

Sidewalks and Tree Roots: A little flexibility needed

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Left, these two oaks are not only in a tiny spot, but also planted by the utility and water lines in a new north Naples community. Choosing one smaller tree species such as a fiddlewood, Simpson stopper or pigeon plum would have been more appropriate. Right, this cracked up sidewalk is an extreme case in New Orleans, but again, proper placement and species selection would have avoided this situation.

We have major irregular sidewalk problems in too many Naples communities which should have been avoided. But like the Sunday morning “quarterbacks”, it is always easier to criticize after the fact. Twelve to fifteen years ago or more, southern live oaks (*Quercus virginiana*) were selected as the native canopy tree to meet County landscape requirements in many communities, perhaps I should say 98% of the communities. Even though there are 21 large tree species and 15 medium to small tree species (see list at: <http://collier.ifas.ufl.edu/> and type, ‘collier county extension plant selection’ in the search box) that could have been selected from the County approved list. OK, so live oak is a large species (eventually reaching 70 feet tall by 90 feet wide), with a moderately rapid growth rate. I like to say it is a pasture tree. Let’s plant them about 3 to 5 feet from sidewalks or 5 feet from utility boxes and lines. Now the sidewalks are lifting.

It's not like when I was a kid back in Indiana and the roots of the huge sugar maples along the sidewalks created much sought after skateboard ramps...lots of fun! No, here and now, I should add, sidewalk irregularities are viewed as a possible law suit when a person fails to navigate the sudden elevation of a projected slab in our concrete jungle. If one stumbles and sprains or breaks an ankle or wrist, we are talking some creature discomforts and litigious actions. Communities are looking for solutions. Oh, and this 1963 homemade- skateboard pro wannabe sees another wrinkle, the ADA Americans with Disabilities Act issued in 1991 guidelines states "surfaces must be stable, firm and slip-resistant."

What to do? Surprisingly, tree roots find the area beneath a sidewalk a favored environment to collect the right combination of both water and air, so they tend to congregate there. Generally, the protruding slab, which is being lifted by the increasing girth of the tree roots, is either ground down (short term results) or the slab is broken up and the offending roots cut out and a new slab poured (longer term results, but tree may fall over in high wind events). We tell people to avoid cutting large roots. Dr. Ed Gilman, the University of Florida tree guru, says roots greater than one or two inches in diameter within 5 times the trunk diameter should not be removed (well maybe just one is OK?): For example, say the trunk diameter is 15 inches, then large roots could be cut but only 75 inches out from the trunk. There are horror stories of municipalities doing sidewalk repairs by using the "cut the roots out" technique and trees blowing over and crushing occupants in cars.

There are some 10 or so approaches: 1. remove trees and replace with smaller species; 2. remove slab add fill soil , then re-pour; 3. root prune and re-pour; 4. root barriers; 5. re-route sidewalk; 6. alternative sub-base/reinforce; 7. bridging; 8. alternate surface materials; 9. slab-jacking and 10. prune shade trees (maintain their natural shape, no round-overs or lollypops) to keep them maintained at a shorter stature so the roots will be less likely to grow as large as well.

If you are interested in exploring various approaches to mitigate tree roots and sidewalk conflict, the University of Florida, Collier County Extension Office is holding a free class on Friday August 21 from 9:00 to 11:00 at our office at 14700 Immokalee Rd. to discuss various treatment options. Call 353-4244 to register. Seating is limited. ISA (International Society of Arboriculture) CEUs are pending.

Reference text Reducing Infrastructure Damage by Tree Roots: A compendium of strategies By Laurence R. Costello and Katharine S. Jones. 2003; \$17 for non-members. <http://wcisa.net/Publications/ChapterOnly.asp> .

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