

Oberlin Tree Policy Guidelines

To care for and maintain our community trees.



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Oberlin, Kansas 67749
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www.oberlinkansas.gov

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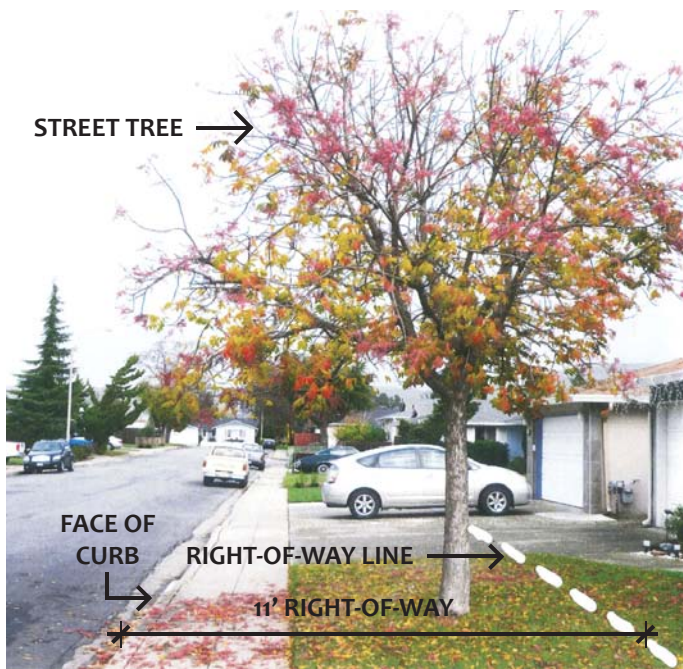
Street Trees & Private Trees

Before working on a tree, determine whether it is a street tree or a private tree. Street trees are planted in city right-of-ways throughout the city. Knowing whether a tree is a street tree or a private tree is important as the Oberlin City Code regulates the care of these trees differently.

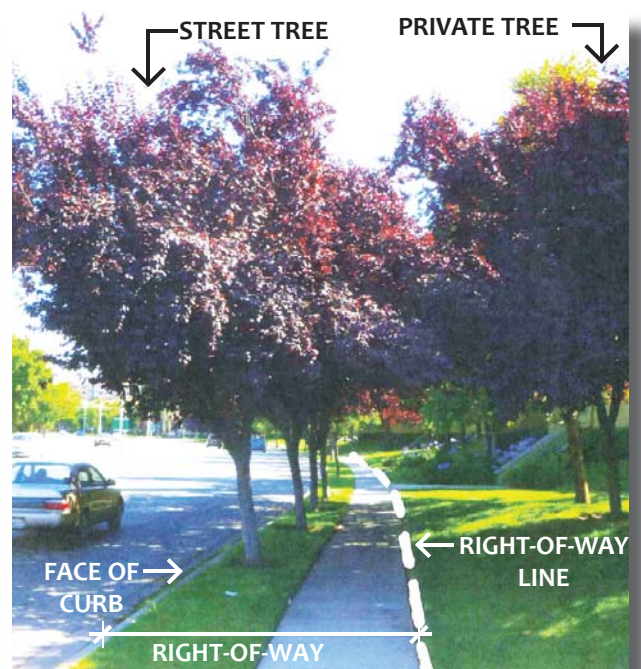
Street Tree: A tree whose trunk is within the city right-of-way area. Each street's right-of-way can differ, but usually extends to the far edge of the sidewalk from the street.

Private Tree: A tree whose trunk is completely outside of the city right of way area

Street Tree or Private Tree?



Monolithic Sidewalk - Sidewalk attached to curb



Detached Sidewalk - Sidewalk and curb are separated

Removal and Maintenance of Street Trees

Maintenance of street trees is the responsibility of the adjacent property owner. The owner is responsible for the trimming of branches overhanging any street or right-of-way so that no obstruction of light from any street lamp, no obstruction of view of any street intersection and that there shall be a clear space of 12' above the surface of any street or right-of-way. The owner shall also remove all dead, diseased or dangerous trees or limbs that constitutes a menace to the safety of the public.

The city of Oberlin requires a Street Tree Permit Application to be filled out prior to the removal of any street trees. See the city's webpage for the application.

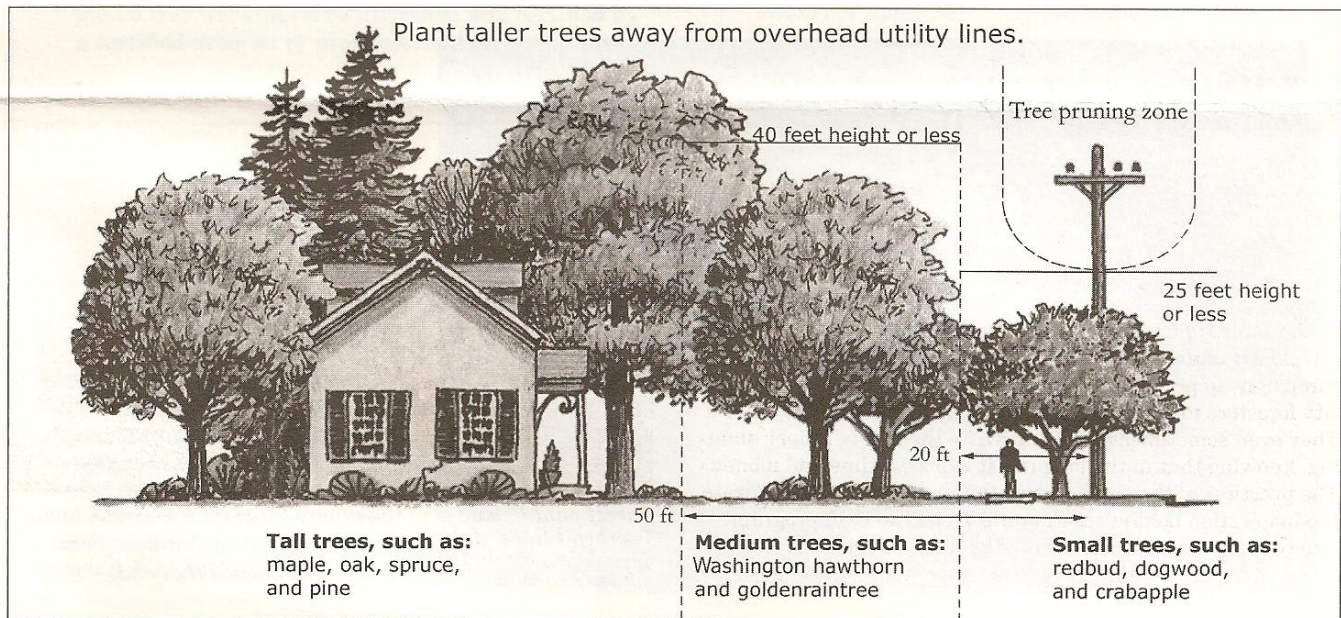
Work on street trees should be performed by an approved contractor with the following qualifications:

- Insured
- Bonded
- Licensed through the city.



