

YARD CARE

Watershed-Friendly Gardening Kit

Website

Whatcom County

www.lakewhatcom.whatcomcounty.org/gardenkit

Making the Connection: Stormwater & Gardening

CSI: Contamination Scene Investigation (stormwater management)

Lakescaping: Buffers for Your Back Yard

Soil: Don't Treat It Like Dirt

Lawn Care: Keeping Your Lawn and Your Lake Healthy

Turf Alternatives: Groundcovers for Whatcom County

The Ten Most UN-Wanted Pests

Top Secret Agents: Fighting Whatcom County's Most Unwanted Pests

Passive Aggressive Plants: Your Plants' Natural Defenses

Plant Right For Your Site

Brochure

Washington Department of Ecology

NOTE: Excerpt from booklet entitled Natural Yard Care.

Tree Planting Guide

Booklet

City of Bellingham



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Get to know your yard.

Where is it sunny or shady at different seasons? Dig in a few places to see where your soil is sand or clay, soggy year 'round or bone dry. Look around – are there plants with problems? Where do you want play areas, vegetables, color, views, or privacy? How much lawn do you need, or want to maintain? What kind of plantings would fit your yard?

Choose the right plant for the right place.

Select plants that grow well in the Northwest and fit the sun, soil, and water available in your yard. Native plants are best near waterways, and also work well on many other sites. Think about how big a tree or shrub will be when mature (especially next to houses or under powerlines). Look around at neighbors' yards, nurseries, books, and demonstration gardens for plants that do well in sites similar to yours.



Pick plants that resist pests and use less water.

Many pest and disease resistant varieties are available now – ask at nurseries or Master Gardener clinics. Choose plants that are “low water use” or “drought tolerant.” After they're established (2-5 years) many will thrive just on our limited summer rainfall most years, saving you time and money on watering.

Group plants by their needs.

Put plants that need full sun, or shade, or rich soil, or regular irrigation together with those with similar needs. That way you don't have to water the whole yard to reach one thirsty plant!

Ohme Gardens near Wenatchee

Lawns and vegetables are picky!

They need several hours of full sun, level well-drained soil, and irrigation. Limit lawn areas to where you need them. Other plants are better for shade, soggy sites, or slopes, and require less maintenance.

Give plants a good start.

Prepare the soil by mixing 20-25% compost into soil in planting beds. (For trees and shrubs, mix compost into the whole planting bed, or just plant in native soil and mulch well. Don't add compost just to their planting holes – that can limit root growth.) Then spread out the roots, add water, and tamp soil back in for good root contact. Set plants so the soil level is at the same height on the stem as at the nursery, to prevent problems. Mulch new plantings well, and be sure to water even drought tolerant plants during their first few summers, until they build deep roots.



Dig a hole as deep as the root mass and twice as wide, and spread the roots out before planting.

Make space for wildlife.

You can invite birds, butterflies, and other wildlife into your yard, protect shorelines and salmon, and make a more attractive landscape.

- Plant trees and use **native plants**, especially ones with fruit and flowers.
- Avoid exotic plants or state-designated “noxious weeds” - **see Resources on back**.
- Plant in layers (ground cover, shrubs, and trees) so your landscape is like the forest.
- Avoid using pesticides – they can poison birds, beneficial insects, and salmon when rain washes them through storm drains into streams.
- Provide a bird bath or other small water source.
- If space allows, leave dead standing trees and brush piles as homes for wildlife.
- Leave wild “buffer” areas of native plants along ravines, streams, shoreline, and fencelines.



For help selecting the right plants, see the **Resources on back cover**, or talk to neighbors, garden centers, or landscapers.



Want to know more?

