

Reasons Not To Top

- 1 **Starvation** — Topping removes the most productive part of the tree canopy. It also removes a significant amount of leaf area which produces the food for the tree.
- 2 **Shock** — Tree growth is controlled by hormones produced at the tips of the main trunks. Removing this regulation upsets normal growth patterns for many years.
- 3 **Disease** — Topping cuts are impossible for a tree to close before decay sets in. Decay then travels down through the trunk, affecting the entire tree. Because the tree is in shock and starving, it cannot defend adequately against the decay.
- 4 **Weak limbs** — The rapid new growth that follows topping is weakly attached to the tree and is likely to break off as it gets larger.
- 5 **Rapid new growth** — The sprouts that grow from a topping cut usually achieve the height of the original tree within a few years and become even more dense. The height of a tree cannot be permanently reduced by topping.
- 6 **Creating a burden** — Topping, at best, will require continued maintenance. Moreover, it will shorten the lifespan of the tree, burdening the future owner with the task of removing a hazardous tree.

Pruning and City Code

The Unified Land Development Code does not regulate pruning of trees on private property, provided that pruning conforms to the types described on the second page of this brochure. According to the Code, non-conforming pruning requires a permit in the following situations:

- Construction work
- Landmark tree or grove
- Critical Area (steep slope, watercourse, wetland, or geologic hazard area)
- Town Center
- Other non single-family residential uses

If you think you need a permit to prune your tree, please contact the City Arborist at (206) 275-7713. Additional information is located on the City's website at www.mercergov.org.

RESOURCES

WEBSITES

International Society of Arboriculture
www.treesaregood.org

Pacific Northwest Chapter of ISA
<http://www.pnwisa.org>

Plant Amnesty
<http://plantamnesty.org/pruning/info.aspx>

Arbor Day Foundation
http://www.arborday.org/trees/nine_things.html

Master Gardeners
<http://gardening.wsu.edu>

SELECTING A CONTRACTOR

Washington State Dept. of Labor and Industries
www.lni.wa.gov/IPUB/625-084-000.pdf

BOOKS

Arboriculture
Integrated Management of Landscape Trees, Shrubs and Vines
by Richard Harris, et. al.

A New Tree Biology
Facts, Photos, and Philosophies on Trees and Their Problems and Proper Care
by Alex Shigo

An Illustrated Guide to Pruning
by Edward Gilman

Portions of this brochure were adapted from Tree City USA Bulletin #8 "Don't Top Trees", published by the National Arbor Day Foundation.



Mercer Island Guide to Pruning Basics

This brochure is intended as an informational guide for citizens of Mercer Island who want to care for trees on their properties. This guide helps tree owners make informed choices about their trees which benefit everyone who lives on the island.

Why Prune?

Good pruning can: remove potential hazards; correct weak structure; improve the form of the tree; control decay; improve air circulation; increase light penetration; enhance views; and promote the longevity of the tree.

When To Prune And How Often

Mature trees are best pruned as-needed only; most trees need little or no pruning. However, young trees respond better to light pruning every few years that gradually establish the tree's mature form. Winter is a good time for general pruning. Early summer pruning helps control growth.

Who Should Prune?