Maintenance of Street Trees and Utility Easements

Unfortunately, trees that grow near power lines can be dangerous and cause power outages. To prevent dangerous situations, the City line crew trims and removes trees, clearing branches away from power lines and brush away from right-of-ways. Sometimes this includes the complete removal of a tree that is too close to a power line. Occasionally, they have to remove a dead or dying tree, or one in danger of falling because of a shallow root system. Their purpose is to ensure electric reliability and safety.



Trees and Safety

- If a tree branch breaks off and lands on an electric line, causing a dangerous situation, call 911 or dispatch immediately. Do not touch the branch or wire.
- Don't cut down trees or branches near power lines.
- Stay clear of power lines when removing any object caught in a tree.
- Never let your ladder touch a power line.
- Power lines are not insulated. If you touch a power line, you will be severely injured or killed. Always assume a power line is energized and dangerous.
- Make sure children do not climb trees that are anywhere near overhead power lines.
- Before you plant a tree, look up to see if it will grow too close to overhead lines as it matures.
- Three working days before planting or doing any other digging projects, always call Dig Safe before you dig by dialing 811 or 1-800-DIG SAFE or visiting www.kansasonecall.com.

Planting Smart

No trees should be planted near high-voltage transmission lines. However, many trees are attractive additions to your yard and, under normal conditions, will not grow tall enough to interfere with distribution lines.

Approved Street Trees

PREFERRED TREE LIST

Common Name	Suggested Cultivars	Scientific Name
Coffeetree, Kentucky [M] [DT]		Gymnocladus dioicus
Crabapple, Red [S] [DT]		(Malus sp.)
Crabapple, White [S] [DT]		(Malus sp.)
Elm, American [L] [DT]		Ulmus americana
Elm, Asian (hybrids) [L] [DT]		Ulmus
Elm, European & Eurasian (hybrids) [L] [DT]		Ulmus
Elm, Lacebark [L] 'Emerald Prairie'		Ulmus parvifolia
Goldenraintree [S] [DT]		Koelreuteria paniculata
Hackberry, Common [L] [DT]		Celtis occidentalis
Hawthorn, Cockspur (thornless) [S] [DT]	'Cockspur'	Crataegus crusgalli
Hawthorn, Green [S] [DT]	'Winter King'	Crataegus viridis
Linden, American [L]		Tilia americana
Linden, Littleleaf [M]		Tilia cordata
Oak, (Heritage) [L]		Quercus macrocarpa x robur
Oak, Bur [L] [DT]		Quercus macrocarpa
Oak, Chinkapin [L] [DT]		Quercus muehlenbergii
Osage Orange (fruitless/thornless) [M] [DT]	'Wichita'	Maclura pomifera
Redbud, Eastern [S] [DT]	'Oklahoma'	Cercis canadensis

ACCEPTABLE TREE LIST

Common Name	Suggested Cultivars	Scientific Name
Birch, River [M]	'DuraHeat'	Betula nigra
Catalpa, Northern [L]		Catalpa speciosa
Cherry, Canada Red [M]		Prunus virginiana
Hawthorne [S]	'Washington'	Crataegus phaenopysum
Hornbeam, European [M]		Carpinus betulus
Locust, Thornless Honey [M] [DT]	'Shademaster', 'Skyline', 'Imperial'	Gleditsia triacanthos
London Plantree [L]		Plantanus x acerifolia
Oak, English [L]		Quercus robur
Oak, Northern Red [L]		Quercus rubra
Oak, Sawtooth [L]		Quercus acutissima
Oak, Shingle [L]		Quercus imbricaria
Oak, Shumard [L]		Quercus shumardii
Oak, Texas Red [L]		Quercus texana
Pear, Callery [M]	All species except 'Bradford'	Pyrus
Dogwood, Flowering [S]		Cornus florida
Mulberry, Red (Male) [M]		Morus rubra Styphnolobium
Japanese Pagoda Tree [M]		Styphnolobium japonicum
Sycamore, American [L]		Platanus occidentalis

[S] = Small (20' – 30') [M] = Medium (30' – 45') [L] = Large (Over 45') [DT] = Drought Tolerant

Sidewalk Damage

Preventing & Repairing Damage

The City of Oberlin states property owners are responsible for the maintenance of the sidewalks adjacent to their property.

Preventing Sidewalk Damage

Preventing sidewalk damage caused by trees is much easier than waiting until damage has occurred to mitigate the situation. Preventing damage is best done in the following ways:



Creating large planting wells for trees is an easy way to prevent sidewalk damage and help protect the root systems of trees

Proper Planting Space: Tree roots extend well beyond the dripline up to two to three times the diameter of the tree canopy. As this is the case, trees should not be planted directly against any pavement. Although it may not be feasible to plant a tree far enough away from the sidewalk that the dripline will not extend over pavement, a proper setback is imperative to quality tree health and preventing damage to paved infrastructure.

Dripline: The width of the leaf crown, as measured by the outward extent of the foliage



Proper Tree Selection: Choose tree species that are typically successful in Oberlin. When planting near pavement, look for species with roots that penetrate deep into the soil rather than expand out on the soil surface. Also look for trees with smaller overall root systems or root systems which grow at a slow to moderate rate. Although all trees are beneficial in the right context, not every tree is appropriate for every space due to different spatial, soil and water needs.

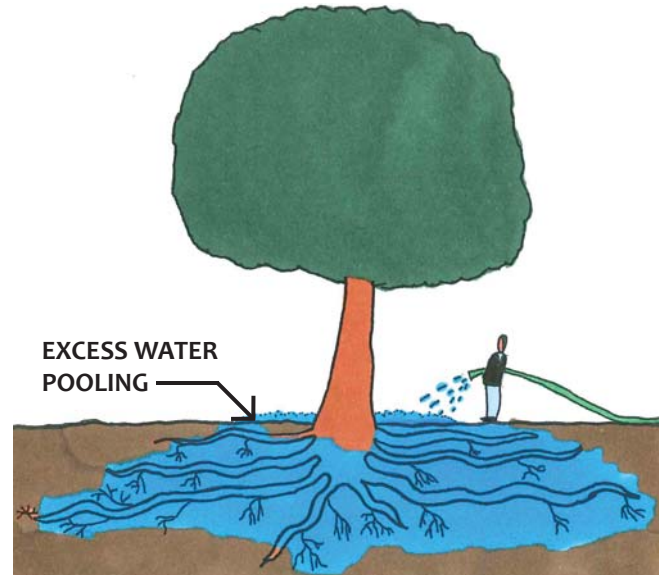
Practice Deep Root Watering: Deep root watering is saturating an area with water until the soil cannot accept any more. This point is reached when excess water begins to pool. By saturating the soil, water is absorbed deeper into the soil, encouraging tree roots to delve farther into the ground to collect the water. This prevents the growth of excess surface roots so that sidewalk damage is less likely. The deeper roots also help the tree sustain itself during drought. Although this practice will help encourage root systems to grow farther into the ground, it must be carefully managed. Deep Root Watering should only be used on healthy trees that were not recently transplanted or subjected to other significant sources of stress.