Resources

- Natural Yard Care information, in English and Spanish (Department of Ecology) www.ecy.wa.gov/beyondwaste/compost.html
- Washington State University Master Gardener information: Eastern WA 509-477-2181; Western WA 206-296-3440; <http://mastergardener.wsu.edu/gardening.html>
- Integrated Pest Management www.ecy.wa.gov/programs/swfa/upest or <http://pep.wsu.edu/hortsense/>
- Noxious weed control www.kingcounty.gov/weeds
- Pesticide safety and regulations (Department of Agriculture) www.agr.wa.gov/pestfert/pesticides
- Hazardous chemical alternatives and safe disposal options www.ecy.wa.gov/toxicfreetips or call toll free 844-939-9991 or e-mail toxicfreetips@ecy.wa.gov
- Protecting our water quality www.ecy.wa.gov/washington_waters/index.html
- Building healthy soil and erosion control www.buildingsoil.org
- Water conservation, indoors and outdoors www.savingwater.org or www.ecy.wa.gov/programs/wr/ws/wtrcnsv.html
- Choosing the right plant for the right place (photos) www.GreatPlantPicks.org
- Native plant information <http://gardening.wsu.edu/nwnative>

When it comes to your yard, act naturally!



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Waterwise Garden at the Bellevue Botanical Garden.

If you require this document in an alternative format, please call 360-407-6900. Persons with hearing loss can call 711 for Washington Relay Service. Persons with a speech disability can call 877-833-6341.



DEPARTMENT OF
ECOLOGY
State of Washington

Thank you to King County Solid Waste Division and City of Seattle Public Utilities for creating this guide and sharing it with neighboring communities in Washington.

City of Bellingham Tree Planting Guide

This guide provides you with resources for planting trees in the city. Using the right tree in the right place, and maintaining it correctly will provide healthy, beautiful trees whose benefits can be enjoyed by the community for many years.

- Why plant trees?** page 1
- Get a Street Tree Permit First**....page 2
- Check the Site &**
- Choose the Right Tree**.....page 3
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- Help it Grow** pg 5 & 6
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*Four trees are removed for every one planted in most American cities.
A single large average tree absorbs 26 pounds of CO₂ per year.
Each vehicle spews out approximately 100 pounds of CO₂ per year.*

Why Plant Trees?

Trees in an urban area increase quality of life by:

Air quality and cleansing - A typical person uses 386 lb. of oxygen per year. A healthy 32 ft. tall ash tree can produce about 260 lb. of oxygen annually. Two of these trees would supply the oxygen needs of a person each year!

Improved water quality - The canopy of a street tree intercepts rain, reducing the amount of water that will fall on pavement and then be removed by a storm water system.



Heating & Cooling Costs - A mature tree canopy reduces air temperatures by about 5 to 10° F, influencing the internal temperatures of nearby buildings. Trees divert wind in the winter and increase winter-time temperatures.

Increased home sales prices - When homes with equivalent features are evaluated, a 6% increase to the value is associated with nearby trees.

Soil Stabilization - Tree roots stabilize soil, helping to minimize erosion.

Increase Habitat - Planting trees in an urban setting provides food and shelter for wildlife in the city.

Trees Improve Urban Traffic Safety – Trees slow down traffic on urban streets, creating a calming effect, reducing crashes and injuries. The risk of being in a collision with an urban tree is 100,000:1, about the same as being injured in a plane crash.

Enhanced quality of life for future generations - All of these benefits of trees increase as they grow. Planting trees is an investment in the quality



Planting and maintaining trees in cities is challenging because of all the stresses associated with the urban environment: limited space, poor soils, reduced water, and abuse.

Get a Street Tree Permit First

Step 1 ~ Get a Street Tree Permit First

The City of Bellingham **Street Tree Permit** is required for:

- **street tree plantings**
- **major street tree pruning**
- **street tree removal**

The permit process seeks to ensure the long term survival of healthy and attractive street trees. A tree located in an improved street right of way (ROW) is a street tree. An improved ROW has vehicle and/or pedestrian improvements. Improvements may include a road, curb, planting strip, sidewalk or trail. ROW's can vary in width. Unimproved ROWs have different guidelines which are available at the Permit Center. The Permit Center phone is 778-7300.