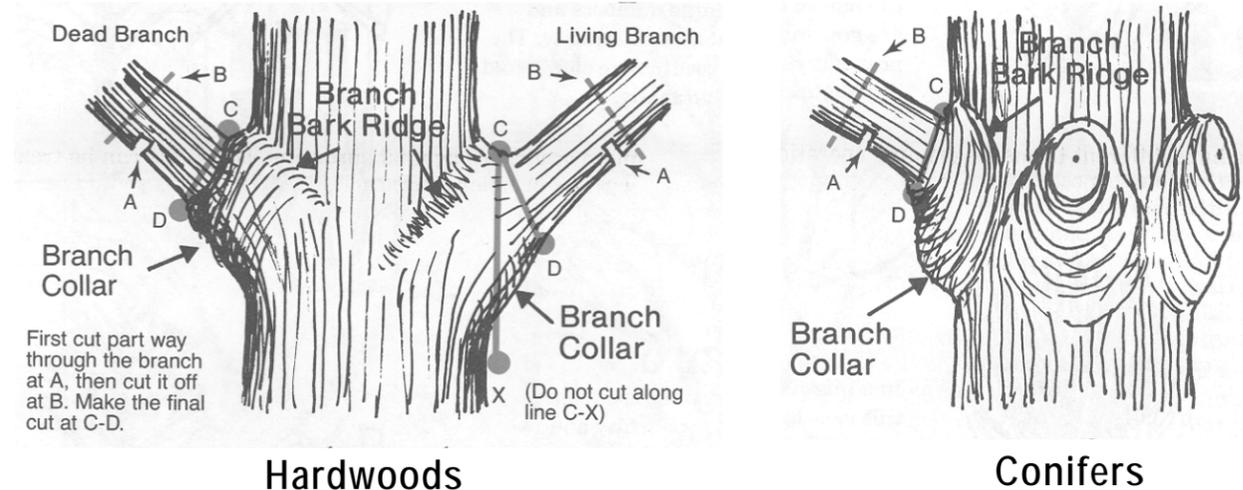
The City does not endorse or recommend any individual contractor. For information regarding selecting a contractor, see the Resources section at the end of this Guide.

Tree owners may be able to prune small trees using a hand saw and ladder. Follow the diagrams shown in this brochure to produce a good pruning cut, and if you are unsure of what you are doing, review the resources listed at the end of this brochure. Larger trees should be pruned by an arborist, preferably one that is ISA certified (See "Resources"). These professionals have demonstrated their knowledge and experience in many aspects of tree care and they must continue their education to stay certified.

How Much To Prune

All types of pruning together should not remove more than 25% of the total leaf area of a tree and less is generally better. After an extensive (approaching 25% removal) pruning, a tree should be given at least two years to recover before attempting more wood removal.

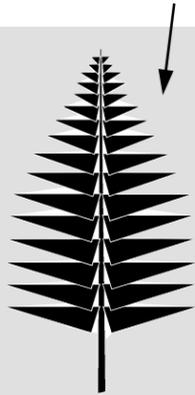
Making The Cut



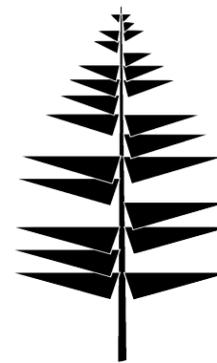
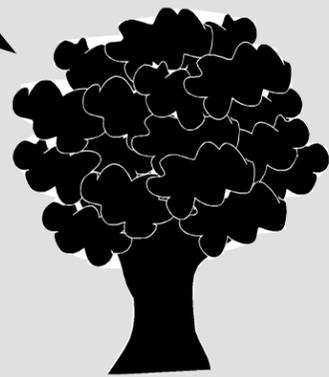
Before making a pruning cut, observe the anatomy of the branch. Pruning cuts should be made just outside of the branch collar, a swelling where the base of the branch meets the trunk. Violating the branch collar renders the tree susceptible to decay. Pruning close to the branch collar facilitates rapid wound closure as the tree continues to grow.

Best Pruning Practices

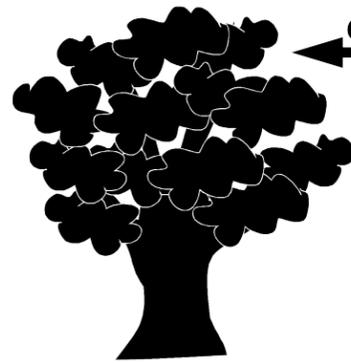
Pruning a tree begins with understanding its natural form. A tree with a single dominant trunk has a **central leader** form. A tree with branching trunks has an **open center** form.



