City of La Grande
Community Forestry Program

Urban Forestry Division (541) 663-1952 trees@cityoflagrande.org

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City of La Grande Community Forestry

Trees help make our community a wonderful place to live, raise a family and do business. Trees beautify La Grande, protect our environment and improve our economy. They clean our air, give us shade, limit storm water runoff, reduce energy costs, increase property values, enhance business districts and make our community more inviting to visitors.

The Community Forestry Program provides education and guidance for the preservation, planting and care of trees in public spaces to ensure a healthy urban forest and a vibrant community.

Community Forestry Ordinance

La Grande's urban forest is protected and regulated by the Community Forestry Ordinance that describes mandatory standards and permitting requirements for street trees and the maintenance requirements for vegetation in the planting strip. ORDINANCE 3244 SERIES 2019

Community Landscape and Forestry Commission

The Community Landscape and Forestry Commission is an advisory body to the City of La Grande. The Commission serves as an advocate of the City's urban forest, and encourages improvements in the urban forest through long-term planning and policy development. RESOLUTION 4714 SERIES 2016

Urban Forestry Division

Urban Forestry is a division of the City of La Grande Parks and Recreation Department. The mission of the Urban Forestry Division is to protect and enhance the urban forest and to provide information and education to our citizens regarding all aspects of tree care. The objectives of the Urban Forestry Division are to provide a sustainable urban forestry program, increase the density and diversity of the urban forest canopy and improve the overall health of the urban forest.

Community Forestry Background

Before white settlement, the Grande Ronde Valley was an important rendezvous site for Native people of the southern Columbia Plateau. Umatilla, Nez Perce, Cayuse, and others traveled to the valley in the summer to harvest camas root and other plants and to hunt, fish, and trade.

Emigrant families traveling the Oregon Trail, through today's City of La Grande, often camped in the Grande Ronde Valley before continuing their strenuous journey across the Blue Mountains. The lush valley was a welcome change from the open dry country through which the pioneers traveled, and La Grande was first settled in 1861 by immigrants originally bound for the Willamette Valley.

"*About 2 o'clock we came to a very long steep hill overlooking the beautiful valley. It appeared to be the most beautiful valley I have ever looked upon. The hills dressed in green, with springs of water running from the sides, with groves of willows and cottonwood, and thousands of ponies grazing and Indians driving in all directions." John Johnson, July 30, 1851*

When immigrants first arrived in the Grand Ronde valley it was a treeless prairie. The settlers planted fruit trees and shade trees brought from their original homes. Tree nurseries were one of the earliest commercial businesses. Around 1900, the City planted the boulevard areas adjacent to the old downtown. These plantings were primarily Siberian elm, black locust and various types of maples.

In 1923, to commemorate the end of the First World War, 250 Norway maple trees were planted by volunteers along Spruce Street and "S" Avenue. The beautiful tree-lined parkway, known as Victory Way, stretched from downtown to Riverside Park. Although fewer than 25 of the original maples survive today, a variety of new trees have been added to honor the original planting. A 75th anniversary celebration was held for Victory Way in April 1998 and 40 additional trees were planted. Today, the Victory Way trees are Oregon Heritage Trees.

Community Forestry Background

Community tree plantings sponsored by the City were held periodically. In 1985, over 150 trees were planted along Island Avenue and the Ron Rohweder Memorial Arboretum was established. In 1992, the City received a Small Business Administration grant to plant 60 trees along the streets near the downtown area.

The City began work on an urban forestry plan in 1992. The City also contracted to conduct a street tree inventory to help with early planning. An urban forestry consultant was hired in 1993 and the Community Landscape and Forestry Commission was formed in 1995. The initial Community Landscape and Forestry Master Plan was approved by the La Grande City Council on September 4, 1996.

In 1995 the City began an program to plant 50-75 street trees annually, with the assistance of volunteers. The Urban Forestry Program continued to grow through the alliance of the Community Landscape and Forestry Commission, Community Development Department, Parks and Recreation Department, Urban Forestry Consultant, and volunteers. In 2003, the City instated the Land Development Code requiring street tree planting in all new developments. Since 2008, an average of over 100 trees have been planted annually along La Grande's streets, in the parks and in public greenspaces.

Due to the loss of State funding for a private urban forestry consultant, the City created a part-time Tree Care Educator position in the Parks and Recreation Department in 2006 to help maintain the urban forestry program. In 2019 a full time Urban Forester position was created to administer the Community Forestry Program.

In 2021, a GIS based public tree inventory was completed to guide the management of La Grande's community forest. Mapping of all community-owned trees provides a detailed, real-time understanding of the inventory and needs of the urban forest.

Community Forestry Activities

Public Tree Inventory

The City maintains a GIS inventory of over 5500 public trees. The tree inventory is a management tool for the community forest and serves as the information base to evaluate and monitor the status of the urban forest canopy. The inventory guides potential tree planting, maintenance, and tree removals.

Tree Planting, Maintenance and Replacement

The keys to maintaining a healthy, sustainable urban forest are regular tree plantings and regular maintenance and replacement. Annual tree plantings ensure a perpetual canopy and a diverse, multiple age forest. Targeting areas of the City that have fewer trees and less canopy cover will increase the benefits that trees provide to our citizens. The City's goal is to plant 100 trees annually in the parks, green spaces, and parkways.

Proper pruning and maintenance enhances a tree's structure and form, improves health and longevity and reduces risk. Public trees are monitored to meet clearance requirements, assess for risk, and conduct appropriate mitigation. Replacing dead trees and trees in poor condition is essential to maintain public safety and provides room for new, diverse plantings.

Community Forestry Ordinance and Development Code

The Urban Forestry Division administers permits for the protection, planting, maintenance and removal of trees in public places and works with the Community Development Department to review development plans, advocate for the protection of trees during construction, and mitigate risk associated with trees on private property. The Urban Forestry Division and Public Works Department manage clearance pruning of both public and private trees, and the preservation of space for public trees.

Public Education and Outreach

The community forestry program strives to raise awareness and appreciation of the benefits of a healthy and diverse urban forest by providing educational opportunities for homeowners, businesses, schools, civic organizations and landscape professionals. The urban forestry division also provides education for the commission, parks staff, public works and other departmental agencies.