Street Tree Permit Process

- The **Street Tree Permit Application** can be acquired at the Permit Center at City Hall, 210 Lottie Street. Currently there is no fee for this permit. Also, this form is on line at <http://www.cob.org/documents/planning/permit-center/forms/planning/222-street-tree-permit-app.pdf>
- Planning, Public Works and then the Parks Department will review the permit. A Parks Department staff person may contact you to arrange a visit of the site to address any issues.
- This review process usually takes a few days to complete.

Street Tree Plantings

Use this guide to help you think through the process of planting trees on an improved street ROW. The sections below will help you in the process.

- **Check the Site**
- **Choose the Right Tree**
- **Plant it Right**

Street Tree Planting requires a Street Tree Permit.

Major pruning is removing live wood of over **two inches** in diameter or over **10%** of the tree's total leaf area. This action requires a Street Tree Permit.

- The intent of pruning is to maintain trees in their natural form and in a healthy condition. See *Help it Grow* section on page 5 & 6 in this guide for tips on proper pruning or this web site for details on proper pruning <http://hort.ufl.edu/woody/pruning/>
- Topping of trees is not permitted. Trees respond to topping by putting on more growth, quickly. This new growth take energy away from the tree and makes it more vulnerable to insect and disease infestations. Decay moves down the stems from the cuts, creating a weak structure as well as shortening the tree's life.

Tree removals

These are granted only for hazardous trees, dead or dying trees or as part of an approved tree replacement planting plan. This action requires a Street Tree Permit.

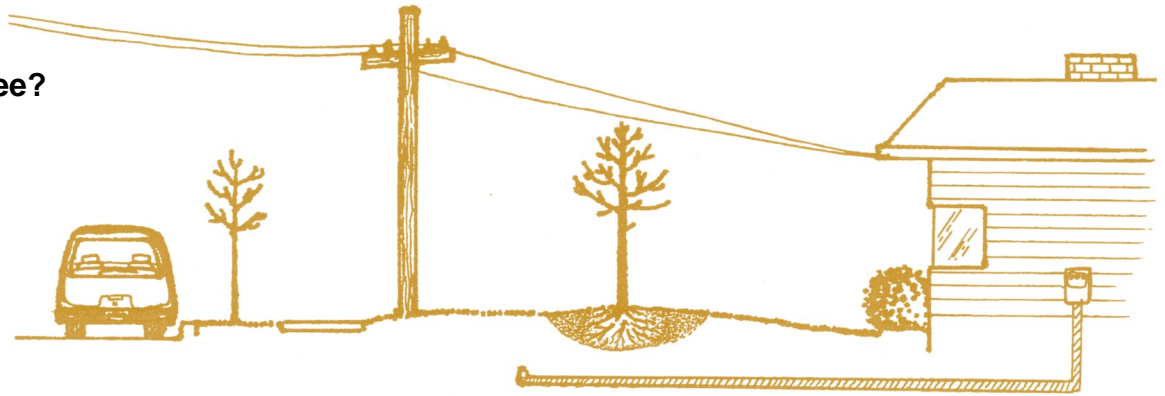


Check the Site & Choose the Right Tree

STEP 2 ~ Check your Planting Site

Why plant a tree?

- Shade
- Screening
- Flowers
- Color
- Wildlife
- Other



Consider the site, look up, down and all around.

Up

- Are there power lines or other utilities overhead?
- Other trees that might shade the tree you are planting?

Down

- Any underground utilities?
 - Call the Dial Before You Dig 1-800-424-5555 *before* you decide on a place for the tree.
- How are the soils?
 - Call WSU Whatcom County Extension at 360/676-6736 to get information about soil conditions and types. They are located in Bellingham at 1000 N. Forest St. Suit 201.

All around

- Will the tree block the view of traffic signs or signals for vehicles or pedestrians?
- Make sure the tree's growth will not be hindered by a structure like a house or garage eave.

