

TREE PRUNING STANDARDS

IN THE CITY AND COUNTY OF SAN FRANCISCO

The urban forest
starts outside your door



SF Environment

Our home. Our city. Our planet.

A Department of the City and County of San Francisco

[SFEnvironment.org](https://www.sfenvironment.org)



Tree Pruning in San Francisco: Meeting Professional Standards



TREES ADD TO THE VALUE, BEAUTY, AND HEALTH OF OUR CITY. BY MAINTAINING THE TREES ON THEIR PROPERTY, HOMEOWNERS IN SAN FRANCISCO ARE PRESERVING A VITAL PART OF SAN FRANCISCO'S URBAN FOREST.

REGULAR MAINTENANCE is necessary for trees in an urban setting such as San Francisco. For a tree of any size, the City encourages tree owners to hire an International Society of Arboriculture (ISA) Certified Arborist who has good references and insurance. A skilled arborist with years of education and experience can ensure that pruning practices will meet or exceed professional standards and can minimize potential damage to the tree, property, and utilities. Professional pruning is an investment in the longevity, appearance, and financial worth of your tree.

Some homeowners will want to prune tree branches themselves. This brochure is not meant to be comprehensive. Instead, it is designed to introduce professional pruning techniques and help minimize damage to trees. Poor pruning can affect the health and safety of your tree and the City's urban forest. Such practices are illegal and subject to fines and other penalties. For more information on pruning, please refer to the books and websites in "Additional Resources" at the end of this brochure.

Reasons to Prune

Pruning is the act of cutting or removing tree branches. The pruning needs of a tree vary by species and growth habit. Conifers require less pruning and training than deciduous or broadleaved trees, and fruit trees are primarily pruned to increase fruit production. There are a number of reasons to prune a tree:

- Improve aesthetic appeal
- Create strong structure
- Influence flowering or fruiting
- Reduce potential hazards
- Provide clearance for pedestrians and cars:
lowest branches should be at least 8' above the sidewalk
and 14' above the curb
- Reduce future maintenance costs

Improper Pruning Leads To Problems:

- Aggravating existing problems and creating new structural defects
- Aggravating insect or disease problems
- Increasing the frequency of maintenance needs
- Reducing tree lifespan



Jaime Pandolfo

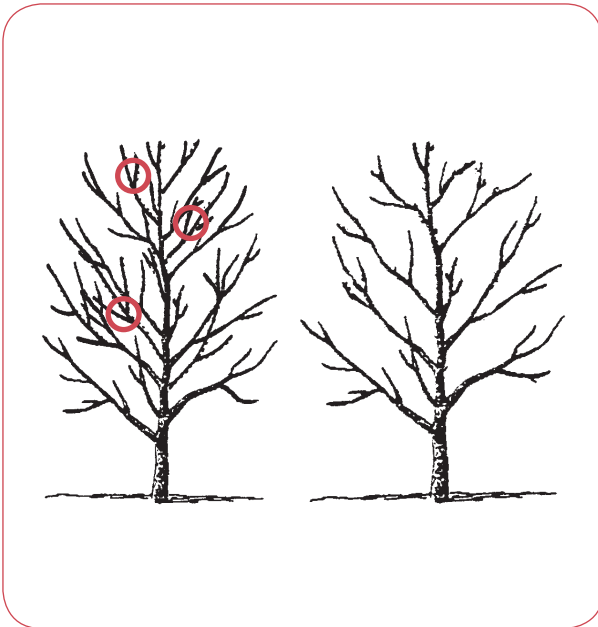
The Department of Public Works Bureau of Urban Forestry provides care for some of the trees in the public right of way; other trees are the responsibility of the adjacent property owner. Information on which trees the City maintains can be found on the DPW website; see back page.

What to Cut

Remove broken, diseased, dead, or dying branches. To test whether or not a branch is alive, scratch the bark. Green tissue under the bark indicates that the tree is alive, whereas white, brown, or yellow tissue indicates that it is dead.

Remove crossing, competing or crowding branches, especially if they are rubbing against or growing into each other, which will damage the tree.

Consider safety, shape, and sight lines: good pruning makes a tree safer, enhances the natural form, and filters light through the canopy.



Do not overprune a tree. During the process, step back and examine the tree from all viewpoints.