Community Achievement

La Grande is proud to be a Tree City USA since 1990, with more Tree City USA Growth Awards than any other Oregon city. The City celebrates National Arbor Day and Oregon Arbor Month every year and recognizes individuals and organizations that have made significant contributions to the spirit of the community forest.

Beautification Awards Program

The Landscape and Community Forest Beautification Awards Program, established by the City Council, honor individuals and businesses that create or maintain landscapes that enhance the diversity and livability of our city.

Volunteer Coordination

Citizen, business, and civic organization participation is encouraged in all Community Forestry events. The Grow La Grande! Volunteers plant trees in April to celebrate Oregon Arbor Month and again in October for National Neighborwoods month. They also help with young tree care and early structural pruning to get new trees off to a good start.

Community Forestry Activities

Memorial Tree & Sponsor a Tree Programs

Planting a memorial tree in a City park or other City-owned land honors a loved one and also provides a gift to the whole community. A donation to sponsor a tree will fund the planting of a street tree for a family or individual who otherwise would be unable to afford a tree.

Utility Line Clearance

Oregon Trail Electric Cooperative and City partner to improve utility pruning practices and ensure safe electrical service. Through the removal and replacement program trees in poor condition are removed and replaced with powerline friendly trees.

Commercial Tree Services

The Urban Forestry Division administers the annual Commercial Tree Service Permit. Tree services working in the City of La Grande are required to hold an Oregon Contractors License and have the required liability insurance.

Oregon Heritage Trees

La Grande has two Oregon Heritage Tree designations; the Baker Black Locust Tree on the Eastern Oregon University campus and the Victory Way Norway Maple Trees on Spruce Street. Oregon Heritage Trees are “trees that tell a story; trees that confound and astound; trees that educate both Oregonians and visitors about significant people or events from the past.” oregontic.com/oregon-heritage-trees

Landscaping on Private Property

Most of the trees in La Grande’s community forest are on private property. Landscaping on private property enhances the living experience in La Grande and benefits the property owner by increasing property values and providing an esthetic environment. Support, information, and encouragement is provided by the City and the Community Landscape and Forestry Commission to facilitate the planting and maintenance of trees, and diverse landscape plants and materials.

Community Forestry Ordinance

The Community Forestry Ordinance regulates the protection, planting, maintenance and removal of trees in public places. Public places include street and alley right-of-way, parks, and greenspaces that are not privately owned. The management of street trees is done cooperatively by the City of La Grande and adjacent property owners.

Community Forestry Ordinance Summary

Community Forestry Ordinance

- Provides definitions of terms and a statement of purpose.
- Establishes the authority of the City Manager and details the duties of the Urban Forester.
- Outlines the responsibilities of the Community Landscape and Forestry Commission.
- Incorporates the Community Forestry Manual and supplemental materials.

Tree Maintenance Responsibilities

- Defines responsibilities for street tree maintenance.
- Defines responsibilities for the maintenance of trees on private property.

Permitting

- Requires a permit to plant, perform major pruning, treat, or remove a tree on public property.
- Describes the permit application process.
- Requires a replacement tree when a removal permit is granted.

Tree Service Provider Registration Requirements

- Requires tree service providers performing work within the city limits to be licensed with the City of La Grande.
- Permits abutting property owner to perform work on street trees as long as the work meets Ordinance standards.

Utility Pruning

- Outlines the responsibilities for maintaining trees in the electrical utility system.

Tree Protection

- Makes it illegal to damage or destroy a public tree.
- Prohibits topping, spurring, and attaching signs or other objects to public trees.
- Requires the protection of trees during construction.

Public Nuisances

- Defines criteria by which a tree, or other vegetation, may be declared a public nuisance.
- Gives City authority to perform emergency work on all trees in the public right-of-way.

Penalties and Fines

- Establishes penalties for damaging or destroying trees on public property, which may include fines and/or penalties for the appraised value of the tree.

Property Owner Responsibility

La Grande's Community Forestry Ordinance requires adjacent property owners to maintain the trees and landscaping in the public right-of-way.

Routine street tree maintenance includes:

- Pruning to provide visibility at street intersections and clearance over the sidewalks and streets.
- Removing dead limbs and broken branches.
- Controlling pests.
- Watering trees to provide a healthy, growing condition.
- Pruning or removing trees that are considered a public nuisance.
- Removing stumps in the public right-of-way.

Responsibility for trees on private property includes:

- Pruning trees and shrubs to provide visibility at street intersections.
- Pruning branches that overhang sidewalks or streets.
- Removing or pruning trees that are considered a public nuisance.
- Controlling pests which may pose a threat to public trees.
- Removing all debris (wood, branches & leaves) from public property.

Tree Risk Assessment

The property owner has an obligation to maintain adjacent street trees and trees on private property so that they do not create an unacceptable safety risk to the public. Public safety risk associated trees is best managed with regular inspection and timely maintenance actions initiated by the property owner and their registered Tree Service Provider. A healthy, vigorous tree that receives regular care is less likely to develop hazardous conditions than one that is ignored. Prevention is the best solution to avoid risk associated with trees.

Trees pay us back! Well maintained trees increase the property value of homes and businesses and provide social and environmental benefits for the whole community.

IN A YEAR, ONE TREE:

INTERCEPTS 700 GALLONS OF STORMWATER
extension.psu.edu

BEATS THE HEAT WITH THE STRENGTH OF 10 AIR CONDITIONERS
arborday.org

ABSORBS 48 POUNDS OF CARBON DIOXIDE FROM THE AIR
projects.ncsu.edu

PRODUCES 260 LBS OF OXYGEN, ENOUGH FOR A FAMILY OF FOUR
CarbonDay.com

Street Tree Permitting

The City of La Grande requires property owners and managers to obtain a Street Tree Work Permit before planting or removing a tree in the public right-of-way. A permit may also be required before pruning or treating a street tree. There is no charge for the permit. The intent of the permit system is to preserve and enhance La Grande's urban forest.

Street Tree Work Permits are required for the following activities:

Planting: Only tree species identified in the City of La Grande Recommended Street Tree List, or trees approved by the City, may be planted in public places. Tree selection, spacing and clearance requirements are detailed in this manual in the section on *Street Tree Planting*.