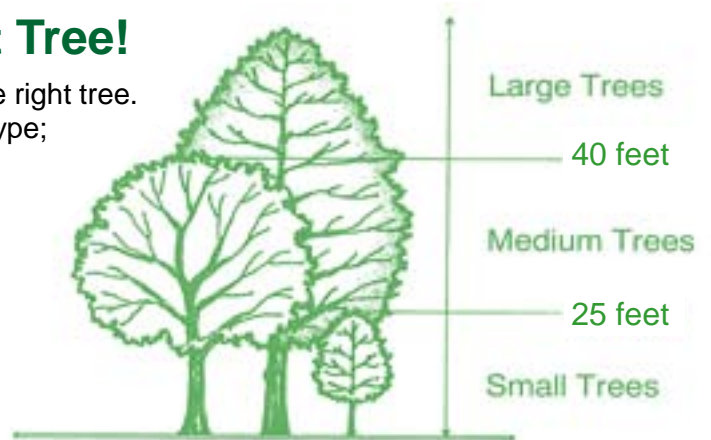
STEP 3 ~ Choose the Right Street Tree!

The **Approved Street Tree List** will help you choose the right tree. This list provides the following information for each tree type;

- size
- shape
- canopy density
- sun requirements
- botanical and common name
- growth rate
- flower color
- foliage color
- autumn color

View this list at <http://www.cob.org/services/permits/forms.aspx> or pick up a copy in the Permit Center at City Hall, 210 Lottie Street.

- ◆ **Choose a spot** where the fully grown tree will fit. Don't plan on heavy pruning to control the size.
- ◆ **Choose the right tree from the beginning.**
- ◆ **Choose a tree in good condition to plant!**
 - Strong twig growth
 - Wide angle branching
 - No trunk damage
 - A solid damp root ball
 - Symmetric



Parking Strip Widths

- Large Trees – 8 feet minimum width
- Medium Trees – 6 feet minimum width
- Small Trees – 4 feet minimum width

What's in a Name!

Norway maple, *Acer plantanoides*
 common name botanical name

Common names can change from nursery to nursery. The *botanical name* is specific to a plant species.

Plant it Right

Step 4 ~ Plant it Right!

Planting can be done at any time of year; however, fall and early spring are the best times. Successful planting depends on the hole you dig. *Structural roots* anchor the tree and provide the framework for the absorbing roots. *Absorbing roots* are tiny roots found in the uppermost part of the soil. They provide the tree with water, air, and nutrients. Provide good conditions and your tree will grow fast and strong.



Your tree will be in one of these **three forms** when you purchase it.

Balled and Burlapped:

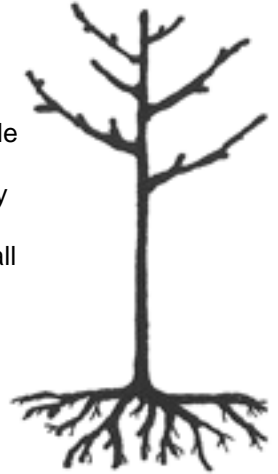
Be sure to remove all ties from around the trunk. Remove all wires, twine and wire baskets from the root ball. Gently pull the burlap away from the ball, ease the roots through the burlap and remove the burlap completely.



Keep soil around tree roots moist until you are ready to plant!

Bare Root:

Make the hole wide enough to completely spread the roots out in all directions. This helps optimize the root growth.



Container: Remove the container before planting. This includes peat pots.

Planting the Tree

Digging the hole

- Remove grass sod and dig a saucer shaped hole, wide at the edges.
- Pile soil in one area so it is easy to reuse.
- The hole should be three times as wide as the root ball and the depth of the root ball.
- Roughen the sides of the hole so roots can penetrate the soil.

Preparing the Roots

- Gently massage the root ball until the roots are loosened.
- Remove any soil from above the root flare. The root flare is where the roots spread out from the trunk of the tree.
- Root tips die when exposed to excess light and air. Work quickly!

Placing the tree in the hole

- Make a mound of soil in the middle of the hole to set the root flare even with the original grade around the tree.
- Spread the roots out in all directions.

