How to Save Trees During Construction

from the TREE CITY USA® BULLETIN

DESIGN WITH NATURE

To minimize root damage, do not alter the terrain except where absolutely necessary. Leveling, cutting, and filling:

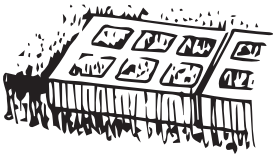
- Severs roots.
- Removes nutrient-rich topsoil.
- Dries roots when soil depth is reduced.
- Smothers roots when soil depth is increased.
- Changes the natural flow of water.

AN ARCHITECT CAN HELP BY:

- Locating buildings to harmonize with the natural terrain.
- Using posts, bridges, and decks to suspend parts of buildings over uneven terrain.
- Raising paved driveways and using similar techniques that minimize excavation.

BRICK

FLAGSTONE



HONEYCOMB BLOCK

CHIPS/GRAVEL

To allow maximum aeration and water penetration to tree roots, select walk materials other than concrete or asphalt.

BELOW THE GROUND

DRAINAGE CHANGES If terrain is altered, there will be a change in how water drains from the land. If flows are created that add too much moisture to a wooded site, a drainage system may be needed to maintain the previous amount of moisture, which provided the natural growing conditions for the existing trees. Similarly, existing trees along the edge of a new pond may eventually die from their roots suffocating. On sites *deprived* of water, irrigation may be needed to maintain existing trees.

SOIL COMPACTION The key to tree survival in the years following construction is protection of the roots *during* construction. This is probably the most insidious problem because the results of compaction cutting off air and water passages in the soil show up slowly. When barriers are not possible to keep away vehicles and foot traffic, other protective methods that can be used include spreading several inches of wood chips, pumping concrete from the truck through conveyor pipes instead of driving over root systems, and bridging root areas with plates of steel.

SEVERING ROOTS Some cutting of roots near construction is inevitable, but much *is* avoidable. For example, the routing of underground utilities does *not* have to follow a straight line from street to house. Careful route selection can often avoid important trees. When that is not possible, tunneling is a good way to reduce damage. To reduce trenching for foundations, posts and pillars can be substituted for footers and walls.

SOIL CHEMISTRY Poisoning or otherwise altering the soil can result in weakened trees, making them more susceptible to insects and disease. In some cases, trees can be killed outright within a few years after construction. The following tips can help prevent adverse effects on soil chemistry.

- Spread a heavy plastic tarp where concrete is to be mixed or sheet rock will be cut. The alkalinity of these materials can change the soil pH.
- Read labels. Do not use wood products containing pentachlorophenol. These are deadly to roots. CCA-treated timber, which has a greenish color, is a safer alternative.
- Paint brushes and tools should not be cleaned over tree roots.
- Chemical wastes, such as paint thinner, should be disposed of properly and not drained on site. Local sanitary authorities can advise on recommended disposal methods.

A CARDINAL PRINCIPLE:

What happens below the ground is more important than what meets the eye above ground!

OTHER INFO IN THIS ISSUE

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