Major Pruning: Major pruning means removal of branches two inches in diameter or greater; removal of roots two inches in diameter or greater; or removal of branches constituting more than 15 percent of a tree's foliage–bearing area. All major pruning of street trees shall comply with American National Standards Institute (ANSI) A-300 standards and relevant standards included in this manual in the *Street Tree Pruning* section.

Removal: The City's policy is to retain and preserve street trees whenever possible. Street tree removal shall not be permitted unless the street tree meets the required criteria:

1. Poses a public safety hazard.
2. Is in such a condition of poor health or poor vigor that removal is justified.
3. Cannot be successfully retained due to public or private construction or development conflicts.

Permit Applications

Permit applications are available from the City of La Grande Parks and Recreation Department, 2402 Cedar St., La Grande, OR.

Permits for tree removals and major pruning generally require an on site evaluation by the Urban Forester. Contact the Urban Forestry Division at 541-663-1952 or trees@cityoflagrande to schedule a site visit.

Tree Service Providers

All tree service providers working within the city limits of La Grande must obtain a Commercial Tree Service Permit. See the *Tree Service Providers* section for registration requirements.

LA GRANDE
PARKS & RECREATION

Urban Forestry
2402 Cedar Street
La Grande, Oregon 97850
(541) 663-1952
trees@cityoflagrande.org

Prohibited Acts & Penalties

Abuse, Mutilation or Destruction

The Community Forestry Ordinance makes it illegal for any person to abuse, mutilate or destroy any tree in any public right-of-way or public place in the City. Abuse and mutilation could include but not be limited to:

- Topping or severely reducing the crown of a tree.
- Damaging the bark of the trunk or branches.
- Girdling the tree.
- Excavating or causing compaction in the critical root zone.
- Applying toxic chemicals to a tree or to the ground within the critical root zone.
- Causing or encouraging a fire underneath or within five feet of the dripline of a tree.
- Removing more than 25 percent of the canopy or root area.
- Breaking branches by hanging on or climbing a tree, or by the operation of construction equipment.
- Placing or storing materials within the critical root zone.
- Attaching any rope, wire, nails, signs, posters, or other objects to any tree.
- Spray painting or other graffiti.
- Using climbing spurs on a tree other than during removal.

Penalty

The penalty for the abuse of a public tree is set by a resolution of the City Council. If a tree is destroyed, or wrongfully removed, the appraised value of the plant as determined by the most current edition of the Council of Tree and Landscape Appraisers *Guide for Plant Appraisal* may be additionally applied to this penalty.

Permit Violations

The City of La Grande may issue a citation when work is performed on a street tree without first obtaining a Street Tree Work Permit. Violations of any provisions of the Community Forestry Ordinance are subject to a penalty until compliance has been achieved (Enforcement Provisions and Penalties Ordinance and Administrative Fees and Enforcement Penalties Resolution).

Street Tree Planting

Street Tree Planting Program

A tree planting program is an essential element of a sustainable urban forest. To encourage tree planting on public property the City of La Grande provides trees at a reduced cost to property owners. The Urban Forester evaluates the planting site and gives tree selection recommendations. The property owner, or manager, agrees to care for the new tree(s).

Street trees provided by the City are high quality nursery container stock with a minimum size of 15 gallons and 1" diameter. This size has the advantages of being large enough to withstand damage, manageable to work with, and ideal for quickly becoming established.

To schedule a site evaluation for a new street tree call the Urban Forestry Division at 541-663-1952 or send an email to trees@cityoflagrande.org. Residents may plant the trees themselves or volunteers are available for those who need assistance. The Urban Forestry Division offers demonstrations on correct planting techniques for all residents and volunteers.

Only tree species identified in the City of La Grande Recommended Street Tree List (Appendix A), or trees approved by the City, may be planted in the public right-of-way and other public places. If you are planting a privately obtained tree in the public right-of-way apply for a Street Tree Work Permit to make sure you get the right tree for the right place.

Community Tree Planting Events

The City of La Grande sponsors two community street tree planting events annually. The spring tree planting day is held in April in conjunction with National Arbor Day. The fall tree planting day is held in October during National Neighborwoods Month. The goal of the street tree planting program is to add 100 specifically chosen and placed shade trees to the urban forest each year.

Volunteers

Join the ***Grow La Grande!*** volunteers and help make our community greener & healthier for all. There several ways to be involved:

- Plant trees at the spring and fall community tree planting events.
- Learn the basics of tree pruning to get young trees off to a good start.
- Check on new trees in the summer to make sure they are being watered.
- Help recruit volunteers.
- Become a member of the Community Landscape and Forestry Commission.
- Spread the word that we need trees!

Street Tree Planting

Trees in the Urban Environment

Most planting sites within the urban environment offer less than ideal growing conditions for trees. Growing space is restricted both above and below ground. The soil that supports the tree's growth may be compacted, paved or polluted. Roots that support the tree can be damaged by excavation for construction and underground utilities. Heat is reflected from pavement, buildings and vehicles. Urban trees may suffer from drought stress or from over-watering and are subject to neglect, vandalism and poor pruning. To ensure survival in this environment it is essential to match the best possible tree to the site.