Do not remove more than 25% of the tree canopy each year. Do not remove more than 25% of the foliage on a branch or limb each year. This will stress the tree and it may produce weakly attached branches the following year.

Do not cut back to a branch that is less than 1/3 or 1/2 the size of the main branch.

It is important to selectively remove branches throughout the tree—not just the lowest branches you can reach. Removing the lowest branches when it is unnecessary is sometimes called “limbing up.” This can cause a tall spindly tree to form, and it can also reduce trunk flare and girth of the tree. Lower branches help keep the vigor in the lower portion of the tree and this is especially important in conifers.

How to Cut

It is important to use the best pruning techniques and tools and to make a cut that minimizes the size of the wound and the damage inflicted. Any cut is a wound that stresses the tree and provides an entry point for infection by pests and disease.

Reduction Cut

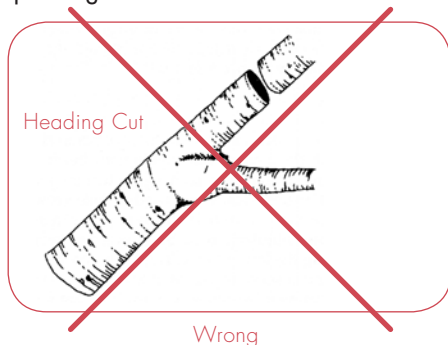
This reduces the length of a branch back to a lateral branch that is at least 1/3 the size of the cut. This remaining branch will direct the growth of the whole branch.

Removal Cut

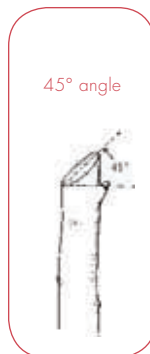
This removes a branch from the main trunk or parent branch.

Heading Cut

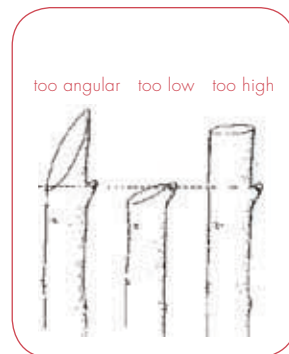
This reduces the branch to an arbitrary length regardless of where lateral branches and buds are located. Do not perform these cuts since they can result in dieback or excessive sprouting.



When pruning a branch: **Do** cut back to a bud or lateral branch, making a cut angled in the direction of growth. **Do not** cut at a larger angle—this leaves a larger wound. **Do not** cut too close—this may injure the bud. **Do not** leave a stub—this provides an entry point for diseases and pests.



Correct

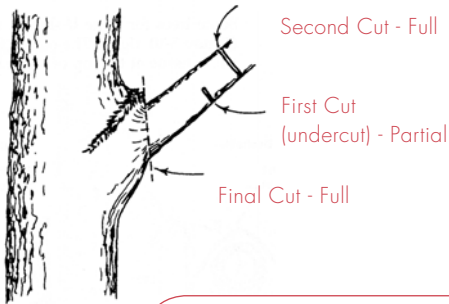


Wrong

Types of Cuts

3-Cut Method

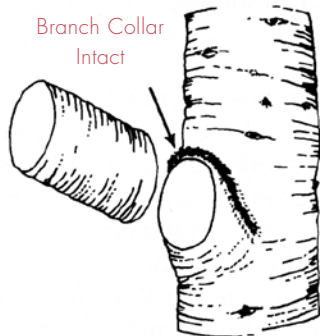
When cutting a large branch greater than one inch in diameter, use the 3-cut method to reduce the weight of the branch. This will avoid splitting the branch and stripping bark from the tree.



Target Cut vs. Flush Cut

CORRECT: Target cuts leave the branch collar intact, so the tree tissue can grow over a wound and seal it.

WRONG: Flush cuts create a large wound around the branch collar, which is hard for the tree to seal or compartmentalize.



Proper Pruning Technique

Correct



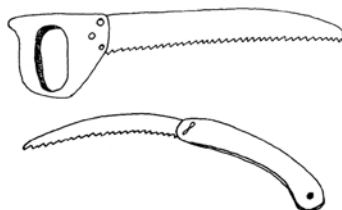
Improper Pruning Technique: Flush Cut

Wrong

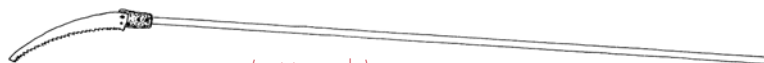
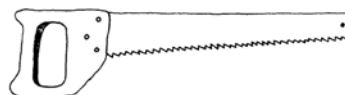
Pruning Tools

You will need sharp tools designed for trees in order to make a good cut. Do not use kitchen knives or carpentry saws. Cutting large branches, climbing trees, and using chain saws are dangerous activities and it is recommended that you hire a Certified Arborist with training and insurance.