Deep root watering should only take place in the morning during the tree's active growing season. Trees should never be left in damp soils overnight when pathogens and diseases are likely to establish. The proper frequency for deep root watering varies depending on the tree's species, soil and expected annual rainfall.

Distance from Curb and Sidewalk: The distance trees may be planted from curbs and sidewalks will be in accordance with the three species size class list, and no tree may be planted closer to any curb or sidewalk than the following:

- Small Tree: 4 feet
- Medium Tree: 5 feet
- Large Tree: 6 feet

Distance from Street Corners: No tree, bush or shrub shall be planted closer than 20 feet of any street corner on a 20 mph street, 30 feet on a 30 mph street, and so forth. Trees must be farther than 10 feet from any fireplug.



DEPTH OF WATER HOLDING CAPACITY ↗ When water pools on the soil surface and is not accepted within 30 to 60 seconds discontinue applying water



This poorly designed curb has been replaced many times

Repairing Tree Damage

Root Pruning

Repairing Tree Damage: Property owners may hire a Certified Arborist to inspect a tree at their own expense and decide if root pruning is needed. The owner is ultimately responsible for ordering any work performed on a tree believed to have caused sidewalk damage. If any removal of the tree is desired, the property owner must fill out a Street Tree Permit Application.

What is Root Pruning?

Root pruning is a practice in which roots growing in an undesired direction (ie. towards sidewalks, building foundations, etc. are pruned to discourage future growth.¹ Although future growth will be impeded, it is a risky procedure that should only happen if all other options have been exhausted. Pruning root systems compromises the structural integrity of trees and leaves them open to infection. If root pruning, keep the soil within the dripline well drained for the following few growing seasons to minimize the risk of pathogen infection. Currently, the best practices in arboreal medicine are still preventative. As this is the case, proper planning, planting, and maintenance of trees are the best ways to fight sidewalk damage and disease in trees.



¹ Richard W. Harris, James R. Clark, and Nelda P. Matheny, *Arboriculture: Integrated Management of Landscape Trees, Shrubs, and Vines*, 4th ed. (Upper Saddle River, N.J.: Prentice Hall, 2004), 337-338

Repairing Tree Damage

Avoiding Utilities

Trees can pose a hazard to utilities. Even when digging to plant trees, proper planning is needed to prevent a deadly gas leak or a disruption in water service. Keep in mind that tree roots can detect water in buried pipes and will break water lines to reach moisture. Thus, avoid planting a tree where its dripline will eventually be on top of piping or other utilities.

The best protection against disrupting utilities is to use the 811 Call Before You Dig Program. Any Contractor performing work that could disrupt underground utilities must use this service. When utilized, 811 Call Before You Dig will send a worker to a site where digging is planned. The worker will mark all underground utilities found on the site with spray paint so that their location is known prior to digging. Utilities can be located through this program whether they are on public or private land. In Kansas, the most direct way to contact the 8-1-1- Program is to call 1-800-DIG-SAFE or visit www.kansasonecall.com at least two business days before digging is planned to occur.¹ Avoiding overhead utilities is a matter of planning. Plant only small trees under power lines and avoid planting in areas where the canopy is likely to expand within close range of electrical wires.



**Know what's below.
Call before you dig.**

¹ "811," USA North, www.usanorth.org.

Selecting a Tree

Basic Considerations

Selecting the right tree is important to the viability of a tree in a space and lays the foundation for years of social and economic benefits. Thus selection is an important process with many guidelines to consider at each step.

Determining the Planting Space

What size tree is appropriate?

Look at the ground plane to determine how far out surface roots can run unobstructed. Look above for building edges and overhead power lines.

What type of soil drainage is on site?

Clay-based soils, retain moisture for longer. While this is desirable for some trees, it can kill others. Sandy soils drain quickly while silty soils fall between these extremes.

What is the sun/ shade pattern?

Different trees have different sun/ shade requirements. Afternoon sunlight is more intense than morning light, thus it is important to know how much sun and shade and area will receive throughout the day as well as at various points of the year.



Trees are given different planting spaces depending on the expected spread of their structures and root systems





Many property owners enjoy the flowers and fruit produced by trees while others view them as a nuisance because of the extra maintenance



Desired Level of Maintenance

Will the tree receive regular attention?

Some tree species require regular care whereas others live off of the resources naturally provided and are very self-reliant. The best choice depends on how much time the owner wants to invest in a tree.

Street Tree Spacing

Is your tree too close to other trees?

No tree may be planted closer together than the following:

Small Trees: 30 feet

Medium Trees: 40 feet

Large Trees: 50 feet

Selecting an Area Appropriate Species

Is the species native to this area?

Although Oberlin's plant community benefits from both native and imported species, native plants are always the most ecologically responsible choice.