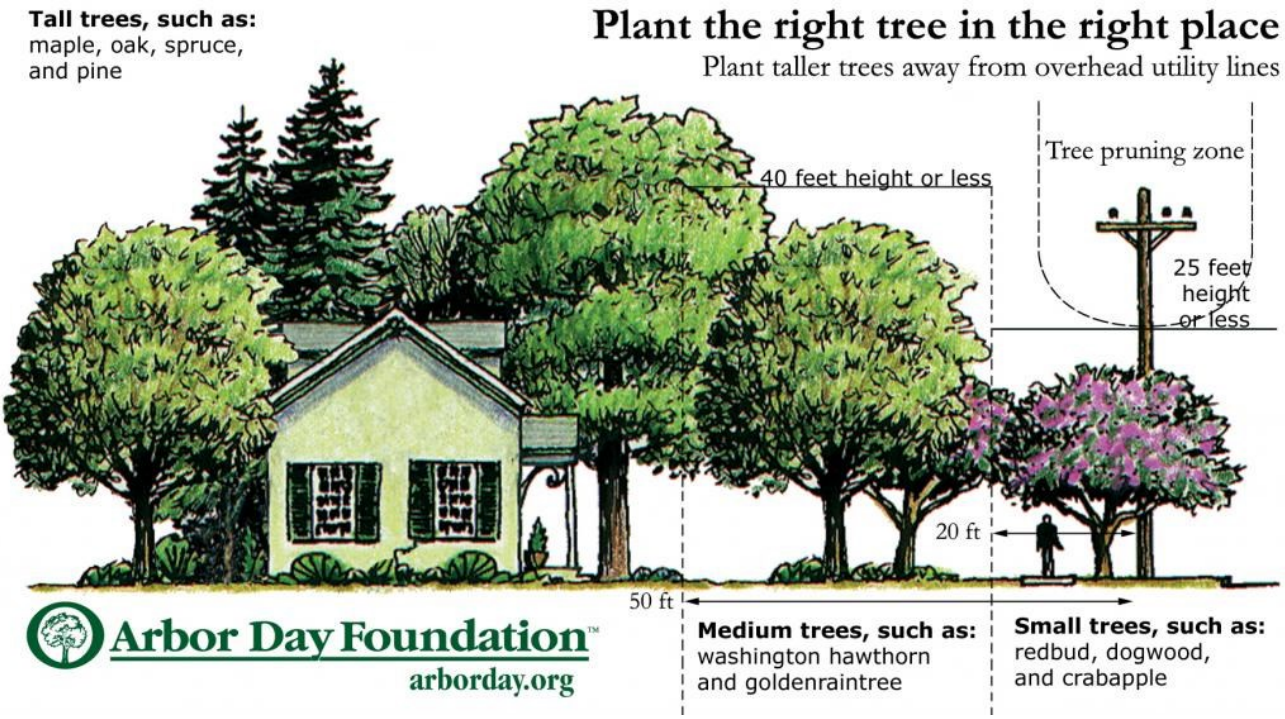
Tree Selection: The Right Tree in the Right Place

Planting a tree that is well adapted to its planting location gives it the best opportunity to grow to its full potential and live a long life. On the other hand, poorly selected trees usually have shorter lives and may create conflicts.

What to consider when selecting a tree that matches the planting site:

- Available space for a mature tree, both above ground and below.
- Overhead and underground utilities.
- Space between the sidewalk and curb for roots to grow without causing damage.
- Existing infrastructure and landscaping.
- Available moisture and light.
- Possible insects or diseases that could cause problems.
- Soil depth, structure and pH.
- Purpose; shade, aesthetic interest and screening.

A well placed tree will enhance property values and will fit the scale of the landscape. It will require a minimum of pruning and watering, and minimize conflicts with other components of the urban environment. The right tree in the right place requires less maintenance and considerably less expense over time.



Street Tree Planting

Recommended Street Tree List

The City of La Grande Recommended Street Tree List (Appendix A) provides information about tree species and varieties that are suitable for planting in the public right-of-way.

The dimensions for height and spread are based on the growth of a healthy 30 year old tree grown under average city conditions. Trees that exceed this age may grow larger, but usually at a slower rate of growth.

Cold hardiness ratings are from the United States Department of Agriculture (USDA) system. La Grande is classified as USDA Zone 5 with average annual minimum temperatures between -10 and -20 degrees Fahrenheit. A smaller zone number indicates increasing cold hardiness. The recommended street trees listed are rated to be cold hardy to USDA Zone 5 or colder. Be aware that “cold pockets” or particularly exposed locations may increase a tree’s susceptibility to damage from cold temperatures.

Each tree species has a common name and a scientific name. The scientific name is printed in italics. For example, red maple (common name) is *Acer rubrum* (scientific name). A species may be subdivided into varieties that exhibit particular characteristics. A cultivated variety is one that has been selected and propagated by people. A species may have numerous cultivated varieties with significantly different characteristics. For example Armstrong maple, or *Acer rubrum* Armstrong, is a cultivated variety with a very upright branching pattern giving it a narrow, columnar shape. In selecting a type of tree to plant, pay close attention to the exact cultivated variety because characteristics may vary widely between different varieties of the same species.

There are four different categories of trees based on minimum space requirements:

Tree Class	Description	Mature Height	Minimum Planting Strip Width	Minimum Tree Spacing
I	Small trees for limited growing spaces, suitable for planting under high voltage electric power lines.	10’ - 25’	4’	20’
II	Columnar trees that remain narrow in width, suitable for areas where horizontal growing space is limited.	15’- 45’	4’- 6’	20’
III	Medium sized trees	30’- 40’	6’	30’
IV	Large trees	40’- 60’	8’	40’

If the planting site meets the minimum space requirements, and there is adequate space for a large tree, Class III or IV Trees are recommended. Large trees provide far more benefits than small trees and can live much longer.

Street Tree Planting

Spacing

Proper spacing reduces infrastructure conflicts and long term maintenance costs and is an important component of the right tree in the right place.

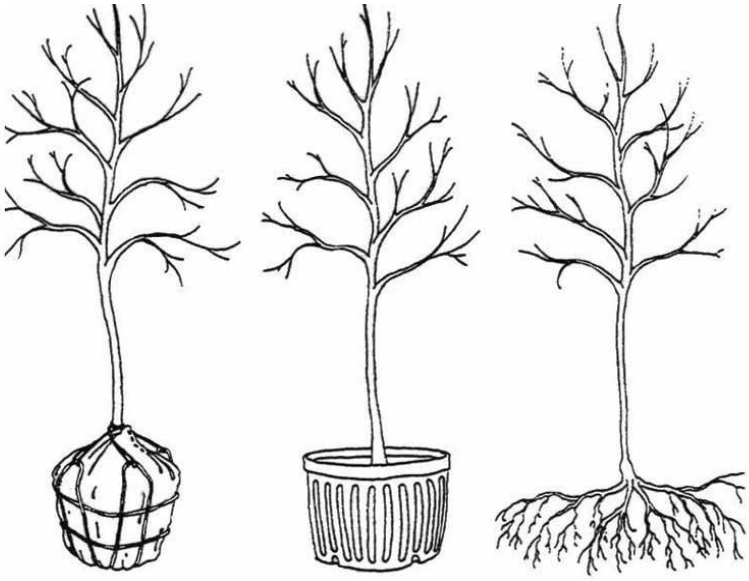
Spacing of Trees in the Public Right-of-way:

