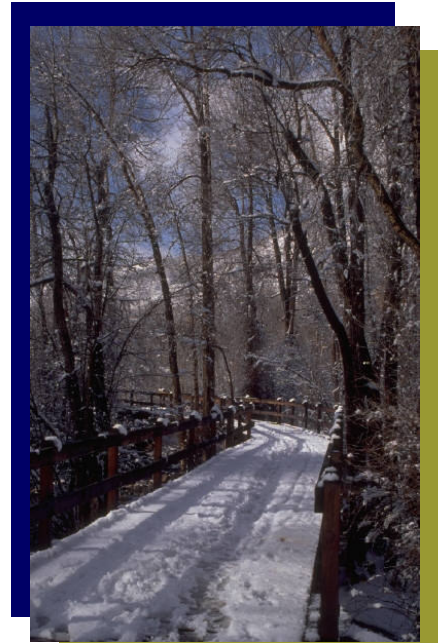


The Invisible Performance: The Rest of the Story

In the last issue of this newsletter we talked about the invisible performance of our trees in the wintertime. We described generally how autumn and winter are the seasons of root growth and critical, albeit invisible, preparation for the next annual cycle of greening and glory. At the end of that article we referred to the proximate presence and projects of people (excuse the alliteration; I couldn't help it) as being the activity most hazardous to urban and suburban trees. Well, now we're back to say just a bit more about how that activity damage happens and to recommend a few ways that damages might be mitigated while "improvements" are underway.

For about twenty-five years now I have been working with builders, architects, site planners and most of all, just plain folks who have or are planning to undertake, for various reasons, all kinds of landscape and/or grade changes near large valuable trees. Sometimes the damage is already done and I get a call made in the desperate hope of a quick and easy cure. Other times the property owner hopes to avert such damage by planning ahead before on-site activity begins.

But however it begins, one element is almost always critical in every case. It is the need of remediation for or the prevention of ROOT DAMAGE AND DYSFUNCTION. As was implied in the preceding discussion, what does or does not happen below the ground is critical to survival and performance. A large tree is in one way like a railroad locomotive traveling down the track at 60 mph. If it is derailed for any reason, it will not jerk to a halt on the spot. Rather, it will travel a considerable distance before it stops, even though its fate is sealed. So those final three hundred yards along that rail line might be like the final year or so in the life of a tree whose roots have been significantly damaged or destroyed during a construction project.



Construction, for purposes of this discussion, may be very broadly defined as not only new construction and additions, but also irrigation installation, tilling or excessive digging for new flower beds, gardens or sod installation. Also sewer repairs, grade changes of all kinds for any reason, new driveways and/or parking spaces, removal of old hardscape features, water or gas leaks into the soil, chemical spills, soil compaction, radical pH changes, necessary trenching for any reasons, and . . . well, those are the most common ones but folks seem to be infinitely creative in this department.

Of all the kinds of damages listed above, maybe one of the most insidious is soil compaction. Unfortunately, the kind of clay that we have in the Memphis area is highly compactable, especially when wet. Another analogy here may be worthwhile: Imagine a single slice of hot freshly baked white bread. Now imagine placing that slice in your hand and squeezing hard into a fist . . . just once. Now! Now fix it and get that slice back like it was before. Get the picture? Remember the little blonde root hairs that we talked about last time that live in that bread/soil, picking up water and nutrient? They're gone now; destroyed.

How does compaction occur? It occurs not only by vehicle traffic (even a single pass of a brick, concrete, or lumber truck) across root areas, but also by stacking heavy construction materials and parking cars and trucks under trees. Even repetitive foot traffic over damp clay can compact the soil in root areas.

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Because those delicate root hairs need air as well as water to live and do their job, the vast majority of a large tree's root system is located in the top eight inches of the soil, and much of that in the top two to three inches, right there with the grass.

So, with all of this in mind, here are just a few important rules to remember when "doing stuff" near your trees.

1. If a contractor is involved, talk to him/her ahead of time about location of needed work, parking and materials staging spaces. Identify access routes for delivery trucks. Use substantial fencing (e.g., temporary cyclone) to isolate important root areas as an inviolate "No Trespass" zone. P.S.: Orange plastic fencing is often soon down and ignored for the duration.
2. Do not allow concrete or mortar "washouts" upgrade from or near root zones.
3. Locate necessary trenches outside of drip lines if possible, even if extra linear feet are required. If trenches must come within a radial distance of five times the trunk diameter of important trees, consider boring as an alternative to trenching across critical sections.
4. Where new irrigation heads must be located near important trees, try to run lines straight in (radially) rather than across the radial root pattern.
5. When installing new plants under/near trees, do NOT till. Instead, dig individual planting holes.
6. Keep grade changes to a minimum. Use porous loose material where possible. If fill requirements exceed four (4") inches, consider using an aeration system to minimize root loss at the old (original) grade.
7. Where necessary passage over root areas is ABSOLUTELY unavoidable, lay down 6"-8" of temporary mulch and/or multiple sheets of inexpensive ¾" plywood for a "road."
8. For larger trenches, remember that backhoe buckets do not cut roots. Instead they rip and snatch and jerk them out, doing serious damage to root hairs that presumably would remain in the soil laterally to the trench. Consider alternatives in critical root areas.
9. For wall and building footings crossing large roots whose post-construction terminal ends will remain viable, consider bridging with steel in lieu of cutting these roots.

I hope that a few of these nine reminders will be helpful the next time a project near your trees appears on the horizon.



Did You Know. . .

. . . that trees can have a separate monetary value on a property over and above the actual property value. Calculating this value involves consideration of species, size, form, health and condition, location on site, and amenity contribution(s). The ISA published Guide For Plant Appraisal, 9th ed., 2000, describes and details several alternative protocols for arriving at monetary value for plants and trees. These are intended for procedural use by experienced plant appraisers.

. . . that the fast-growing **Loblolly pine** (*Pinus taeda*), while often planted in rows as a quick visual screen along property lines, very soon outgrows this intended functional use and thereafter offers little more at the line-of-sight than a row of tree trunks. If pine is your preference, a more practical variety for longer term green screening may be Virginia pine or **White pine** (*p. strobus*). These tend to retain their lower branchings and needle, as well as offering a usually denser canopy to the same screening purpose.



In this photo it is privet, not pine, that provides visual screen