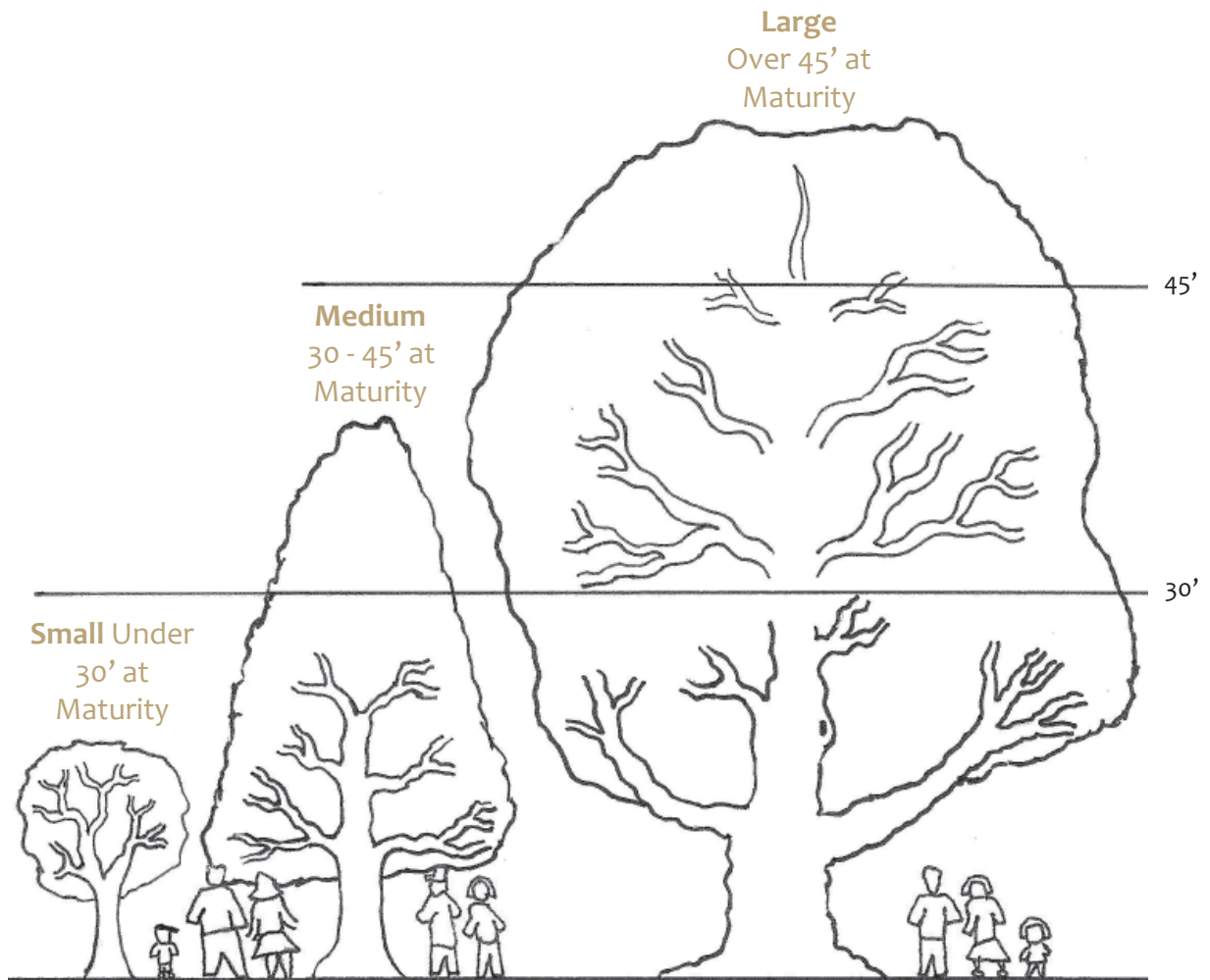
Is this tree species invasive to the area?

Invasive species are typically imported plants that outcompete native plants for resources and can spread uncontrollably. Invasive plants cause many ecological problems that threaten the very survival of precious endemic plant species. Invasive species should never be planted for any reason.

Selecting a Tree

Small, Medium & Large Trees

Trees, depending on the species, may grow to anywhere from six feet to several hundred feet tall with similar canopy spreads. Knowing what constitutes a small, medium or large tree and what is appropriate in a given location is important. Environmentally, large trees offer more as they produce more oxygen, sequester more carbon and particulate matter and offer more climate mitigation. All properly planted and maintained trees however, are environmentally and socially beneficial. Overall, it is best to plant the largest tree that can healthily grow in a space.¹



¹ Greenprint Tree Guide: For the Greater Sacramento Area (Sacramento: Sacramento Tree Foundation, 2009), 3.

Selecting a Tree

Young, Semi-Mature & Mature Trees

Young, semi-mature and mature are the key stages in the life cycle of a tree. Installing a tree at a certain stage of its life may be optimal depending upon the goals of the tree planting. The benefits and challenges associated with each life cycle stage are described below:

Young		Semi-Mature		Mature	
Benefits	Challenges	Benefits	Challenges	Benefits	Challenges
<ul style="list-style-type: none"> • Most affordable • Highest establishment success rates • Easy and affordable transportation • Requires little to no protective pruning before transportation 	<ul style="list-style-type: none"> • Often lacks the scale and drama desired by site user. Achieving this effect may take a few growing seasons • A landscape composed of young trees will appear less sophisticated and established 	<ul style="list-style-type: none"> • Provides some scale and drama immediately after planting while building anticipation for more as it grows into maturity • More affordable than large, fully mature trees 	<ul style="list-style-type: none"> • More difficult to transport than smaller trees • May require moderate protective pruning before transportation to site • More expensive than young trees 	<ul style="list-style-type: none"> • Provides scale and drama as soon as it is planted • Provides the illusion of a mature and established landscape 	<ul style="list-style-type: none"> • Takes longer to recover from transplanting • Lower establishment success rates • May require protective pruning prior to transplant • Expensive to transport if a truck or crane is needed