- Fire hydrants: 10’ from fire hydrants.
- Water meters: 10’ from water meters for large planting sites, 5’ for medium and small planting sites.
- Gas lines and other underground utilities: 5’ for large and medium planting sites, 3’ for small planting sites.
- Intersections: 25’ from a street intersection, measured from the street-side edge of the curb; street trees located at intersections should also follow the City of La Grande Land Development Code requirements for clear site triangles.
- Driveways, walkways, curb cuts, and alleyways: 5’ from driveways, walkways, curb cuts, alleyways, and paved paths.
- Stormwater management facilities: locations of trees planted within stormwater management facilities shall be determined by the Public Works Department and the Urban Forester.
- Property lines: 2’ from property lines.
- Building entrances: Trees should not be planted in front of building entrances.
- Traffic signals: 25’ from traffic signals.
- Street lights: 25’ from street lights for large and medium planting sites; 15’ for small planting sites; 15’ if a narrow-growing tree species or variety of tree is selected.
- Traffic signs: 20’ from the front of stop signs; 20’ from the front and 5’ from the back of other directional and safety signs, such as yield, pedestrian crossing, school, speed limit, etc.
- Utility poles: 5’ from non-streetlight utility poles.
- Guy wires: Trees shall be planted outside of guy wires for large planting sites. Trees may be planted inside of guy wires for medium and small planting sites.
- Overhanging canopy: Street trees should not be planted under existing tree canopy if there will be a conflict as the tree matures.

Planting Guidelines

When to Plant

The ideal time to plant trees is during the dormant season; in the fall after leaf drop, or early spring before bud break. Weather conditions are cool and allow plants to establish roots in the new location before spring rains and summer heat stimulate new top growth. However, trees properly cared for in the nursery or garden center, and given the appropriate care during transport and after planting, can be planted throughout the growing season.



NC State Extension Publications

Types of Nursery Trees

Trees grown in a nursery come in three standard types:

Ball and Burlap (B&B): These trees are grown in the field and then dug up to transplant. The root ball is wrapped in burlap and may be tied with twine or caged with wire.

Container Grown: Containers are made in a variety of shapes and sizes and are constructed from many different materials; plastic, paper, aluminum, fabrics, wood, and peat.

B&B and container grown trees can be planted any time of year.

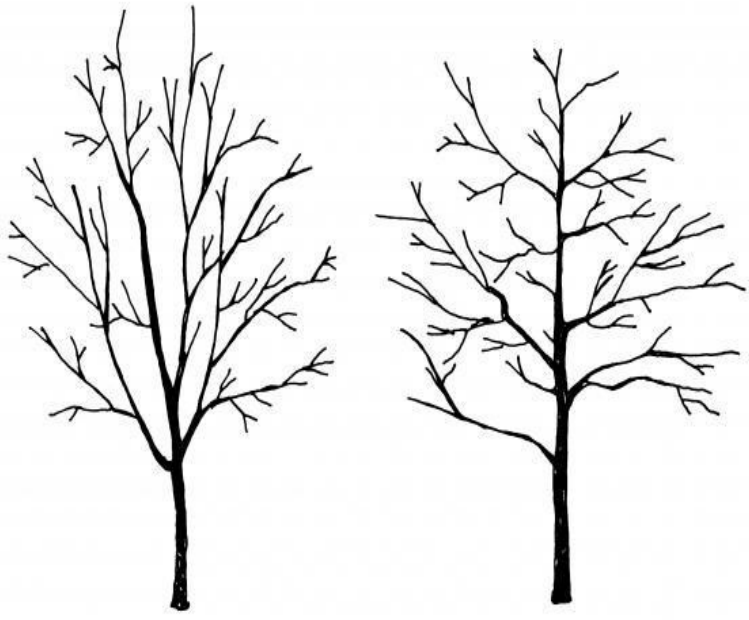
Bare-root: These trees are dug in fall or early spring and have no soil surrounding the roots. They should only be planted in the early spring or late fall when they are dormant and their buds are closed.

Choose a Healthy Tree

Street trees should have a single trunk. Multiple trunk trees, especially larger species, have inherent problems that will shorten their life. There should be only one central leader. More than one dominant leader can cause the tree to split later in life.

There should be no scars or tears along the trunk or major limbs. Injuries can be a site for insects and disease.

For B&B and container grown trees look for an obvious root flare: the bottom of the trunk should widen at the base. If no root flare is visible the tree may have been transplanted too deeply and the root flare buried with soil or potting medium.



