



HOW TO PROTECT YOUR TREE

Mowers and weed trimmers

Protecting the bark is vital to the health and survival of a tree. Knocking off or weed trimming the bark damages the cambium layer under the bark. The cambium layer is important because it produces the conductive tissue that



sends the flow of water and nutrients upward and sugars downward in a tree. A tree is "girdled" if damage occurs all the way around the trunk and tree death results.

The solution is to provide a grass-and weed-free area around the trunk, protecting the tree from close-range mowing or weed trimming. Establish this zone by creating a mulch ring around the tree. It looks pleasing and eliminates competition for water and nutrients.

Hiring an arborist

An arborist is a trained specialist equipped to provide proper care. Hiring an arborist is important because tree work should be done in a safe manner both for them and for the trees.

Arborists should have an established "tree service" business. Ask for current certificates of full insurance for property damage, personal liability and worker compensation. Ideally, they should be members of a professional association such as the International Society of Arboriculture. Arborists who have certification from their professional associations have training in tree care, repair and removal.

Get at least three estimates to ensure the price is competitive. Ask for references if you don't know the company. For tree removals, know who removes the limbs, debris, stump, and cleanup. Above all, do not respond to pressure tactics! Do your research and hire good contractors.

Services provided by Hot Springs Urban Forestry

Public Rights-of-Way

- Tree Planting
- Tree Pruning
- Tree Removal
- Bush Hogging
- Watering
- Fertilizing
- Mulching
- Inspection
- Inventory

Private Property Requests

- Tree Inspections
- Insect/Disease Diagnosis
- Tree Related Questions

Contact information



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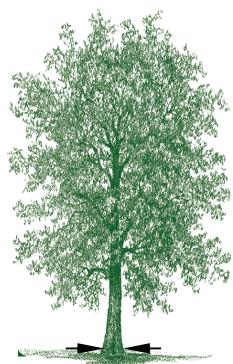
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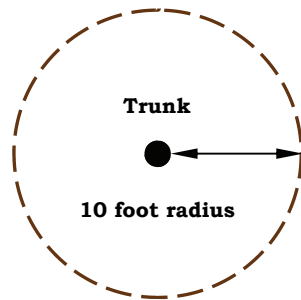
City of Hot Springs
Urban Forestry Division

Critical root zone (CRZ)

Building around trees requires some planning to protect the roots. Each tree has a CRZ that needs to be free from construction impacts such as mechanical injury, compaction, contamination and grade changes. This area contains most of the roots essential to the tree's continued health, vigor, and structural integrity. The CRZ radius equals 1' for each inch of trunk diameter. For example, a 10" tree needs an undisturbed root area extending 10' in all directions from the trunk.



10 inch diameter



Protect all roots inside the dashed circle!

How roots grow

Tree roots grow in the top 3' of soil where there is oxygen and water, with the most in the top 12". In compacted or poorly drained soils, roots grow close to the soil surface. Roots grow most of the year, except when soil temperatures are cold. They occur as woody roots and as absorbing roots. Woody roots become thicker each year; absorbing roots die but are replaced by new absorbing roots. Absorbing roots form shallow, horizontal fans that take up water and nutrients. Roots grow outward to about 3 times the branch spread and supply the foliage on the same side of the tree.

Insects and diseases

The first step in protecting your trees is prevention. Be sure your trees are suited to the location and are resistant to most insects and diseases. Insects and diseases take advantage of stressed trees. Watering, mulching, pruning, and good diagnosis are key.

Diseases

Powdery Mildew - this disease of crabapples and dogwoods looks like a white powder sprinkled on curling, twisted leaves. Prevent by improving air circulation around foliage.

Leaf Spots - fungal leaf spots appear regularly, but their damage is usually minimal and fungicides are rarely necessary. The best protection is to rake up the leaves and remove them from the area.

Oak Wilt - a lethal disease of oaks that kills quickly. Prevent by keeping the tree healthy and pruning only during hot summer or cold winter when disease is not present to infect wounds.

Fireblight - this disease kills ornamental pears and crabapples from branch tips inward. Prune back to uninfected wood and sanitize tools after each cut.

Insects

Chewing Insects - these insects eat leaves. Fall and mimosa webworms, bagworms, gypsy moth, leafminers, and Japanese beetles are the usual suspects. Trees usually survive these defoliators, but repeated infestations weaken and may eventually destroy a tree.

Boring Insects - these insects tunnel into the stem, roots, or twigs and block off the tree's water supply. A serious infestation will kill a tree. Look for entry/exit holes in tree bark, small mounds of sawdust at the tree or branch base, and branch wilting and dying. Culprits are the pine bark beetle, dogwood borer, two-lined chestnut borer, ash borer, and elm bark beetle.

Sucking Insects - these insects suck the liquid from leaves and twigs. They include scales, aphids, woolly aphids, leafhoppers, and spider mites. Signs are scaly formations on branches, leaf dieback, leaf spots, and sticky excretions which often turn black when colonized by sooty mold fungus.

Early detection helps prevent irreversible damage. For recommendations on treating disease and insect infestations in your trees, check with the urban forester or Garland County Extension office.

Construction impacts

Compaction

The movement of equipment and the storage of materials on a site can compact the soil, changing the soil air and water characteristics. An "ideal" soil is about half solid material and half pore space. Under the best conditions about one-half of the pore space is air and one-half water. When compaction occurs, the soil surface is compressed, causing fewer and smaller pores, damaging plant roots, and restricting water movement into and through the soil. Plant roots have more difficulty growing in and through compacted soil. It is easier to avoid soil compaction than to correct it. Keep traffic and material storage away from tree root areas.

Cutting and trenching

Lowering the grade is harmful to trees because major roots can be cut. This can cause decline, death or "blow overs." To protect the tree, terrace the ground or build a retaining wall between the tree and the lower grade. Walls should be installed at the CRZ line. Trenching in pipes or lines should be done outside the CRZ or tunnel under without disturbing roots. Always prune roots cleanly that need to be cut.

Soil fill

When excessive amounts of soil are added around a tree, the additional soil interferes with air and water movement to the roots. Minor fills (less than 3") will not harm most trees. The topsoil should be high in organic matter and have good drainage - it should not be clay.