Young *Magnolia x soulangeana*



Semi-Mature *Jacaranda mimosifolia*



Mature *Magnolia grandiflora*

Planting a Tree

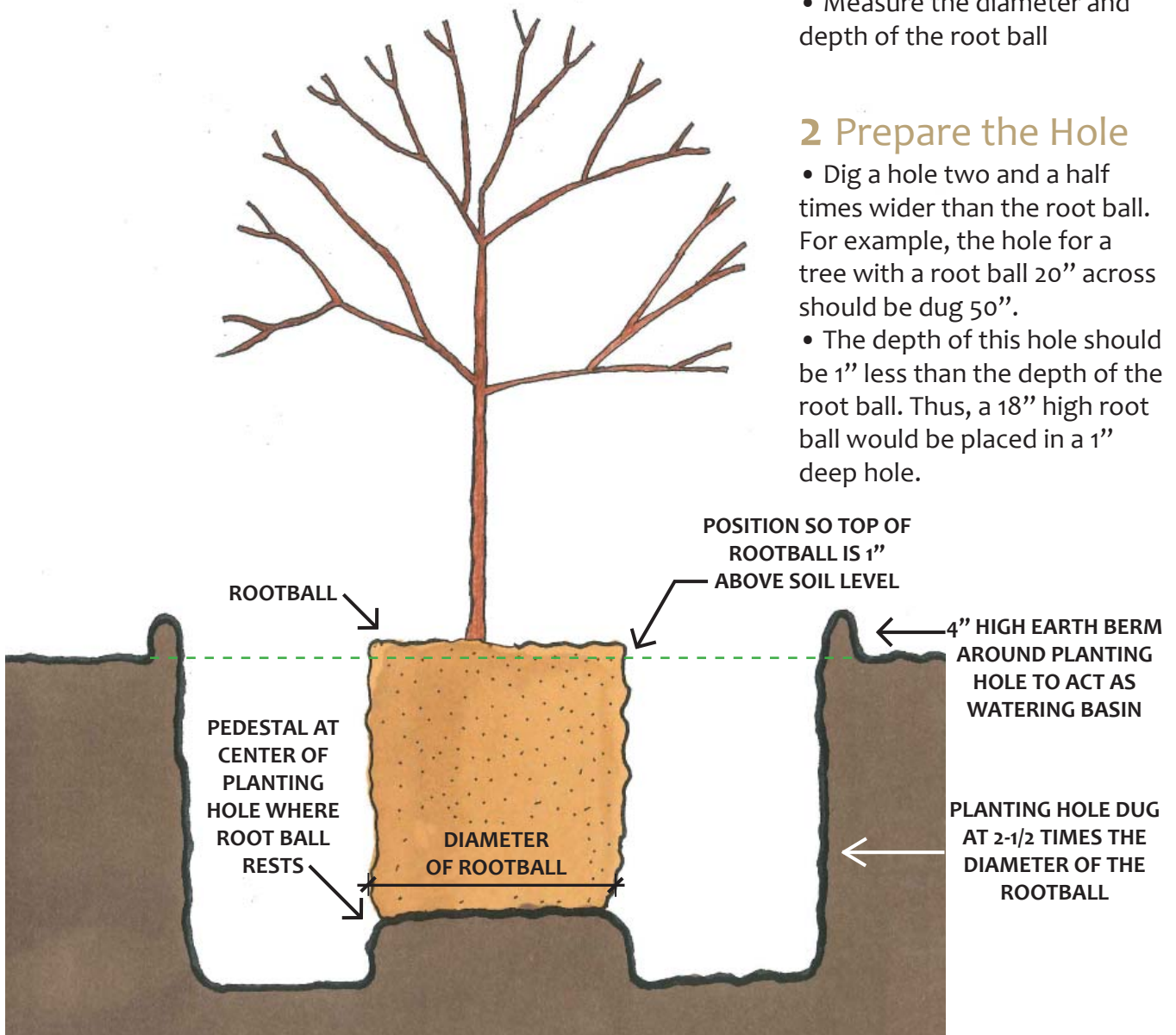
5 Step Tree Planting

1 Measure Root Ball

- The root ball contains the root system's core. It starts at the root collar and extends to the bottom of the root system.
- Measure the diameter and depth of the root ball

2 Prepare the Hole

- Dig a hole two and a half times wider than the root ball. For example, the hole for a tree with a root ball 20" across should be dug 50".
- The depth of this hole should be 1" less than the depth of the root ball. Thus, a 18" high root ball would be placed in a 1" deep hole.



3 Place the Tree

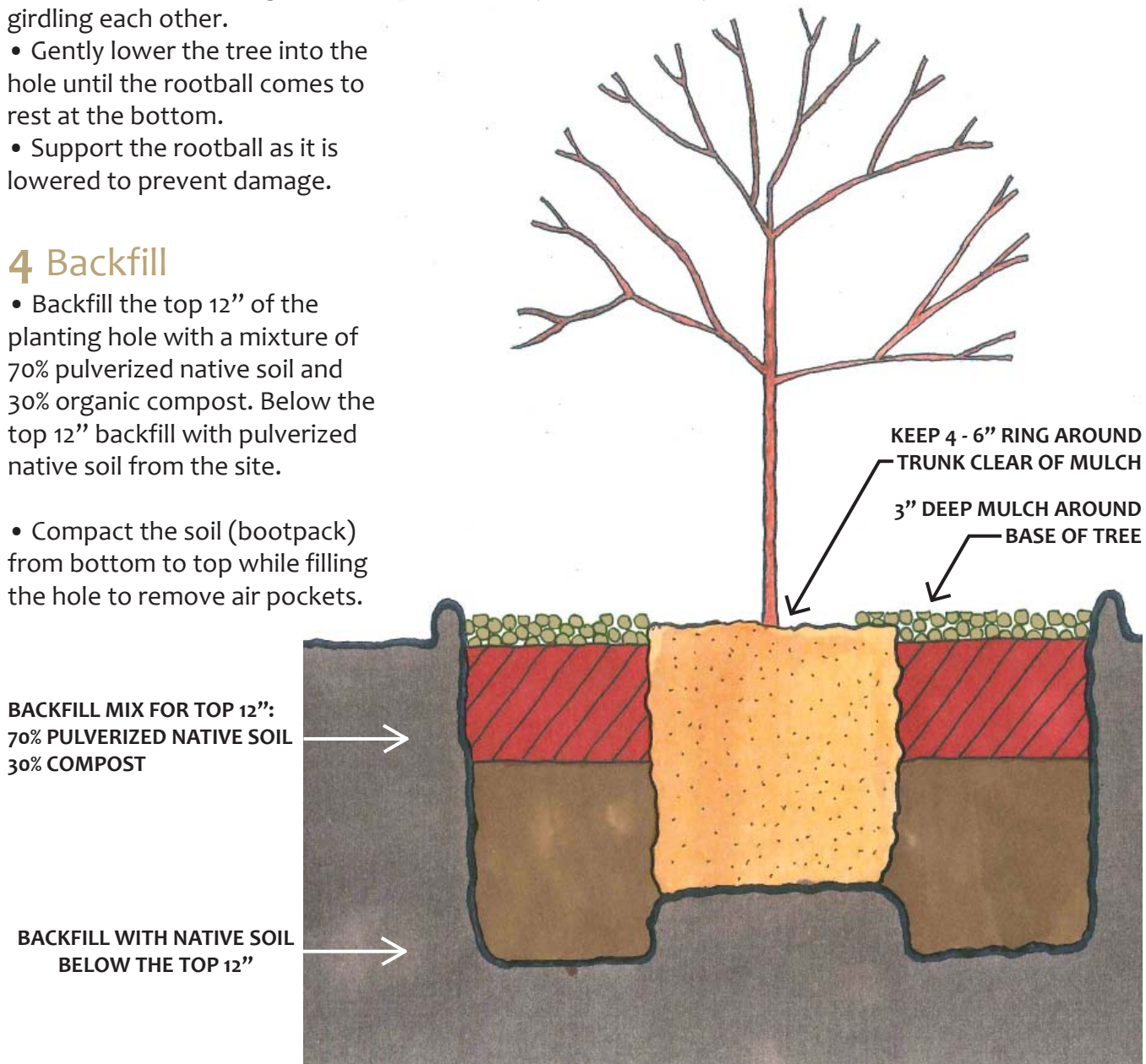
- Spread out the roots so that they are radiating out from the rootball and not circling or girdling each other.
- Gently lower the tree into the hole until the rootball comes to rest at the bottom.
- Support the rootball as it is lowered to prevent damage.

4 Backfill

- Backfill the top 12" of the planting hole with a mixture of 70% pulverized native soil and 30% organic compost. Below the top 12" backfill with pulverized native soil from the site.
- Compact the soil (bootpack) from bottom to top while filling the hole to remove air pockets.

5 Water Thoroughly

- Water the soil around the tree until it can no longer accept water (soil saturation).



Staking

4 Steps of Staking



Nurseries often put stakes against tree trunks. In the long run this practice damages the tree and prevents it from establishing caliper



18" 18"

Properly Staking: The stakes are 18" from the base of the trunk and the ties connecting the trunk to the stake are rubber so damage will not occur

Although staking trees is common, it should only happen if necessary. The best practices for staking are described below:

1 Remove the Nursery Stake

The nursery stake is the vertical post tied directly to the tree's trunk or central leader before being sold. These stakes serve no functional purpose. They are tied directly to the trunk and damage the fragile tissue of young trees.