Good Form Great Form

Planting Guidelines

Plant the Right Way

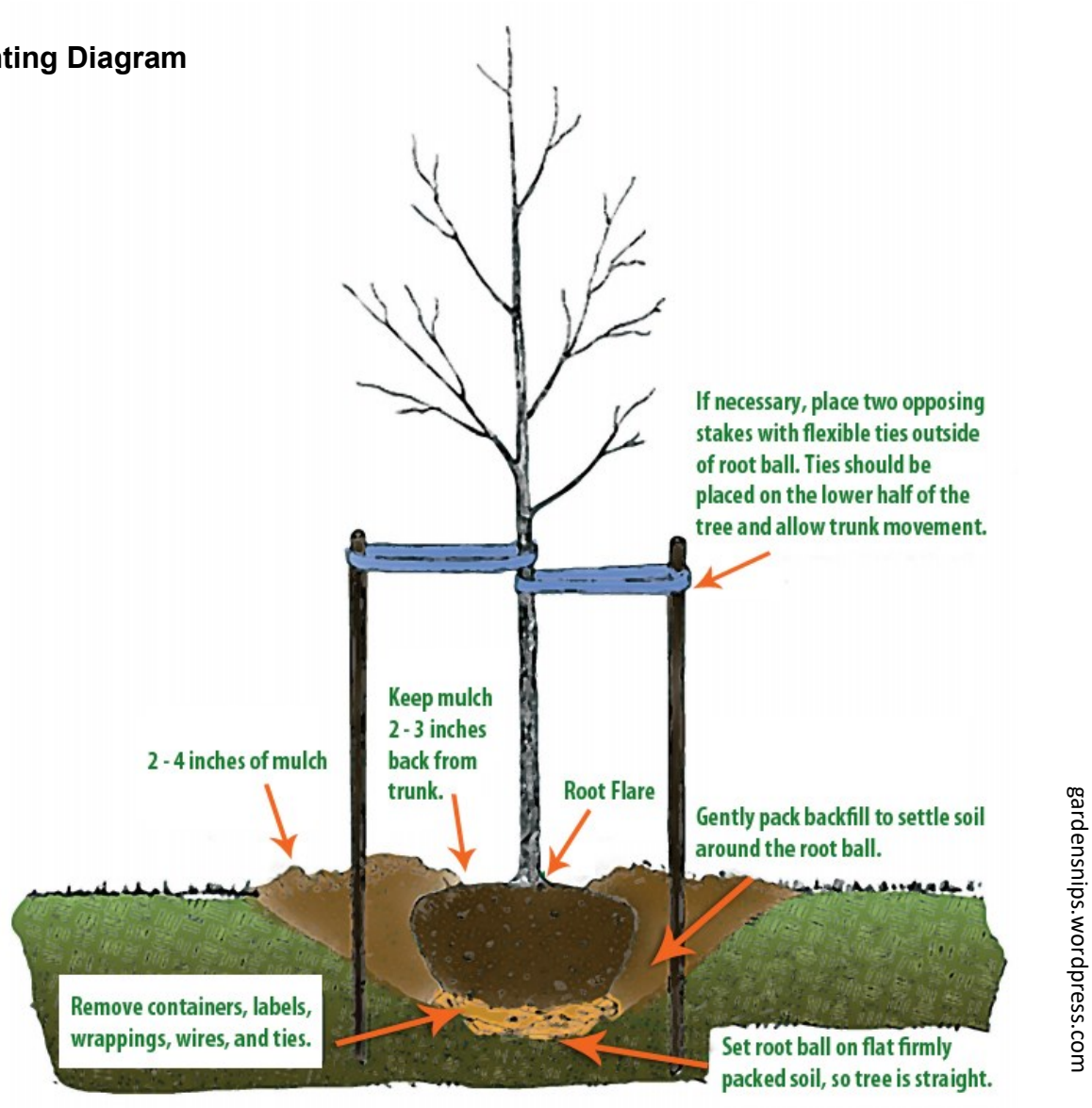
Correct planting techniques are essential to grow a healthy tree. Many instances of tree decline and death are the result of poor planting techniques. The following standards are required for planting all street trees and other trees on public property and are recommended for planting trees on private property.

Preparing the Planting Hole

Before any excavation always contact the Oregon Utility Notification Center to mark the locations of underground utilities. Phone: 811 Online: www.digsafelyoregon.com

Dig the planting hole at least twice as wide as the root ball. This loosens the soil surrounding the root ball so that new roots can penetrate and grow more easily. Remove any sod and do not use it in the planting process. Measure the root ball of the tree from the bottom of the trunk flare to the base of the root ball. Dig only as deep as the root ball or even an inch shallower. This prevents the soil from settling under the root ball causing the tree to be planted too deep. Measure the depth carefully before placing the tree in the hole.

Planting Diagram



Planting Guidelines

Planting Container Grown Trees

After preparing the planting hole lay the tree on its side with the container next to the hole. Do not damage the thin bark of the young tree. Remove the container from the root ball while carefully holding the trunk. Tapping the container with a mallet will help loosen the root ball.

The biggest drawback to container grown trees is the possibility of circling roots. If left untreated these roots continue to grow in circles after planting and this will cause problems for the tree in the future.

Break up any circling roots on the outside of the root ball. Straighten out small roots so they will grow away from the trunk. Larger roots may have to be cut with pruners. For badly root-bound trees cut off the outer 2-3 inches of the root ball with a saw.

Roots that are touching or circling the trunk instead of growing straight away from the trunk will stress the tree by reducing or eliminating the flow of water and nutrients where the root contacts the trunk. Stress increases with time and can lead to dead spots on the trunk and tree decline. A root that girdles the tree trunk (wraps around the trunk) can cause tree failure.

Don’t Leave Circling Roots!

Planting Guidelines

Don’t Plant Too Deep

A common mistake is planting the tree to deeply. When trees are planted too deep, the roots can suffocate because they don't get enough oxygen. Planting too deep can cause the roots to girdle, or wrap around the tree, cutting off the flow of water and nutrients. Panting too deep also puts the tree trunk in contact with soil, which can cause the trunk to rot.

Lay a shovel or rake across the top of the planting hole to help measure the depth. The depth of the planting hole should be the same as the height of the root ball to the root flare. Remove or add soil to the planting hole to obtain the correct planting depth.

The trunk of a tree that has been planted too deeply shows no sign of a root flare.

The root flare of a correctly planted tree is above the soil line.

Root Flair

A tree that was planted too deeply and developed a girdling root.

Planting Guidelines

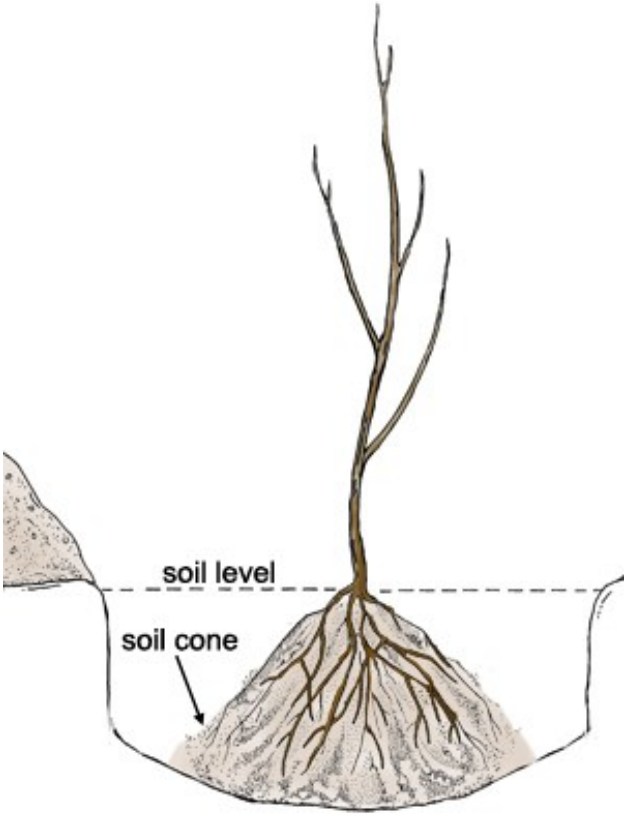
Ball and Burlap (B&B) Trees

Because they are not grown in pots B&B trees generally don't have circling roots. The disadvantage is that they are very heavy. Do not lift the tree by the trunk, this can damage the tissue under the bark.