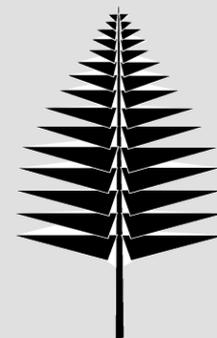
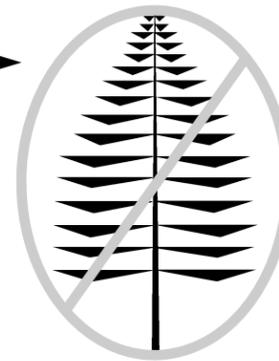
Crown Cleaning means removing dead, dying, diseased, crowded, weakly-attached, or low-vigor branches. Done correctly, this should not significantly reduce the canopy.



Crown Thinning means selective removal of branches throughout the crown of a tree to improve light penetration and air circulation. Remaining branches should be well-distributed and balanced. No more than 25% of the total leaf area of the tree should be removed. A common mistake is "**lion-tailing**" (see opposite page) where the center of the tree is stripped of branches.



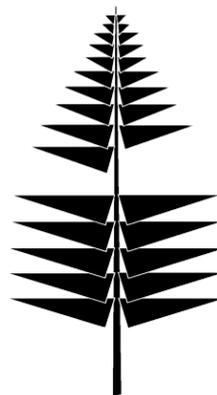
Compare



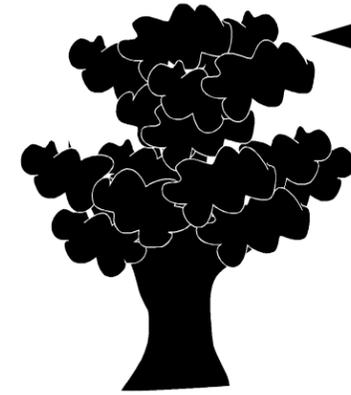
Crown Raising means the removal of the lower branches of the tree to provide height clearance. Typical clearances are 8' for pedestrians, 14' for equestrians and 16' for vehicles. Young trees should be trained gradually for required clearances. Mature trees can be raised as long as half of the foliage is preserved on the lower two-thirds of the trunk.



Compare

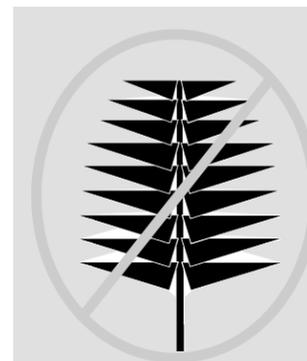


Windowing means removing several branches symmetrically within an area of the tree's crown to create an opening to enhance views. Since stripping a large area of branches weakens the tree and causes structural problems, windowing is properly done to limited portions of the canopy.



Improper Pruning Practices

Some examples of improper pruning are shown below. Practices such as these do not meet city definitions for pruning and may require an application for a permit. A permit will only be granted if code criteria is met.



Topping is the cutting of a trunk or main branch to a point where there is no branch large enough and vigorous enough to become the new leader. Topping has been a widespread practice in the past, but advances in tree biology have rendered this practice obsolete. Topping is not a satisfactory remedy for trees that are too tall. See the next page for more on topping.



Stripping branches from an inner section of a trunk or branch is called "**lion-tailing.**" Structural imbalances and potential failure can occur with too much weight at the ends of branches. Sometimes this happens when an arborist only works the center of the tree and does not take the time to climb to all parts of the crown to achieve a well-distributed thinning.



Imbalances in pruning disrupt the architecture of the tree. They can induce twisting stresses when the wind blows, causing vertical cracking. They also may induce rapid new growth that will be structurally weak and break.



Excessive Pruning can kill a tree. Stripping branches from any large area deprives the tree of food production, causing starvation. Starvation, combined with an excessive number of pruning wounds, is an invitation for decay.