Backfilling the hole with soil

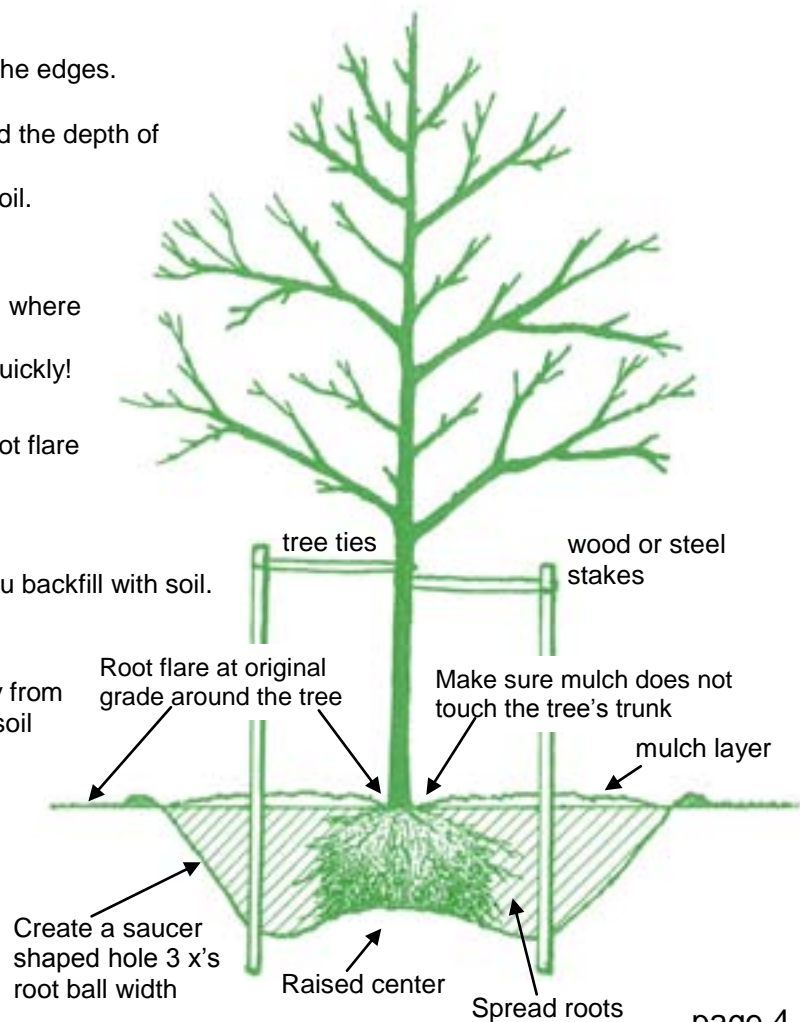
- Lightly press around the roots to collapse air pockets as you backfill with soil.
- Water thoroughly.

Mulching around the tree

- Form a mulch ring around the tree keeping the mulch away from the trunk. Mulch helps by keeping out weeds, keeping the soil moist, and keeping grass trimmers away from the trunk. Mulching materials include compost, bark, wood chips etc
- Mulch should be about three to four inches deep. Form a three foot radius circle from the trunk the tree.

Staking the tree ~ Stake only if necessary; do not use wire or anything that could cut into the bark. Ready-made tree ties work well. Staking should be removed after one year.

Fertilizing ~ Do not fertilize the tree during the first year.



Help it Grow

Step 5 ~ Help it Grow

Planting the right tree in the right place will guarantee your tree will only need minor maintenance to help it grow into a beautiful tree.

- Water deeply during dry spells
- Remove weeds and grass from mulched area
- Monitor for insect and disease problems
- Prune for appropriate reasons (see below)