After digging the planting hole remove the twine, wire and burlap from the root ball. Remove any excess soil that may be covering the root flare. Check to make sure the planting hole is the same depth as the root ball and roll the tree into place in the planting hole.

Burlap, twine or wire left on the tree can cause damage and impede growth.

Make sure the tree does not have extra soil over the root ball.



Bare Root Trees

Bare root trees are shipped with no soil surrounding the roots. The advantages of bare root trees are they are inexpensive and light weight. They should only be planted in the early spring or late fall when they are dormant and their buds are closed. Bare root trees should be soaked in a bucket of water while the planting hole is prepared.

A small mound of soil in the center of the planting hole is helpful for arranging the roots so that they are spread out radially. Straighten the roots to avoid circling, kinking or girdling roots. Potentially damaging roots that cannot be straightened should be pruned off. Prune away diseased, damaged or abnormally long roots. Do not prune off any roots unless necessary.

Planting Guidelines

Avoid Soil Amendments

Adding material to the planting hole is not recommended. Adding soil amendments likes peat moss, garden compost, composted manure, sand, sawdust, wood chips, and bark can discourage new roots from growing out into the native soil. The only things that should be added to the planting hole is the tree, backfill soil and water.

Backfilling

Position the tree in the planting hole, straight and at the correct depth. Begin back filling by shoveling in the sides of the hole. This creates a wider planting hole for the tree and encourages the roots to spread out from the tree. Backfill with soil until the hole is halfway filled. Do not compact the soil, but break up any clumps and make sure you don't leave any air pockets.

Add water to help settle the soil around the roots then continue backfilling with soil. Add enough soil to cover the root ball, leaving the trunk flair above the soil level. Build up a ring of soil around the planting area to create a basin to hold water.

Fill the water basin, allow the water to soak in, then fill the basin up again. This allows the water to soak into the backfill soil, and the soil around the planting hole.

Watering New Trees

Watering is the most important thing to help a new tree survive and thrive. Check the soil moisture by sticking your finger into the root ball and the backfill soil, both should be damp but not constantly wet. As a rule of thumb, water a young tree three times a week during hot and dry summer weather, applying at least 5 gallons per watering. During the cooler, moister weather of spring and fall watering once a week may be adequate. Continue to water as needed until the ground freezes in the winter. Lawn irrigation systems may not provide enough water directly to the new tree's roots. Additional deep watering from a hose will encourage deeper rooting. Continue this watering routine for three–four years after planting. Do keep in mind that too much water will also kill a tree; the soil should be moist, not saturated.

A watering bag is a great way to make sure a young tree gets enough water. Fill with a hose once or twice a week. The water leaks out slowly and goes right to the roots.

Planting Guidelines

Mulch

Mulch is any material used to cover the surface of the soil. Mulch conserves water, discourages weeds and protects the young tree trunk from lawn mowers and weed whackers.

From a tree's perspective the best mulch is wood chips. Wood chips improve the health and texture of the soil, and even reduce compaction. Tree roots grow better under organic mulch than they do under sod, and young trees will grow faster if they aren't competing with grass.

Fine textured materials such as compost or peat moss are less preferable because they tend to blow away and decompose faster. Bark mulch doesn't improve the soil like wood chips and can be flammable. Gravel or rock mulch can cause heat damage in the summer, does not hold water, and does not build up the soil like an organic mulch.

Applying Mulch

Starting 4-6 inches away from the tree trunk spread a thick layer of mulch under the tree. 4-6 inches of bark mulch or wood chips is ideal. Cover the entire planting area including the watering basin ring.

Maintain and enlarge the mulch ring as the tree grows. A mulch ring that extends out at least to the drip line, the outer extent of the branches, is preferred, the bigger the better! Apply new mulch every year or so as needed.

Mulch Doughnut - Not Volcano

Don't pile mulch against the trunk of the tree. Mulch on the trunk causes moisture to build up, creating ideal conditions for insect pests, diseases, and decay.

Mulch piled against the tree trunk can also encourage rodents to take up residence and gnaw on the tree bark.

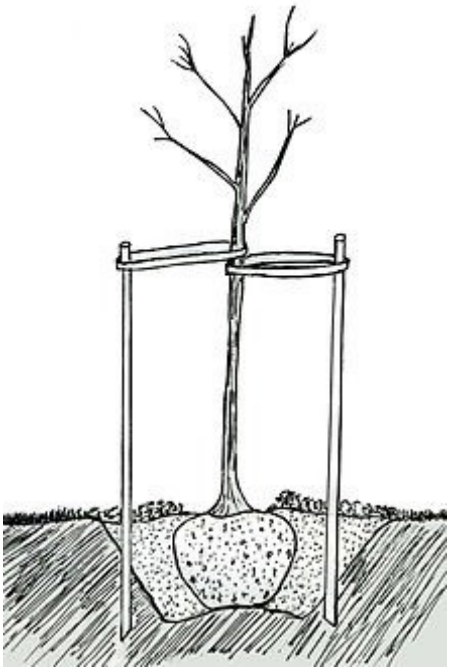
Roots may grow up into the mulch increasing the risk of circling and girdling roots around the trunk of the tree.

No Mulch Volcanos!

