



Surfacing near trees

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Surfacing near trees

Most trees can tolerate some degree of new surfacing close to them, but it has to be designed so that there is minimal disturbance to their roots. It is very important to limit digging and to make sure that water and air can still get through the new surface to the roots. The more surfacing proposed and the closer it comes to a trunk, the more difficult it is to install without adversely affecting tree health. However, there are many examples of where it has been successfully done and it is now widely accepted that it is feasible if the design and installation are carefully controlled.



Poor design and incorrect installation of new surfacing often kills nearby trees.



Conventional installation of new surfacing by digging out about 50cm of soil and then filling with compacted stone is not tree-friendly and often results in their removal.



In contrast, using a cellular confinement system filled with stone installed directly onto the ground surface without any excavation often has no significant impact on nearby trees.

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If permeable to water and gasses and it is set on top of the existing ground level, new surfacing beneath trees is a very effective way of maximising the use of precious space.

Case study: How not to do it!

Digging near mature trees damages long-established roots and often kills or destabilises them. Care at the design stage is necessary to make sure the proposed surfacing will sit on top of the existing ground, but still fit in with other surfacing and structures around it. In this case, the surrounding surfacing levels were so low that deep excavation was needed near the mature Scots pine. It was so badly damaged that it is now in decline and its life expectancy has been significantly reduced.



The council granted consent to put no-dig surfacing close to the trunk of this mature Scots pine. However, the very low existing entrance drive level meant that this area would need raising by up to 75cm to allow vehicular access to the new surfacing on the grass beneath the tree.



In practice, this was not feasible and the new surfacing was dug in by more than 30cm, causing the loss of important roots. The tree is still alive, but its health has been badly compromised. It could have been retained for much longer if the surfacing had been properly planned and installed.



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Poole case study

Consent for a temporary access road to service the construction of a new nursing home development was granted in 2005. The road went through a belt of mature trees that were prominent in the landscape and the council wanted them retained without any damage. The temporary road was installed using a cellular confinement system laid directly onto the soil surface without any excavation. Investigations into tree health and soil conditions in 2007 showed no adverse impact on the trees or their roots growing beneath the road.



The cells have side perforations to allow the movement of water and air.



The rigid array of cells can effectively spread the weight of a loaded lorry as soon as they are filled.



The flexible cells are pinned out onto the soil surface without any excavation.



The stone is spread over the area of cells until they are all full, forming an interlocking and rigid grid that spreads the load.



The permeable wearing surface is installed on top of the filled cells and profiled for safe vehicular use.

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Two years on, the surface is still in use with no adverse impact on the adjacent trees.