Curved Blades



Straight Blade



(not to scale)

Pruning Shears or Secateurs: These small one-handed shears cut branches up to 1/2 inch in diameter depending on the quality of the tool.

Pruning Saw: This blade saw cuts branches greater than 1/2 inch in diameter.

Extension Pruners: They are essentially pruning shears mounted to a lightweight pole, which allow you to cut higher branches from ground level.

Pole Lopper: This tool cuts branches up to 1/2 inch in diameter depending on the lopper. A lopper makes a messier cut compared to shears or a saw and it is hard to control on larger branches.

Pruning Paint - Not Recommended

Although in the past pruning paint was used, today this is not a recommended practice as it prevents a tree from compartmentalizing a wound and can encourage disease.

Illegal Practices

Do Not Top Trees

Tree topping (also called hat-racking, heading, or rounding over) is the practice of cutting a terminal branch to a stump or to a lateral branch that is not large enough to assume the terminal role. In general, topping is not an acceptable way to reduce a tree's canopy. In certain situations, a professional arborist may use topping to remove hazardous branches and prolong the life of a mature tree.



Friends of the Urban Forest

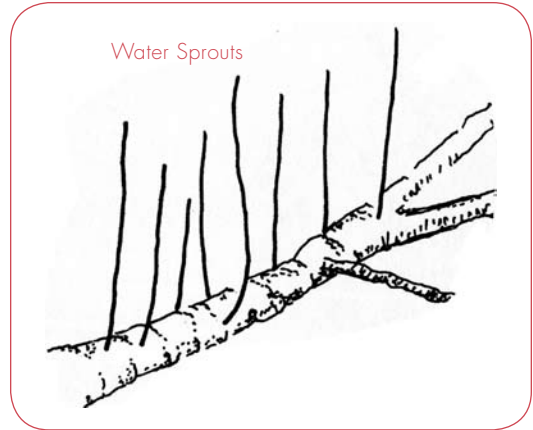
TOPPING STREET CITY TREES IS ILLEGAL.
ANYONE WHO INDISCRIMINATELY TOPS
CITY TREES IS LIABLE AND WILL BE FINED.

Tree topping results in rapid growth of multiple thin branches below the cut. These new branches, called water sprouts, are weakly attached and hazardous.

Topping can also cause trunk rot, which weakens the structure of the tree and creates more hazards.

In fact, a topped tree will require more frequent maintenance than a properly pruned tree. It is not advisable to hire anyone who will top a healthy tree.

Remember – The City of San Francisco issues fines for topping trees.



Do Not Pollard Trees

Pollarding is generally not recommended.

Pollarding is a rigorous tree pruning technique that must be performed by a professional arborist from the beginning of a tree's life. This intensive practice of cutting a tree's new growth each year can only be applied to a limited number of tree species.

Mei Ling Hui



Do Not Lions-Tail Trees

This practice removes up to two-thirds of the lower branches and leaves, resulting in a ball of leaves

at the tips of branches. This poor pruning practice weakens trees and makes them susceptible to branch tearing, sun scorching, and other ailments.

Mei Ling Hui



When to Prune

WHEN YOU PLANT A NEW TREE it is best to remove any dead or damaged branches while it is still in the container and remove the nursery stake. Wait for one year after planting before you start pruning your tree unless there are broken or dead branches.

If a tree of any size has significant structural damage, consult an arborist to see whether the tree can be rescued by restorative pruning, or if it must be removed. Do not prune pine trees during spring and summer months (February to October) since bark beetles are attracted to the cuts.

It is best to prune live branches when trees are dormant (not actively growing). Dormancy varies by tree species and neighborhood micro climate. In California, deciduous and evergreen trees are generally dormant from December to February. However, some California native trees are dormant during the summer. The worst time of year to prune is when trees are producing leaves. Dead or broken branches can be removed at any time of year. Check with the University of California Cooperative Extension Office about diseases affecting your particular species of tree, as this can affect the time of pruning.

