

# CITY OF ROLAND

## *Arboricultural Specifications & Standards of Practice*

# ARBORICULTURAL SPECIFICATION AND STANDARDS OF PRACTICE CITY OF ROLAND

This document has been developed in conjunction with the Tree Ordinance for the City of Roland, Iowa, to detail the specifications and standards of practice concerning trees within the city.

## I. PERMITS

Before any street tree can be planted, or removed a permit must be obtained. This permit may be obtained at no cost from the City Hall, 202 E. Ash Street, Roland, Iowa.

A tree permit will only cover the planting or removal of a tree. If the property owner is doing the work, proof of Homeowner Personal Liability Insurance may be required. If the property owner has hired another person or contractor to do the work, the contractor shall provide the City of Roland with a Certificate of Insurance showing the following minimum required limits of coverage before permits will be issued:

Commercial General Liability Insurance with limits of not less than five hundred thousand dollars (\$500,000) per occurrence and Workers Compensation Insurance coverage at statutory limits on any and all employees.

Prior to digging or doing any underground work, utilities must be located. Locations can be obtained free of charge by calling Iowa One-Call; 1-800-292-8989.

## II. PLANTING

A. Site Evaluation: Not all sites are appropriate for trees. Before planting, thought should be given to how the mature tree will fit the site.

1. Spacing – The spacing of the street trees is dependent upon the species size classes as established for the City of Roland, Iowa. (See Diagram on Exhibit A)

- Small Trees: no closer than 20 feet
- Large Trees: no closer than 40 feet

Exceptions may be made for special plantings designed or approved by a landscape architect.

2. Distances – No tree planting is permitted where the distance between a curb and a detached sidewalk is less than nine (9) feet. In areas without sidewalks, an allowance shall be provided for future construction of sidewalks. (See Diagram on Exhibit B) Small trees shall be planted no closer than four (4) feet from the back of the curb or edge of the travel portion of the street and no closer than four (4) feet to the sidewalk or property line. No large tree shall be planted on right-of-ways that are less than eleven (11) feet. Large trees shall be planted no closer than five (5) feet to the back of the curb or traveled portion and no closer than five (5) feet to the sidewalk or property line. Whenever possible, trees shall be centered between the back of the curb or the traveled portion of the street and the sidewalk or property

line. Trees shall be planted no closer than twenty-five (25) feet from an intersection as measured from the back of the curb of the intersecting street. (See Diagram on Exhibit A) Trees shall be no closer than ten (10) feet from any alley or driveway edge.

3. Utilities

- a. No street trees, other than those classified as “small trees” that do not attain a mature height greater than twenty (20) feet, shall be planted under or within ten (10) lateral feet of any overhead utility wire exclusive of service lines. (See Diagram on Exhibit B)
- b. No street trees shall be planted over or within five (5) lateral feet of any underground line, including the water line and sewer line.
- c. No street trees shall be planted within twenty-five (25) feet of stop signs, utility poles, or fire hydrants.
- d. No street trees shall be planted closer than five (5) feet to a water shut off, manhole, or sewer lateral.

- B. Diversity: Due to potential threat from pests or disease it is desirable to plant trees from a variety of tree species. An inventory of trees growing in the area where the new tree is planned should be taken to ensure diversity in the species, genus and family of tree.
- C. Procedure: To promote the healthy and continuous growth of any tree, care should be given to its planting. Proper procedures vary according to tree species and type. For detailed instructions consult a local nursery, or the Iowa State University Extension Service.
- D. Species: To ensure trees planted in the right-of-way are suitable for urban areas, certain trees are recommended for planting, while certain species cannot be planted on street right-of-way.

**Recommended** – No list of recommended trees is ever complete or static. New species and cultivators are developed and will prove useful, while old standards will be phased out. The Street Superintendent shall also have the discretion to approve additional types of trees.

In all cases trees to be planted in the street right-of-way will not be less than one (1) inch in diameter at six (6) inches above the soil line on the trunk.

For purposes of this document, allowable tree species are divided into categories based on tree size and available area for planting.

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**RIGHT-OF-WAY WIDTH: minimum 9'**

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**SMALL TREES**

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Amur Maple  
Tatarian Maple  
Ruby Red Horsechestnut  
Serviceberry  
European Hornbeam  
American Hornbeam  
Eastern Redbud  
Yellowwood  
Pagoda Dogwood  
Flowering Crabapples

Thornless Cockspur Hawthorn  
Washington Hawthorn  
Winter King Hawthorn  
Hophornbeam  
Amur Corktree  
Amur Cherry  
Mayday Tree  
Japanese Pagoda Tree  
Japanese Tree Lilac

Only small trees with a maximum height of 20 feet may be planted under utility wires, regardless of street right-of-way width.

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**RIGHT-OF-WAY WIDTH: minimum 11'**

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**LARGE TREES**

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Black Maple  
Norway Maple  
Red Maple  
Sugar Maple  
Freeman Maple  
River Birch – single stem only  
Hackberry  
White Ash  
Gingko – male form only  
Thornless Honeylocust  
Kentucky Coffeetree  
Basswood  
American Elm hybrids resistant to Dutch  
Elm Disease

Cucumbertree Magnolia  
Sycamore  
Black Cherry  
White Oak  
Swamp White Oak  
Red Oak  
Shingle Oak  
Bur Oak  
Chinkapin Oak  
English Oak  
Black Oak  
Little Leaf Linden  
Redmond Linden

This is a list of approved varieties and species that do well in an urban development. As new cultivars are developed, this list will be added to and some may be deleted. This list does not include some varieties that may be approved for planting in certain conditions.