2 Decide Whether to Stake

A tree should be staked if it cannot hold itself upright without support. The central leader does not need to be perpendicular to the ground, but it should not bend down towards the ground. Providing the opportunity for some trunk movement allows for proper caliper development.

3 Placing the Stakes

Stakes should be placed 18" from the base of the trunk on either side parallel to one another. The stakes should be placed perpendicular to the dominate wind current in the area. For example, if wind moves through the area in a north to south direction, stakes should be placed on the east and west sides of the tree so that it receives maximum wind exposure and start to adapt.

4 Tie Tree to Stakes

Stakes should be tied loosely allowing for maximum safe trunk movement. When a young tree moves in the wind, it develops caliper and good structure. The material used to tie the tree and the stake should not damage the bark of the tree. Rubber strips or rubber encoded wire are usually the safest materials to use for adhering a stake to a young tree.

Mulching

General Benefits & Types

Mulch: A material spread on the soil to conserve moisture and deter weed growth while protecting the soil and tree roots from soil crusting and freezing

Mulch enhances the physical and economic productivity of urban trees if placed correctly. If used incorrectly, mulching can cause plant disease or death. The primary benefits of mulching are as following¹:

Climate Control: Mulch keeps tree roots cooler in the summer and warmer in the winter by providing insulation. It protects roots from burning or freezing.

Conservation of Moisture: Mulch allows the soil around the root system to retain moisture longer by reducing evaporation, thus minimizing the amount of water needed to sustain a tree.

Decreased Compaction: Mulch creates a barrier between roots and sources of soil compaction such as people, animals or machinery. As this is minimized, the soil's aeration is improved which leads to a better exchange of oxygen, nutrients and moisture.

Erosion Prevention: Mulch reduces the volume and velocity of storm water runoff passing through a site. This happens by increasing soil percolation.

Reduced Weed Growth: Reduced weed growth saves the labor cost associated with removing them. More importantly however, it reduces the amount of pesticides used on the site to control unwanted growth. This protects local water tables.

Common Mulches



Wood Chips



Bark Chips



Shredded Bark



Pine Needles



Recycled Paper



Crushed Rock



Polyethylene



Woven Polypropylene

¹ Richard W. Harris, James R. Clark, and Nelda P. Matheny, *Arboriculture: Integrated Management of Landscape Trees, Shrubs, and Vines*, 4th ed. (Upper Saddle River, N.J.: Prentice Hall, 2004), 137-178

Mulching

Selecting & Applying Mulch

Selecting a Mulch

There are many mulches available, the most common being wood chips, bark chips, shredded bark, pine needles, recycled paper, crushed rock, polyethylene and woven polypropylene.

Wood chips, bark chips, shredded bark and pine needles are organic mulches whereas recycled paper, crushed rock, polyethylene and woven polypropylene are industrially processed. Organic mulches are preferred since they add nutrients and enhance soil structure as they break down. Wood and bark chips are the most common mulches and provide nearly all of the benefits associated with mulch. Pine-based mulch is best used where a lower pH level in the soil is desired. Crushed rock cannot retain moisture or stimulate activity from microorganisms. Recycled paper offers most of the benefits of wood and bark chips, but can introduce aluminum to the soil leading to toxic conditions for plants and animals.¹ Polyethylene and woven polypropylene are

usually used for erosion and weed control but offer few other benefits.

Once a mulch is picked, inspect it before buying to make sure there are no foreign objects. Also check for any mildew or other fungus. If there are any foreign objects do not purchase it.

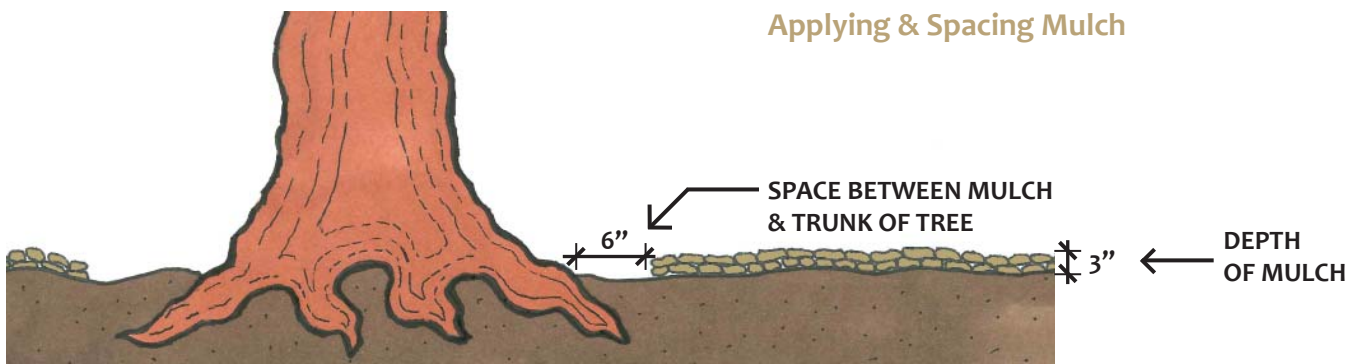
Applying Mulch

Spread the mulch evenly throughout the planting well to a 3" depth.²

After spreading, pull back any mulch that is on the base of the trunk. There should be a 4 - 6" ring around the tree trunk that remains without mulch. If this ring is not created, the tree will be more susceptible to damage by rodents or infection by a pathogen.

¹ Teresa Mossor-Pietraszewska, "Effect of Aluminum On Plant Growth and Metabolism," *Acta Biochimica Polonica* 48, no. 3 (Fall 2001): 673-86.







² Richard W. Harris, James R. Clark, and Nelda P. Matheny, *Arboriculture: Integrated Management of Landscape Trees, Shrubs, and Vines*, 4th ed. (Upper Saddle River, N.J.: Prentice Hall, 2004), 137-178



Tree Maintenance

Nutrient Deficiency & Treatment

Fertilizing benefits a tree when a crucial nutrient is needed, but it can kill a tree by burning or overstimulating it if applied incorrectly. Only fertilize when a tree demonstrates a clear need for a specific nutrient. Organic alternatives are always preferable to artificial soil amendments.