Contact the Bureau of Urban Forestry for information on planting, removal, and pruning permits for Significant Trees and trees in the public right of way.

Tree Waste Disposal

Remember that you can always put yard waste in your green compostables cart. When you dispose of tree branches and leaves in the green cart, make sure the pieces are small enough to fit inside so that the lid can close. You can also use leaves as mulch in your yard.



Young Trees

According to a 2004 study, about half of the City's trees are six inches or less in diameter. In order for young trees to reach maturity and provide maximum benefits, they need special care.

Proper pruning of a young tree is a good investment that will prevent problems, save money, and create a beautiful, healthy tree. For more information on hiring a qualified arborist, please refer to "Additional Resources."

Mature Trees

Proper maintenance of mature trees can optimize the benefits of trees while reducing hazards. Pruning large trees involves greater risk than pruning small trees. We encourage tree owners to hire an ISA-certified or similarly qualified arborist who has good references and insurance. This will help ensure that pruning practices will meet or exceed professional standards and minimize potential damage to the tree, property, and utilities. For more information on hiring an arborist, please refer to "Additional Resources."



Tree Pruning Standards in San Francisco

THE CITY OF SAN FRANCISCO has adopted pruning standards that apply to anyone who works on a public tree. These standards recognize the American National Institute (ANSI) Safety Standards, International Society of Arboriculture (ISA) Tree Pruning Guidelines and ISA Best Management Practices as benchmark standards for tree pruning and maintenance. City arborists, managers, and related personnel and contractors are requested to retain and use copies of the above publications. Copies of these standards can be found at SFEnvironment.org or SFGov.org, or by contacting SF Environment or the Bureau of Urban Forestry.

This brochure introduces professional pruning practices and contains key elements of ISA and ANSI standards. To order full copies of the standards, please contact ISA and ANSI. For more pruning references, please refer to the "Recommended Reading" section.

Bibliography

Training Young Trees for Form and Structure by Larry Costello

Pruning illustrations used with permission from:

An Illustrated Guide to Pruning, Second Edition by Edward F. Gilman and Thomson Learning

Tree care information from The International Society of Arboriculture

Urban Tree Foundation urbantree.org

Additional Resources

Urban Forestry Council

SFEnvironment.org

sfurbanforestcouncil@sfgov.org

DPW Bureau of Urban Forestry

sfgov.org/site/sfdpw_index.asp?id=31963

(415) 554-6920

Article 16 of the Public Works Code

municode.com/Resources/gateway.asp?pid=14142&sid=5

Friends of the Urban Forest

Tree care information: fuf.net (click on "tree care")

Arborist referrals: fuf.net/tree_care (click on "arborist referrals")

International Society of Arboriculture

Fact sheets: treesaregood.com

Arborist referrals: isa-arbor.com (click on "find an arborist")

(217) 355-9411

National Arbor Day Foundation

Tree City USA Bulletin 1: How to Prune Young Shade Trees

Tree City USA Bulletin 8: Don't Top Trees!

arborday.org (click on "programs," then "Tree City USA," then "Tree City USA Bulletins")

University of California Cooperative Extension

San Mateo and San Francisco counties

<http://cesanmateo.ucdavis.edu>

Recommended Reading

An Illustrated Guide to Pruning by Edward F. Gilman

Arboriculture: Integrated Management of Landscape Trees, Shrubs and Vines by R.W. Harris

How to Prune Fruit Trees by R. Sanford Martin

Training Young Trees for Form and Structure by Larry Costello

Cover Photo: *Friends of the Urban Forest*



Jaime Pandolfo



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A Department of the City and County of San Francisco

11 Grove Street
San Francisco, CA 94102
(415) 355-3700
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06/08



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11 Grove Street
San Francisco, CA 94102



Living by Example

This brochure was printed with soy-based inks on 100% post-consumer recycled paper, processed chlorine-free. By using environmentally friendly paper, we saved:

- 4 fully grown trees
- 1,646 gallons of water
- 3 million BTUs of energy
- 182 lbs. of solid waste from landfill
- 360 lbs. of greenhouse gases

Calculations based on research by Environmental Defense and other members of the Paper Task Force

Find the Pruning Guide online at SFEnvironment.org