**Not Allowed** – Due to their susceptibility to storm damage, disease, their limited hardness or because they are considered unusually messy due to dropped fruit and/or limbs, the following tree species will not be allowed to be planted in any street right-of-way within the City of Roland:

Boxelder	All Shrubs
Silver Maple	All Fruit Trees
Tree of Heaven	All Nut Trees
White Birch	White Poplar
Cutleaf Weeping Birch	Bolleana Poplar
White Mulberry	Lombardy Poplar
Red Mulberry	Black Locust
Catalpa	European Mountain Ash
Russian Olive	Chinese Elm
Gingko – female form	Siberian Elm
Common Honeylocust	English Walnut
All Conifer trees (Firs, Junipers, Larches, Spruces, Pines, Yews, Arborvitae, and Hemlocks)	Black Walnut
	Willows
	Cottonwood

It is **also not allowed** to do any of the following to street right-of-way trees:

1. Damage, cut, carve, nail, bolt, or set fire
2. Attach any rope, chain, wire, cable for any reason
3. Attach advertising posters or any other contrivance
4. Allow any harmful gaseous, liquid, chemical, or solid substance come in contact
5. Topping (which means the drastic removal of large branches, severely cutting back limbs to stubs larger than three (3) inches in diameter within the tree's crown to such a degree so as to remove the normal canopy and disfigure the tree. (See Diagram on Exhibit C)
6. To patch any tree cavity with concrete or fill material of any kind
7. To place or store any stone, brick, sand, concrete, or other material which shall impede the free passage of water, air, and fertilizer to the roots of any tree

**Shrubs** – As defined in the City's tree ordinance are not acceptable plantings in the street right-of-way. Any other plantings or ground cover planted in the street right-of-way shall not attain a height of eighteen (18) inches at maturity.

### **III. MAINTENANCE**

- A. **General:** To promote their healthy and vigorous growth, trees should be pruned throughout their life span. Primary care and maintenance of street trees shall be the responsibility of the adjacent property owner. Bulletins and tree pamphlets are available from the Iowa State University Extension Office.

In order to allow the free passage of vehicular traffic and ensure trees will not obstruct or shade traffic control devices or the view of street intersections, all trees shall be trimmed so any overhanging portions shall be fifteen (15) feet over the paved portion of the street or the traveled portion of an alley.

Branches overhanging sidewalks shall be trimmed to a minimum height of eight (8) feet. Good pruning practices should be followed at all times. (See Diagram on Exhibit D)

To ensure the ability of the motorists to see any traffic control device, trees shall be kept trimmed to the specifications listed here: Any traffic light or regulatory sign (as defined in the current edition of the Manual on Uniform Traffic Control Devices (MUTCD)) shall be visible from a distance no less than two hundred (200) feet as measured from the signal or sign to the center of the street. An exception has been made for No Parking Signs; these should be visible from a distance of one hundred (100) feet as measured from the sign to the center of the street.

- B. Street Trees: If it becomes necessary in the opinion of the Street Superintendent to trim or remove any street tree or planting, the Street Superintendent shall notify the adjacent property owner. Notification shall be sent by regular U.S. mail.

Before a property owner can plant or remove any street tree, they must first obtain a permit. If the property owner is doing the work, proof of Homeowner Personal liability Insurance may be required. If the property owner has hired another person or contractor to do the work, the contractor shall provide the City of Roland with a Certificate of Insurance showing the following minimum required limits of coverage:

Commercial General Liability Insurance with limits of not less than five hundred thousand dollars (\$500,000) per occurrence and Workers Compensation Insurance coverage statutory limits on any and all employees.

Removal of trees shall be complete and the work site shall be cleaned up properly. All tree trunks, limbs, branches, twigs, and brush shall be collected and disposed of in an authorized manner. Stumps and all surface roots shall be ground down to a minimum of four (4) inches below normal ground line, debris cleaned up and the hole shall be backfilled with black dirt.

Whenever the Street Superintendent is notified or becomes aware of a diseased or dead street tree which is in the imminent danger of falling and has the potential of thereby injuring an individual or causing property damage, tree shall be considered a hazard and removed by the City.

Whenever the Street Superintendent is notified or becomes aware of a dead or broken branch or limb in any street tree which is in the imminent danger of falling and has the potential of thereby injuring an individual or causing property damage, the dead or broken branch or limb shall be considered a hazard and be removed by the abutting property owner. Subsequent trimming of the tree which contained the dead or broken branch or limb should occur after notification of the adjacent property owner as outlined above. If the cost of trimming a tree exceeds one-half the cost of tree removal, the Street Superintendent may decide to remove the tree, rather than trim the tree.

- C. Private Trees: The property owner is responsible for the maintenance of any tree on their property. Owners are encouraged to contact the local ISU Extension Office for the information on proper planting and care of trees. The Extension Service can help determine which tree species grow best in our area as well as which types of trees are most susceptible to disease.