	Nitrogen	Phosphorus	Potassium	Iron	Manganese	Zinc
Signs of Deficiency	Uniform yellowing throughout older leaves. New growth is delayed and reduced	Foliage is dark green and may have blue or purple spots	Reduced new growth. Older foliage yellows with brown spots appearing near veins	New growth is pale. Older leaves yellow inward from margins until only veins are green	Like iron deficiency but with symptoms only seen in new growth	Undersized foliage with symptoms of low iron. Foliage turns purple and dies
						
Commonality of Deficiency	Common in all Kansas soils	Rarely affects trees	Common in orchard trees grown in sandy soils	Commonly caused by high pH, not deficiency	Commonly caused by high pH, not deficiency	Common in orchard trees grown in sandy soils
Corrective Application	Nitrate: Fixes immediately Ammonium sulfate: Fixes over time	Fertilizer with high ratio of Phosphorus (ie. 2-8-4)	Fertilizer with high ratio of Potassium (ie. 3-1-3)	Ferrous sulfate: Lowers pH	Manganese Chelate Fertilizer	Fertilizers containing Zinc Sulfate
Organic Alternatives	Manure, blood, fish meal, sewage sludge, grass clippings	Chicken manure, bananas, nuts, grains, bat guano	Composted fruit and vegetable waste	Improved drainage, pine needles, organic compost	Animal manure	Animal manure

Pruning

Young Trees

Young Trees are often pruned to build structural integrity and direct growth.

The most important aspect of structure in a tree is a strong central leader. The central leader is the branch from which the canopy will spread. Most trees establish a central leader without help. If they do not, they must be pruned to establish a central leader as soon as possible. When selecting a central leader, look for several characteristics. Look for a vertical offshoot that is located close to the center of the trunk. It is rare that a central leader growing exactly in the middle of the trunk will be found. As long as there is an offshoot close to meeting these qualifications it is fine. Trees will correct their growth patterns over time if given assistance. Size is also important as the central leader should be the largest branch on the tree. If choosing between two branches to become the central leader, know that it is easier for the tree to lose a smaller branch than a larger one.

Other important structural-based pruning cuts to be made while the tree is young include the elimination of narrow crotch angles and codominate stems. By removing these structural hazards the tree is protected from future limb breakage.



This tree's central leader directs growth up and out from the trunk



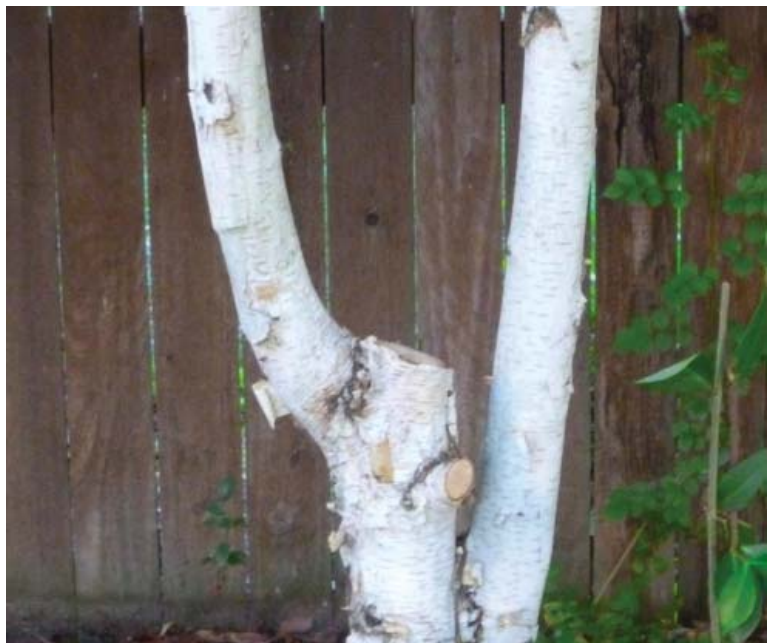
The crotch angles on this tree are far too narrow. The branches on the left and right of the central leader should have been pruned when the tree was younger

Aside from structural based pruning cuts, directing growth is another important element to giving a young tree a healthy foundation. A young tree should be directed to grow up and outward from its trunk. Limbs growing down towards the ground should be eliminated as should limbs that twist back towards the center of the tree. Limbs growing in front of or against one another should be removed as well. By removing these branches a young tree will start to develop a structurally sound and healthy canopy.

Below: The tree below has a healthy crotch angle that is not at risk of break. This type of crotch angle also helps direct growth up and out from the trunk



Right: This tree illustrates codominance, where multiple leaders direct growth rather than a central leader. This growth is not structurally sound and is discouraged



Pruning

Mature Trees

Pruning **mature trees** well eliminates many health problems. Pruning older trees should focus around maintaining structure, energy conservation and disease prevention and treatment.

Similar to young trees, maintaining the central leader is crucial to the structural integrity of mature trees. Branches threatening a central leader's dominance should be pruned before becoming too large. Canopy growth should be directed up and out from the trunk. Branches growing towards the ground need to be eliminated as do branches that cross. Crossing branches cause the tree to become unbalanced and severely damage the tree when a branch fails. Directing growth away from infrastructure is important to prevent damaging the tree. Eliminating narrow crotch angles and codominate stems also remains important later in a tree's life.

It is common to raise a tree's canopy. This affects the structure of a tree, but can be done in ways that either help or harm the tree's health



Watersprouts



Watersuckers



Street tree canopies are often raised to allow for easier pedestrian and vehicular movement through a space

depending on the arborist's skill. As long as dominant branches are preserved, raising the canopy protects a tree while allowing for more function beneath it. It must be remembered however, that at least half of a tree's branches should come from the lower two-thirds of the tree whether the canopy is raised or not.¹

Pruning for pest and disease control is important. For many diseases removing infected tissue is the best treatment. When doing this, cut back into the healthy tissue up to six inches from infected foliage. Beyond disposing of diseased tissue, pruning damaged and dead branches will help prevent infection. When pruning to prevent infection, eliminate any flat or cupped areas at crotch angles where debris or water could fall and become trapped. These areas breed fungal pathogens as they capture moisture and dead plant material that the fungi live off of. This also helps the tree conserve energy as it no longer sends nutrients to these areas.

Pruning for energy conservation is healthy as it helps the tree focus on growing in ways that are conducive to good health and structural integrity. Conserving energy is important as a tree only has so much energy to take care of all its life processes in a growing season. How much energy a tree has is dictated by the amount of sunlight it receives as



When raising the canopy it is important to remember the **2/3rds Rule**: At least half a tree's foliage should be on branches that originate on the lower 2/3rds of the tree



¹ Richard W. Harris, James R. Clark, and Nelda P. Matheny, *Arboriculture: Integrated Management of Landscape Trees, Shrubs, and Vines*, 4th ed. (Upper Saddle River, N.J.: Prentice Hall, 2004), 363

Pruning Mature Trees



The trees above and at right need pruning as their branches cross and threaten the structure of the tree



It is important to direct canopy growth away from infrastructure such as buildings or other obstructions