Reasons to Prune

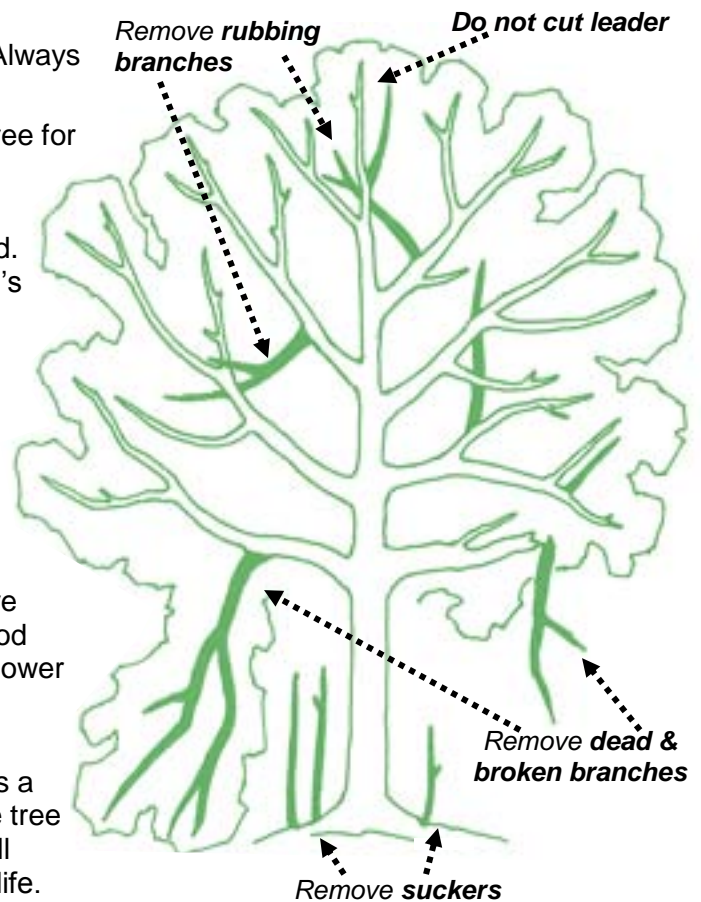
Proper pruning is essential in developing a tree with a strong structure and desirable form. If a young tree is pruned correctly, it will require little corrective pruning when mature.

Pruning Principles to keep in mind:

- Each cut has the potential to change the growth of the tree. Always have a purpose in mind before making a cut.
- Proper technique is essential. Poor pruning can damage a tree for life.
- Trees do not heal the way people do. When a tree is wounded, it must grow over and compartmentalize the wound. The wound is contained within the tree for the rest of the tree's life.
- Small cuts do less damage than large cuts.

What to Prune:

- *Remove dead wood* ~ During the *first year* remove only the damaged or dead limbs. The tree will need all of its leaf surface to grow new roots.
- *Prune for Good Structure* ~ After the first year, prune young trees to establish a strong structure for future growth. Remove *rubbing branches*. Encourage a strong central leader and good spacing of branches. As the tree grows big enough, remove lower branches for pedestrian and vehicle passage. A website for pruning information <http://hort.ufl.edu/woody/pruning/>
- *Do not cut the leader*. Never top a tree! Tree topping stresses a tree. It will put on more branches and leaves. This makes the tree more vulnerable to insect and disease infestations. Decay will move down the stems from these cuts, shortening the tree's life.
- *Removing suckers* directs growth and energy to the rest of the tree.



Trees are the oldest, cheapest, & most efficient air purifiers on earth!

Record breaking Trees in Bellingham!

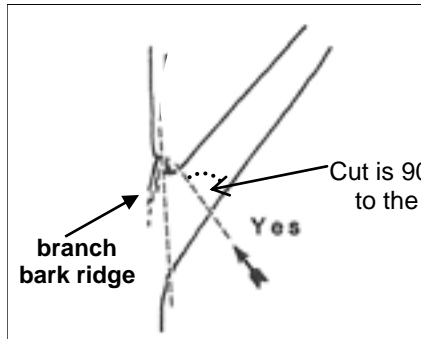
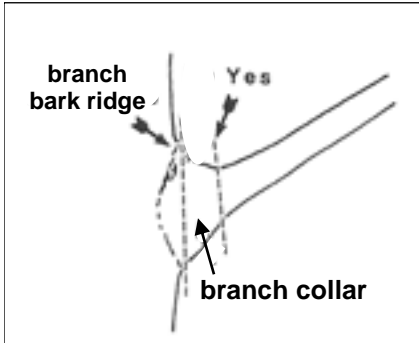
Some of Washington State's largest (record breaking) trees are located right in Bellingham. Find them and enjoy their beauty.

- Oregon crabapple, 21st Street and Bill McDonald Parkway
- Cedar of Lebanon, SW corner of Cedar & Forest Streets
- Copper Beech, 2231 Williams Street
- English Oak, Elizabeth Park
- Common Pear, Girard & Grand Streets

Making the Cut

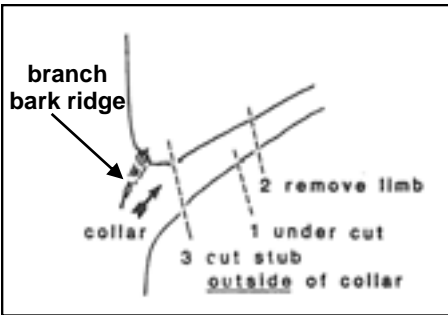
Where you make a pruning cut is critical to a tree's growth and health. Make pruning cuts just outside the branch collar. The **branch collar** is an enlarged area at the trunk-branch connection that has both trunk and branch tissues. The tree will be damaged unnecessarily if you remove or damage the branch collar. When a branch collar is not visible look for the branch bark ridge. The **branch bark ridge** is ridge of bark at the top of the trunk-branch connection. Tree wound dressings are not recommended.

Branch & Limb Pruning



Branches that do not have a distinct collar should be cut outside the **branch bark ridge**.

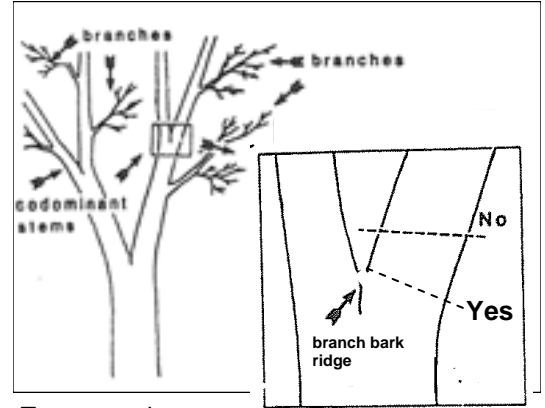
When removing a branch, always cut outside the branch bark ridge and branch collar.



This three cut technique prevents the bark tearing past the targeted cut.

- First make an undercut several inches outside of the collar.
- Then remove the limb by a second cut an inch or so outside of the first cut.
- Remove stub with third cut just outside of the collar. (Feucht, 1985)

Shaping with Pruning



Trees may have co-dominant stems, as shown above. If a co-dominant stem must be removed, cut at an angle outside of the branch bark ridge as shown in the insert above. Avoid leaving any stub.

Here are some websites with pruning tips:
http://www.treesaregood.com/treecare/pruning_young.aspx
<http://hort.ufl.edu/woody/pruning/>

Congratulations! By following these steps, your tree should live a long and healthy life and provide an important contribution to your community for generations to come. **Thank you!**

Tree Information Resources:

Agencies:

Bellingham Park Operations
 1400 Woburn
 Bellingham, WA 98229
 Call: 360/778-7100

WSU Whatcom County Extension
 1000 N. Forest St. Suit 201
 Bellingham, WA 98225
 Call: 360/676-6736

Tree Guides for local parks:

Elizabeth & Broadway Parks and Bayview Cemetery have Tree Identification Guides. Brochures are available at the Park Administrative office in Cornwall Park at 2400 Meridian Street, 778-7000.

Books:

Western Garden Book, Sunset Books, Lane Publishing Company, Menlo Park, CA, 2001

Tree Planting and Management, The Hillier Book of. By Keith Rushfort, David Charles Publishing, 1988

A New Tree Biology by Alex Shigo, Shigo and Trees Associated, 1986

Arboriculture, Care of Trees, Shrub, and Vines in the Landscape by R. W. Harris, Prentice-Hall, Inc., 1983

Websites:

TreesareGood.org

<http://oregonstate.edu/dept/ldplants/>

<http://www.fs.fed.us/psw/programs/cufr/>

<http://hort.ufl.edu/woody/pruning/>

ArborDay.org