If it becomes necessary to trim trees and shrubs on private property to comply with the specifications set forth in this document, the Street Superintendent shall notify the owner of the property upon which the tree or shrub is growing. Notification shall be sent by regular U.S. mail.

If the property owner fails to comply with the trimming of the tree or shrub within five (5) days after receipt of the stated above notice, the Street Superintendent shall have the tree or shrub trimmed. The exact cost of the work shall be certified by the City Clerk to the Story County Treasurer to be collected with and in the same manner as property taxes.

Whenever the Street Superintendent is notified or becomes aware of a diseases or dead tree or broken or dead branch or limb in any private tree which has the potential of falling and thereby injuring any individual or causing property damage to adjacent property, the Street Superintendent shall declare the tree, branch, or limb a hazard and order the property owner to remove the hazard within 14 days. Notification shall be sent by certified mail.

If the property owner fails to remove the hazard, the Street Superintendent shall cause the hazard to be removed. For purposes of removing the hazard, City crews or a City agent shall be allowed on private property. Attempts should be made to notify the property owner before entering onto private property. The exact cost of such work shall be certified by the City Clerk to the Story County Treasurer to be collected with and in the same manner as general property taxes.

#### **IV. REMOVAL**

Street Trees may be removed only when one or more of the following criteria are met:

- A. The tree is infected with an epidemic insect or disease where the recommended control is not applicable and removal is the recommended practice to prevent transmission.
- B. The tree poses an extreme public nuisance because of its species, size, location or condition. The nuisance could be caused by fruit or seed drop, harboring of insects or excessive twig or limb breakage.
- C. The tree is dead or dying.
- D. The tree poses a severe safety hazard that cannot be corrected by pruning, transplanting or other treatments.
- E. The tree severely interferes with the growth and development of a more desirable tree.
- F. The aesthetic values of the tree are so low or negative that the site is visually enhanced by the tree's removal.
- G. Work improvements required to be made around the tree will kill or render it a hazard.
- H. Preservation of the tree, when adjacent property is developed, is not cost effective. The monetary value of the tree shall be compared to construction costs necessary to preserve the tree.

- I. The tree is causing cracking or raising problems with sidewalks, streets, or curbs and the roots cannot be pruned properly to preserve the tree.
- J. Tree roots are causing continual sewer problems that cannot be corrected by alternate methods.
- K. The tree is causing intersection sight problems or other public safety problems when it is determined that the branches cannot be pruned properly to eliminate this problem.

