PROTECTING TREES DURING CONSTRUCTION

Trees are often overlooked during construction suffering from physical damage, root loss or damage, compacted soils, or changes in water availability – causing decline and death.

Imagine your newly constructed house in its wooded setting, beautifully sodded and pristine.

Or imagine this. You've done some improvements: a new sidewalk, a new retaining wall, a new deck, new landscaping, or a new whatever the project was.

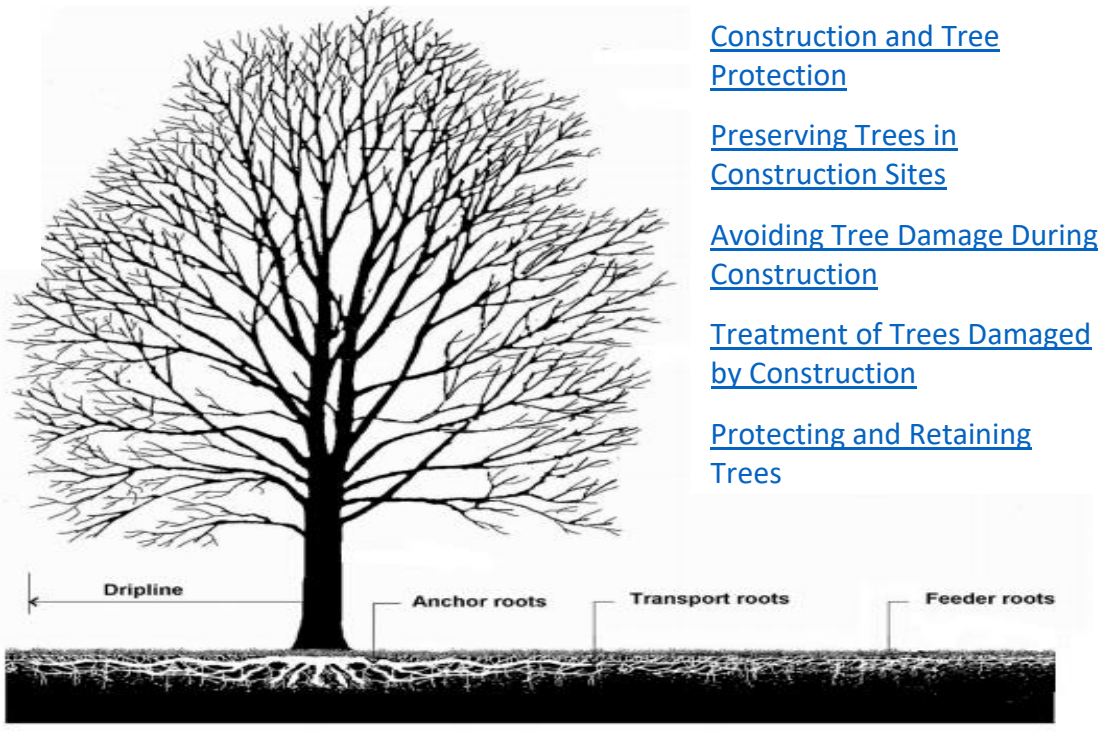
Now look three to five years into the future and notice some of the older trees near that recently constructed house, or those landscaping upgrades, are starting to look sickly, branches are dying back, or a whole tree is dead. What happened?

These questions could have been avoided if the valuable trees had been protected during the entire construction process.

Tree Protection During Infill Development

Infill Development:

Infill development is the process of redeveloping land parcels within existing urban areas that are already largely developed.



RELATED RESOURCES

The Basics of Tree Protection

Construction and Tree Protection

Preserving Trees in Construction Sites

Avoiding Tree Damage During Construction

Treatment of Trees Damaged by Construction

Protecting and Retaining Trees

1. A tree's roots develop and survive where there is adequate oxygen and moisture. Most active tree roots are in the top 3 feet of soil with the majority in the top 6-18 inches. And the roots typically grow outward to about three times the branch spread.
2. When roots are cut, or extra soil is placed over them, or constant vehicle traffic compacts the soil over them, or chemicals, oil or gas are spilled near them, the roots are damaged and the tree becomes stressed as it tries to adapt to the changes.
3. Outward symptoms of this stress may not become apparent for a few years (5-7 years is not uncommon). Younger trees may be better able to adapt to changes than older trees, and some species will adapt more successfully than others.
4. If protection measures are not taken around a valuable tree it may succumb to construction activity induced stress and become more of a liability than the valuable asset you had envisioned.

Protect your trees before construction:

1. Inventory the trees on site
2. Draw a base map
3. Prepare a tree protection plan (ask a Certified Arborist for assistance)
4. Communicate your plan to all involved (architect, builder, construction supervisor, planner, etc.)
5. Properly prune branches that may be in the way during construction
6. Erect Tree Protection Zone (TPZ) fencing

Protect your trees during construction:

1. Prohibit access to TPZ at all time: no stored materials, no debris or waste, no vehicles, no people or facilities inside TPZ at any time
2. Monitor TPZ and trees for damage or encroachment
3. Maintain integrity of TPZ fencing
4. Optimize tree health (water and properly apply mulch)

TREE PROTECTION ZONE

The TPZ is an area around the tree where construction and equipment use is prohibited. At a **minimum** it should be encompass a radius of at least 1.25 feet for each inch of trunk diameter.

For example, a tree with an eight-inch diameter trunk (diameter measured at 4.5 feet above the ground) should have protection all around in at least a ten-foot radius from the trunk. There is no conversion of inches to feet involved here, just a simple multiplication of the number.

Good – **1.25** x 8 (inches trunk diameter) = 10 (foot radius TPZ)
Better – **1.5** x 8 (inches trunk diameter) = 12 (foot radius TPZ)
Best – **2.5** x 8 (inches trunk diameter) = 20 (foot radius TPZ)

DON'T

Tree Protection Zones are often installed to this "standard": rebar and snow fencing, easily moved, and prone to collapse and damage over the course of construction.

DO

Ideally, to improve the stability and effectiveness of any TPZ, so it remains intact through the entire construction process, fencing should be installed to a higher standard, if the goal is for the tree to withstand the damage and survive.

More effective protection fencing specifications for municipalities: