tied or fixed around the tree's base.

Storage of materials (seating, equipment, etc) on unprotected ground within root protection areas will be on wooden pallets only. Bulk materials (soil, gravel, sand etc.) if stored loose, must be stored on minimum 20mm exterior grade plywood sheets, or must be bagged and stored on sheets or on pallets. No storage of loose materials directly on unprotected ground will be permitted within root protection areas. No storage of petrol, diesel or any liquid or non-liquid phytotoxic materials shall take place within root protection area.

2.4 Construction of Events Structures

- 2.4.1 Within root protection areas, audience stands and exhibits are to be designed and constructed to prevent tree root damage and surface soil compaction over the area occupied. This will involve either the use of above-ground decking or boarding supported on a timber or scaffolding framework placed on existing ground level, or the laying of a minimum 75mm layer of woodchip mulch between timber edgings or boards, secured in place by means of timber pegs driven into the ground.
- 2.4.1 Within root protection areas, services (electricity, water) shall be provided by means of hoses or ducting laid on existing ground level only, and shall not be dug in.
- 2.4.2 Disabled access concerns are to be addressed by the provision of suitably constructed ramps to effect wheelchair access to the stand's floor level; ramps to be secured by means of timber pegs driven into the ground.
- 2.4.3 Erection of hard-sided marquees and larger temporary buildings will only take place in locations identified for the marquees and buildings concerned, as depicted on the Show layout plan (to be agreed before the erection of the event.)
- 2.4.4 Cranes used should only be of sufficient size for the operations they are required for, and not larger than is necessary. If, when in their working positions, crane outriggers or stabilisers project beyond the edges of existing or temporary roadways onto unprotected ground, the ground beneath their stabiliser pads must be protected by a minimum of two standard (i.e. 8' X 4') sheets of 20mm exterior grade plywood per stabiliser pad.

2.5 Remediation of Sites

- 2.5.1 Reinstatement of excavations within root protection areas: placement of subsoil and topsoil is to be carried out separately, in layers, and compacted with light machine pressure only.
- 2.5.2 Remedial decompaction: Any trees showing evidence of reduced vigour or crown decline due to the effects of soil compaction during the course of the summer months following the events closing will be subject to a programme of decompaction by means of compressed air soil injection (e.g. "Terravent") within their root protection areas. This shall be undertaken in conjunction with remedial works to turfed areas in October/November of the relevant year.

2.5.3 Dismantling of temporary structures: All structure are to be dismantled in the reverse order in which they were erected. All vehicle movements must stay within the protected zones with the temporary ground protection removed last.

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