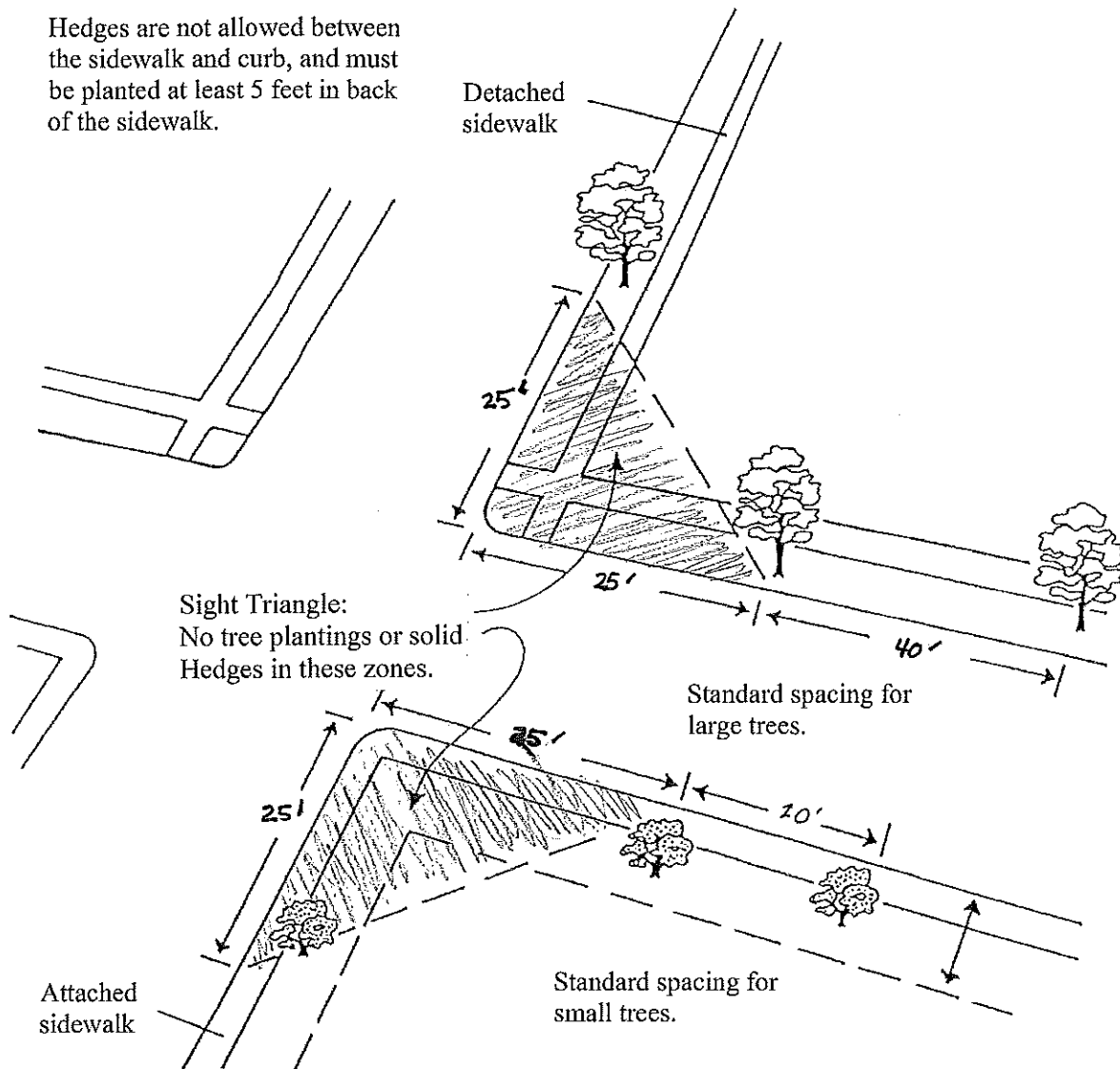
## **V. APPEAL PROCESS**

In the event that the property owner receives an order from the Street Superintendent and objects to all or part, the property owner may appeal to the City Council. The property owner must appeal the order in writing to the City Clerk within ten (10) days of the receipt of the order, stating the nature of objection and requesting a hearing. The hearing shall be held before the City Council within twenty (20) days of the notice of appeal being filed with the City Clerk. The City Council shall, within ten (10) days of hearing the appeal, issue a decision. The decision of the City Council shall constitute a final decision.



City of Roland – Public Works Department  
Standard Detail  
Exhibit A

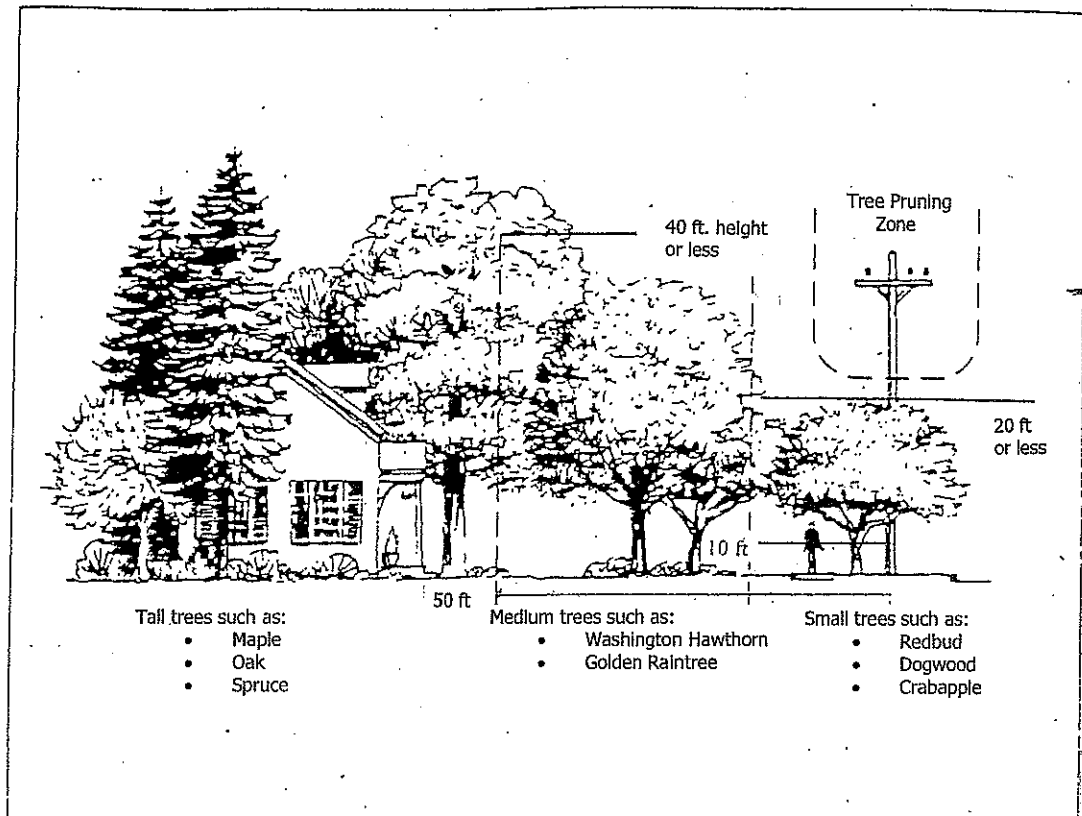
Hedges are not allowed between the sidewalk and curb, and must be planted at least 5 feet in back of the sidewalk.



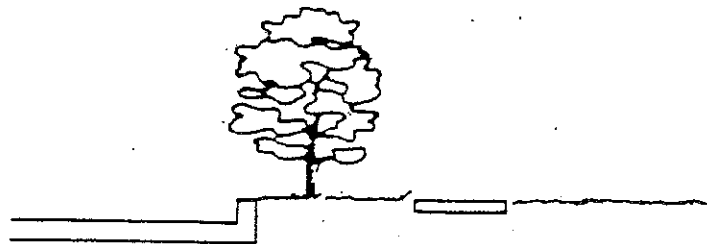
Almost all streets within the city have rights-of-way that extend back of the curb line. This area is public property and is generally used for utilities, walks and landscaping. The width of this right-of-way area varies considerably in different sections of town.

## Exhibit B

# SUCCESSFUL TREE PLANTING



## SPACING & LOCATION REQUIREMENTS



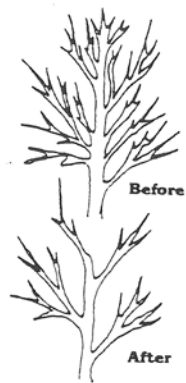
No tree planting is permitted where the distance between a curb and a detached sidewalk is less than nine (9) feet.

In right-of-ways, with a width greater than nine (9) feet, small trees shall be planted no closer than four (4) feet from the curb and no closer than four (4) feet from the outer line of the sidewalk. Large trees are not permitted in right-of-ways of less than 11 feet.

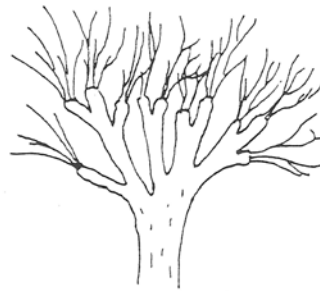
In right-of ways, with a width greater than 11 feet, small and large trees shall be planted no closer than five (5) feet from the curb and no closer than five (5) feet from the outer line of the sidewalk.

In areas without sidewalks, an allowance will be provided in the right-of-way area for future construction of sidewalks.

### Exhibit C



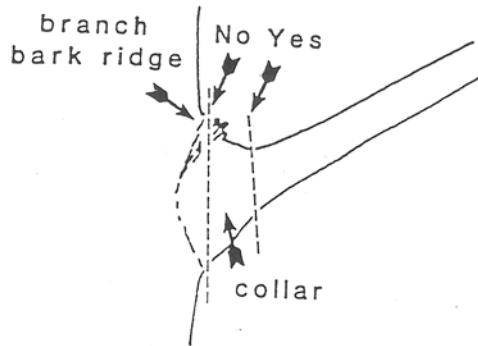
Natural pruning  
preserves the general  
shape of the tree.



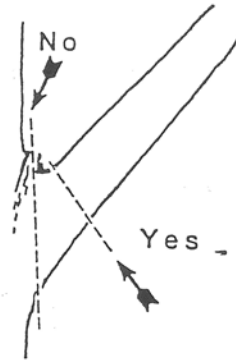
Topping results in  
weak, undesirable  
re-growth.

## Exhibit D

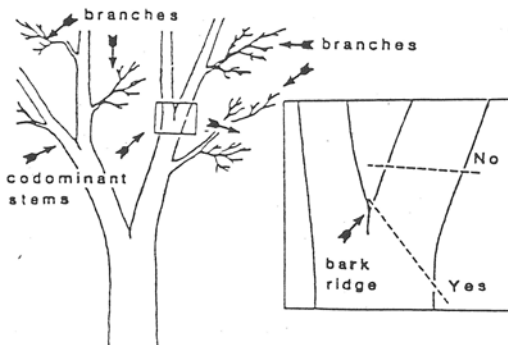
# PRUNING DECIDUOUS TREES



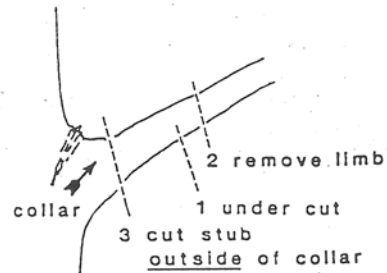
When removing a branch, always cut outside the branch bark ridge and collar. Do not make a flush cut.



Branches that do not have a distinct collar should be cut at a right angle to the branch outside the branch bark ridge.



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



When removing heavy limbs, first make an undercut several inches outside of the collar. Then remove limb by a second cut an inch or so outside of the first cut. Remove stub with a third cut just outside of the collar.

## **TREE PLANTING GUIDELINES**

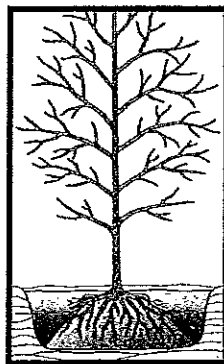
Trees will usually arrive in one of three forms: 1.) **Bare-Root**, 2.) **Potted (container)**, or 3.) **Balled-Burlapped**. Each requires its own unique planting method.

- 1.) **BARE-ROOT:** Unpack tree from packing material. Prune  $\frac{1}{4}$  inch from any damaged root ends with a clean sharp pruning instrument.

Soak in water for 3 to 6 hours to ensure hydration of the tree prior to planting.

Dig a hole at least twice the size of the spreading root system. Roots should fit comfortably in the hole without being crowded. The depth of the planting hole should be just deep enough to allow the root collar at the top of the root system to be slightly above the ground level.

Build a firm cone shaped mound of soil in the middle of the planting hole. Center and vertically plumb the tree in the hole. Spread the roots evenly over the mound. (See Illustration)



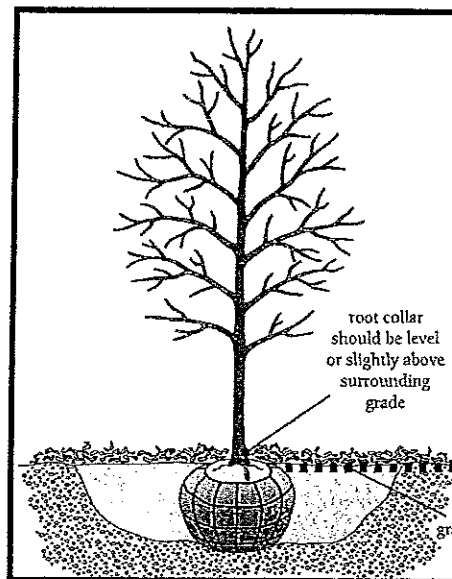
Backfill dirt over roots until hole is  $\frac{3}{4}$  full. Gently tamp dirt to firm backfill and remove air-pockets. Water and let water drain over root system, then complete backfilling the hole until the dirt matches the surrounding grade level. **Water again.**

**MULCHING:** Remove all grass within a 3 foot circle around the newly planted tree. Pour organic mulch such as wood chips or bark pieces 2 or 3 inches deep within the circle. **Keep mulch from touching the trunk of the tree.**

## **TREE PLANTING GUIDELINES**

2.) **BALLED AND BURLAPPED:** When moving the tree always handle the tree by the root ball.

Dig a hole at least 2X larger than the root ball. The depth of the hole should be just deep enough to allow the root collar at the top of the root system to be slightly higher than the surrounding grade. (See illustration)



**GENTLY** lift or roll the root ball into the hole. Center and vertically plum the tree in the hole. Backfill layers of soil around the root ball until  $\frac{1}{2}$  of the hole is full. Lightly tamp dirt with shovel handle or hands to eliminate any possible air pockets.

Remove all twine from around the tree trunk. Cut away burlap from the top  $\frac{1}{3}$  of the root ball. This will allow water to penetrate the root system. Complete backfilling the hole and water thoroughly.

**MULCHING: FOLLOW MULCHING PROCESS DESCRIBED ABOVE FOR BARE-ROOT TREES.**

3.) **CONTAINER TREES:** Always handle trees by the container or root mass if removed from the container.

Always gently remove the tree from the container to inspect for girdled (circling) roots.

Make several vertical cuts along the side of the root mass with a sharp knife to sever circling roots before placing tree in hole.

## **TREE PLANTING GUIDELINES-(CONTAINER TREES CONTINUED).**

**GENTLY** place tree in hole making certain that the top of the root collar is slightly higher than the surrounding grade. Make certain the tree is plum in the hole.

**FOLLOW BACKFILLING AND WATERING PROCEDURES DESCRIBED FOR BALLED AND BURLAPPED TREES.**

**MULCHING:** FOLLOW THE SAME MULCHING PROCEDURE AS IN THE FIRST TWO TREE PLANTINGS

### **A WORD ABOUT WATERING:**

**CONSISTENT WATERING** is perhaps the most important task you can perform for your new tree. However, a precise watering timetable is virtually impossible to offer here. A **GENERAL RULE IS ABOUT ONE INCH OF WATER EVERY 5 TO 7 DAYS DURING THE FIRST GROWING SEASON.** However, the amount of water for the new tree will depend upon the rainfall received, moisture holding capacity of the soil in which the tree is planted, and the drainage characteristics of the planting site. **Adjust your watering schedule to meet the specific variables at your planting site.**

Check your new tree at least once a week. More often in hot, dry, or windy weather. **DO NOT OVER WATER YOUR NEW TREE. TREES CAN BE KILLED BY OVERWATERING.** Establish a reasonable watering regimen and stay with it during the first growing season for your new tree, making appropriate adjustments where necessary.

For more information consider the following references:

1. COMMUNITY TREE PLANTING AND CARE GUIDE IOWA STATE UNIVERSITY-EXTENSION SERVICE PM #1591- MARCH 2003
2. THE NATIONAL ARBOR DAY FOUNDATION TREE BOOK-100ARBOR AVE. NEBRASKA CITY, NE 68410

Care & Maintenance of New Plantings from the  
Shade Tree Short Course  
— by Larry Schmidt

Plant the right tree in the right place!!

You need to know where your trees come from. Some businesses get trees from south of Iowa. These may not adapt to our climate. In fact, some southern Iowa trees may not adapt to our area. Trees from up north, central to northern Minnesota or Wisconsin, might not survive for the same reason.

Pruning young trees is essential to good tree development. It is recommended to use a by-pass pruner instead of an anvil-type pruner because a by-pass pruner cuts branches cleaner.

It is very important to trim any double leaders as soon as possible, even in pine trees. The thing to watch for, though, is by trimming a double leader, how much of the canopy you are removing. If you are going to remove more than  $\frac{1}{4}$  of the canopy with a double leader removal, then it should be trimmed over a two to three year time period.

Begin by clipping the outer growth bud area the first year followed by  $\frac{1}{3}$  to  $\frac{1}{2}$  of the remaining leader the next year and maybe at the leader fork the third year. Again, stage your cut as to not remove more than  $\frac{1}{4}$  of the canopy each year.

You next want to prune crossing branches and branches that are rubbing against another branch. Then trim straight vertical growing branches off of horizontal branches. Remember the  $\frac{1}{4}$  canopy rule! Do not trim Oaks between February and September unless absolutely necessary. Make sure to use a wound dressing on the cut, other than asphalt or creosote types., if you have to trim Oaks.

On the lower horizontal branches you want to leave them until 1-inch in diameter, but definitely remove by the time they are 2 inches. Be careful no to prune into the growth collars!

When planting trees, find the first lateral root and plant it at or just above ground level. Do minimal fertilizing unless you actually test the soil. Fertilizing a tree to keep it going is admitting you planted the wrong tree in the wrong place.

Mulch is important. Put minimal mulch next to the trunk of the tree, out to a depth of 3 to 6 inches. Do not cone it!

Proper watering for trees would be to wet the entire root systems well 10-14 days apart. Allow them to dry out between watering. In the 2<sup>nd</sup> year let it go unless you get a dry period of more than 3 to 4 weeks. Actually, lawn irrigation systems are bad for tree root system development because the watering is too frequent and does not penetrate the entire root system.



# Homeowner's Guide for Beautiful, Safe, and Healthy Trees



U.S. Department of Agriculture  
Forest Service  
Northeastern Forest Experiment Station  
370 Reed Road, Broomall, PA 19008

**NE-INF-58-84**

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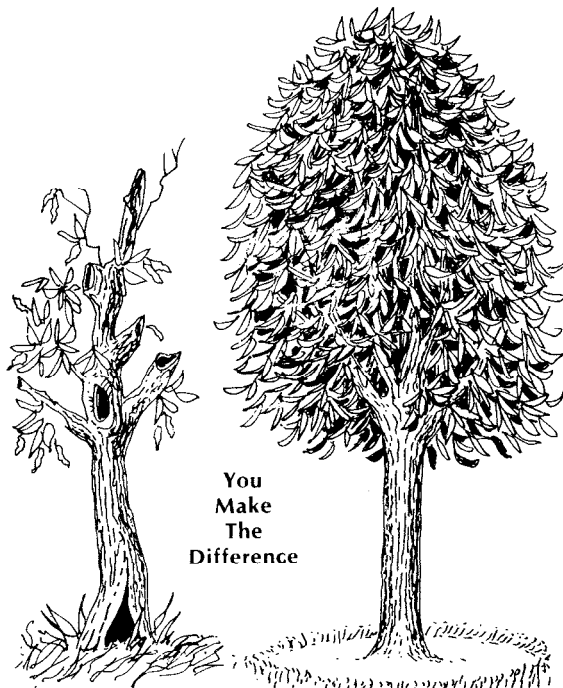


## The Real Cause of Many Tree Problems

Insects and microorganisms are not the real cause or starting point of many tree problems. These organisms are often secondary agents that attack weakened, wounded, improperly treated, neglected, and generally unhealthy trees. Poor tree health is a major worldwide problem. Fighting the secondary agents that are often very obvious, or the symptoms of poor health, will not solve the basic problem. We must start now to attack the real causes: the starting points of poor health. The major organisms responsible are PEOPLE!

Once we recognize that we are often the problem, we can do much to solve it. Here are some brief guidelines for you, the homeowner, that will help you keep your trees beautiful, safe, and healthy.

**"We have met the enemy; and he is us!"**  
**Pogo**



## Give Trees a Good Start

### Plant the right tree in the right place.

#### Do not plant:

- ☐ pin oaks in alkaline soils
- ☐ trees in old alkaline building rubble
- ☐ willows in dry soils, pines in wet soils
- ☒ birches in shade, dogwoods in unprotected open sites

Learn the biological requirements of your trees.  
Do not plant unless you plan to maintain.

### Plant properly

#### Do not:

- ☒ crowd trees in small holes with compacted soil
  - ☒ over-amend the soil with humus
  - ☐ fertilize at planting time
- Do prune dead and dying branches and roots.

### Keep grass away

#### Do not:

- ☐ water grass heavily near trees that normally grow on dry sites
- ☐ lime grass heavily near trees that grow best in acid soils
- ☒ wound trees with lawnmowers and other machines

Heavy use of herbicides may harm trees.

### Brace, but not too tightly.

#### Do not:

- ☐ tie young trees so tightly that they do not move
- ☒ leave braces on after tree is established
- ☐ kill bark with cords, wires, bands, etc.

### Prevent wounds

#### Do not:

- ☒ allow anyone to climb your tree with spikes
- ☐ allow heavy construction machines near your tree
- ☐ park cars near trees

## PRUNE CORRECTLY.

Correct pruning is the best thing you can do for your tree.

Here are the guidelines:

### Natural target pruning

1. Locate the branch bark ridge (BBR).
2. Find target A-outside BBR.
3. Find target B-where branch meets collar.
4. If B cannot be found, drop an imaginary line at AX. Angle XAC equals XAB
5. Stub cut the branch.
6. Make final cut at line AB (with powersaws make final cut on upstroke).

#### Do not:

- ☐ make flush cuts behind the BBR
- ☐ leave living or dead stubs
- ☒ injure or remove the branch collar
- ☐ paint cuts

The best time to prune living branches is late in the dormant season or very early in spring before leaves form. Dead and dying branches can be pruned anytime. Use sharp tools! Make clean cuts. Be careful with all tools. Safety first!

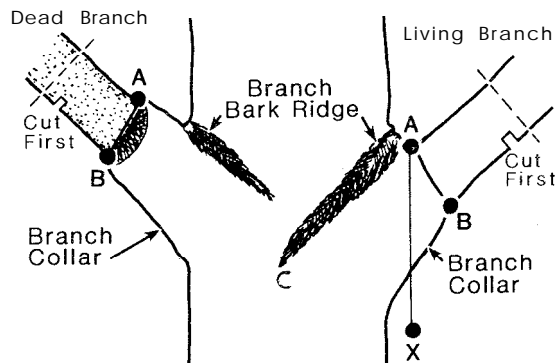
## Topping

Topping trees is a serious injury regardless how it is done. Avoid it if possible by starting to prune early in the life of the tree to regulate its size and shape. If you must top cut, follow these guidelines:

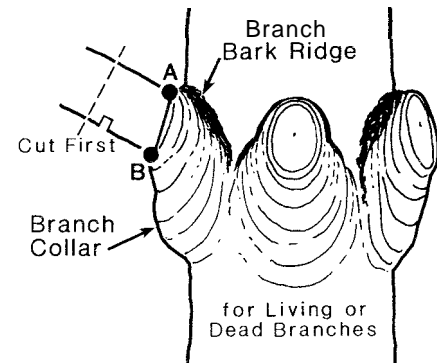
Cut line DE at an angle approximately the same angle as the angle of the BBR. Do not leave a stem stub. Do not paint the cut. Know your safety limits-call professionals when the job is too big for you.

## Natural Target Pruning

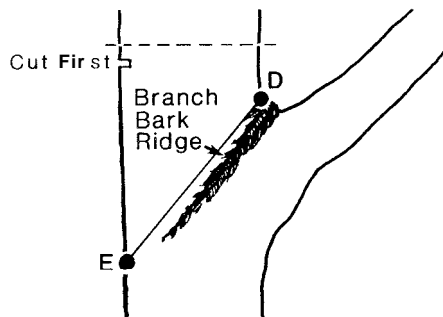
### Hardwoods



### Conifers



### Topping



## Wound Dressings

Wound dressings do not stop rot.

Do not:

- ☐ apply house paints or wood preservatives
- ☐ apply heavy coats of any material.

Research shows that wound dressings do not stop decay or stall rot. Trees have been responding effectively to their wounds for over 200 million years. Do not interfere with this natural process. Keep your tree healthy and it will take care of its wounds. In a short time the wound surface will blend perfectly with the tree bark.

## Tree Treatments

### Treat wounds

If trees are wounded, remove injured bark with a sharp knife. Make cuts as shallow as possible. Forming an elongated ellipse is not necessary. Make all margins rounded; do not point tips. Do not enlarge the wound. Do not paint. Do everything possible to maintain health-water, fertilize, prune.

### Holes for draining water

Do not bore holes to drain water from cavities. Drain tubes may be used for wetwood materials, but such treatment will increase the column of internal wetwood.

### Cavities

If cavities are to be filled, do not clean so thoroughly that the boundary between decayed wood and sound wood is broken. Fill with nonabrasive materials. Leave for professionals.

### Injections and implants

If you plan to have chemicals injected or implanted in your trees, make certain that it is done only by highly skilled professionals. Check injection and implant holes after one season to make certain they are closed. Injection and implant holes should be very small and shallow at the tree base, not in the roots.

### Cable and brace

If rot is present, put rods entirely through the stem, and use round or oval washers on both sides. Washers should be seated on the wood, not deep in the wood or on the bark. Cables should allow tree to move slightly. Leave to professionals.

## Help Trees Stay Healthy

Before you fertilize or consider treatments for microelement problems, have a soil test done. Your tree may require soil acidification before fertilization, or treatment for microelement problems. Fertilizers add elements essential for healthy growth. Fertilizers are not tree food!

Trees get their energy from the sun. Leaves and needles trap energy in a molecule of sugar. Sugar is tree food. Keep leaves and needles healthy by timely treatments so trees can get their food. Keep soils free of compaction so roots can get water and essential elements. Do not over fertilize.

Some insects and microorganisms DO start tree problems. When in doubt about what to do, contact the extension agents from your county, state, or university, or ask the United States Forest Service or professional arborists.

### Check for potential hazards:

- ☐ large dying and dead branches
- ☐ rot in roots and base (fruit bodies of fungi are signs of rot)
- ☐ large deep vertical cracks on opposite sides of trunk

Be on the alert 5 to 10 years after construction. Have hazardous tree crowns reduced by professionals.

DON'T FORGET WILDLIFE. They need living and dead trees for survival. Consider them in your plans.

Learn about trees.

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A learning package has been developed to help you and groups interested in tree health to learn more about trees. For information on the package and other information available from the U.S. Forest Service, contact Ms. H. Sharon Ossenbruggen at the above address, or call her at 603-868-5710.