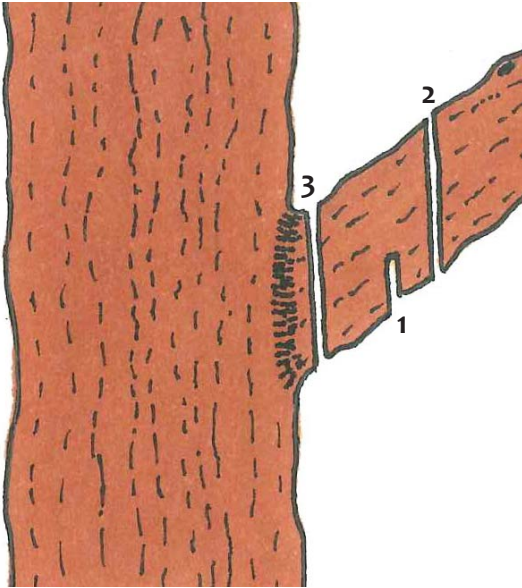


Crotch angles with bowl shaped or flat areas should be avoided as they provide a haven for fungal diseases

well as how many minerals and nutrients are readily available to the roots. Trees waste energy in watersprouts, watersuckers and excess canopy growth. Watersprouts are shoots of new growth that grow straight up at an almost 90 degree angle from the branch they are coming off of. This type of growth is common after a tree has endured stress such as a severe pruning, hard winter or an infection. Watersprouts are bad for the structure of the tree and should be pruned off at their bases. Similarly, watersuckers are new offshoots originating at the base of the tree that often resemble watersprouts in form. This growth gives no benefits to the tree and should be removed. The tree can then concentrate growth in areas that preserve the dominance of the central leader while continuing to shape the tree upwards and out from the base.

Often the canopies of older trees can become chaotic and dense with excess branches filling the space below the canopy. Cleaning out some of this growth is encouraged as it will ensure that the tree's energy will flow to places where growth is beneficial. Also it allows fruit producing trees to devote more energy towards fruit production when limbs that waste energy are removed.

3-Cut Method



When pruning with a saw, use the 3-Cut Method. As the name implies, three distinct cuts are made:

- 1) Cut the underside of the branch 12" outside of the desired final cut. Cut into the branch about 1/4 of the way.
- 2) A few inches outside of cut one, cut into the top side of the branch until breakage occurs
- 3) Just outside of the branch bark ridge (the rough textured bark where the branch meets with the trunk or another branch) make the final cut going all the way through the branch.

The 3-Cut Method prevents accidental breakage and minimizes pruning wounds

Positive Pruning Practices

- Pruning only what is necessary. If the reason for a cut cannot be determined, it should not have been made
- Using the 3-Cut Method if breakage is possible
- Sterilizing pruning equipment after every use

Negative Pruning Practices

- Pruning more than 25% of a tree in one season
- Pruning based on an schedule rather than need
- Pruning when angry, distracted or inebriated
- Topping or heading a tree

The Process of Pruning

The process of pruning starts well before the first tool is picked up. A pruning operation starts by observing the tree to determine what needs the pruning will address. After listing the needs, come up with a plan. Determine what parts of the tree will require work and in what order the various needs will be addressed during the pruning process.

When pruning, step back and make sure the desired form is developing as intended. It is helpful to mark areas intended to be cut with push pins or stickers before pruning. It is easy to see what needs work from a distance, but it is often confusing to figure out where branches observed from a distance are when working adjacent to the tree. This regular evaluation from multiple viewpoints will ensure that the operation is successful and beneficial to the tree.

Professional Care & Maintenance

What is an Arborist?

Arborist: An individual trained in the art and science of planting, caring for, and maintaining individual trees

ISA: International Society of Arboriculture, the professional organization of arborists worldwide.

A certified arborist has passed an exam covering every aspect of caring for individual trees and earned a professional license. Only a licensed individual is allowed to represent themselves as a certified arborist.

Professions Commonly Mistaken for Arborists

Forester: A professional tree worker who focuses on large groups of trees. This person helps maintain forests, but does not inspect individual trees in urban areas.

Gardener: An individual who maintains an outdoor area professionally or recreationally. There are no requirements for referring to oneself as a gardener in contracts or while billing for work. This person is unlikely to have specialized knowledge of proper tree care.

Groundskeeper: This individual has a broad, but often general, knowledge base of the processes involved in maintaining an outdoor area throughout the year. This person directs individual gardeners but may not have the knowledge base to perform advanced tree care.

Tree Worker: Anyone performing work on trees without ISA Arborist Certification.

Glossary

Arborist - An individual trained in the art and science of planting, caring for, and maintaining individual trees who has passed the ISA Certification Exam¹

Caliper – The diameter of a trunk or central leader that extends vertically from the ground plane. This variation should run from thick at the base to thinning further up the trunk

Central Leader – The main stem or bole of the tree¹

City Right-of-Way – Any avenue of public transportation such as a vehicular road or sidewalk as well as an easement adjacent to city streets that extends from the face of curb perpendicular to the street into adjacent private property

Codominant Leaders – Leaders equal in size and relative importance¹

Crotch – The angle at which two branches meet¹

DBH – Diameter of a tree’s trunk at breast height or 4’-6” above the ground plane

Dripline – The width of the leaf crown, as measured by the outward extent of the foliage¹

Forester – A professional tree worker who focuses on large groups of trees and helps maintain the world’s forests.

Gardener – An individual who maintains an outdoor area professionally or recreationally.

Groundskeeper – An individual with a broad, but often general, knowledge base of the processes involved in maintaining an outdoor area throughout the year. This person may direct individual gardeners

ISA – International Society of Arboriculture (ISA), the professional organization of arborists worldwide that governs industry activities and licensure

Mulch – Any material spread on the soil surface protecting the soil and roots from raindrops, soil crusting, freezing and evaporation¹

Pollarding - When young trees are initially headed, then reheaded on an annual basis without disturbing the callus knob.

Private Tree – Any tree growing on private land²

Public Tree – Any tree owned by the City of Oberlin or any protected tree that is not a private tree

Street Tree - A tree whose trunk is within the city right-of-way area starting from the face of curb and extending 11' into a property

Topping - Pruning to reduce height by heading large branches. This creates weak growth and should never be practiced.

Watersprouts – Vigorous, upright shoots from adventitious buds above the groundplane¹

Watersuckers – Vigorous, upright shoots from the root system at the base of the trunk at or below grade¹

Street Tree Permit Application

Complete the following information and provide this form to the City of Oberlin Office at 1 Morgan Drive

I. Applicant information

Name: _____

Address: _____

Phone and email: _____

Signature and submittal date: _____

II. Type of Activity	Tree Species	# of Trees
Planting	_____	
Removal	_____	

III. Location of Trees

Either provide a dimensioned diagram (showing streets, sidewalks, utilities and tree locations) or precisely describe where the trees (or planting spots) are located.

IV. Name of Person/Company Performing the Work

Name / Company Name: _____

Address: _____

Phone: _____

V. Kansas One Call (Required) 1-800-DIG-SAFE or www.kansasonecall.com

Ticket Number: _____

Original Call Date: _____

To be completed by City of Oberlin Tree Board

Indicate approval or disapproval, reasons for disapproval, conditions of approval:

Planner's signature

Date

Distribution list: applicant, address file.