Planting Guidelines

Staking

Most young trees can stand unsupported and will be stronger without stakes. Staking can actually delay the development of a strong tree. Trunk movement signals the lower trunk and roots to produce increased growth and creates better trunk taper and a stronger root system. Trees planted in windy areas, or trees with weak trunks may benefit from staking.



cals.arizona.edu

If staking is necessary use flexible tying material with a broad, smooth surface.

Don't use wire or twine, it can easily damage the bark of young trees.

Stakes and ties must be inspected and maintained to prevent damage to the tree.

Generally all stakes and ties should be removed after the first year.

Caging

Welded wire cages should be installed around young trees to protect the trunk from deer and other animals. Remove the cage when the tree has grown to a diameter of 4 to 6 inches.

Fertilizer

It is usually not necessary to fertilize newly planted trees. Most soils supply sufficient amounts of nutrients during establishment. If the tree is growing poorly two to three years after planting, fertilization may be beneficial. Poorly growing trees typically exhibit sparse foliage, yellow-green leaves or short annual twig growth. Always do a soil test before adding fertilizer. Mulching with an organic material like leaves and wood chips will provide nutrients for the tree over time.

Pruning New Trees

Structural defects should be corrected at planting time. Encourage one central leader by shortening or removing co-dominant stems. Thin out clustered and competing branches. Remove branches with narrow crotch angles. Shorten overly long branches and branches larger than half the diameter of the trunk. Dead, damaged or broken branches should also removed. See *Pruning Young Trees, page 28* for more detail.

Street Tree Pruning

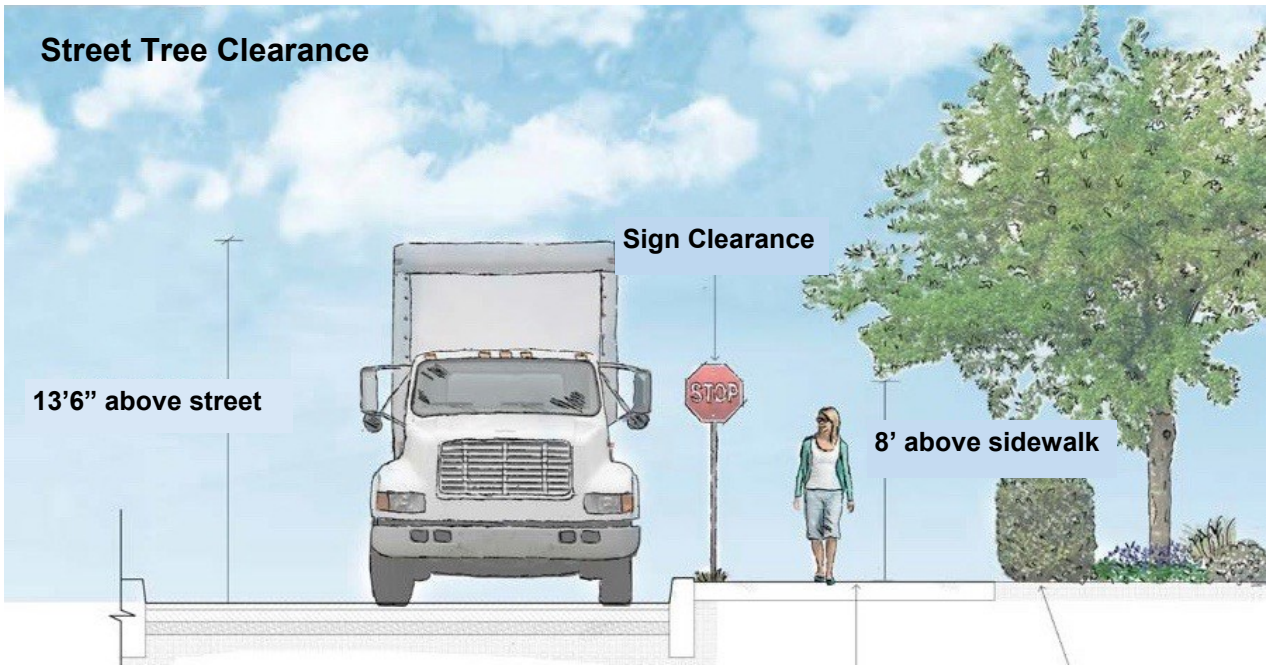
The City of La Grande regulates the pruning of street trees to enhance public safety and tree health. Pruning to achieve standard clearances is the first objective of a street tree pruning project. Street tree pruning should also minimize structural defects and encourage natural growth. All maintenance performed on street trees shall be in accordance with Standard Practices for Tree Care Operations – American National Standards Institute (ANSI) A300-(Part 1). Copies of this publication are available at the Urban Forestry Division and may be purchased through:

Tree Care Industry Association
136 Harvey Road, Suite 101
Londonderry, NH 03053
www.tcia.org
Phone: (603) 314-5380, Toll-free: (800) 733-2622

International Society of Arboriculture
PO Box 3129
Champaign, IL 61826
www.isa-arbor.com
Phone: (217) 355-9411

Pruning Requirements

Abutting property owners are required to prune street trees to provide clearance and visibility for vehicles and pedestrians. Minimum clearance requirements are 13'6" above the street and alley and 8' above the sidewalk and pedestrian right-of-way. Pruning to meet public right-of-way clearance standards shall also include work to minimize obstructions with other transportation infrastructure (streetlights, traffic signals, signs, etc.) while ensuring the health and natural growth habit of the street tree.



Any person intending to perform major pruning of a street tree must obtain a Street Tree Work permit prior to performing the work. The permit is FREE and includes a consultation by the City Urban Forester. Following an inspection of the tree the Urban Forester will recommend specific pruning work to provide the best benefit for the tree and help save the expense of extensive pruning in the future.

Major pruning is defined as:

> Removal of branches two inches in diameter or greater; removal of roots two inches in diameter or greater; or removal of branches constituting more than 15 percent of a tree's foliage bearing area.

Street Tree Pruning

Maximum Pruning Allowed

The Urban Forestry Division will evaluate maximum pruning on an individual tree basis. No more than ¼ (25 percent) of the functioning leaf and stem area may be removed within one calendar year on any street tree. Pruning may not remove branches or limbs to a degree that would cause the tree to be physically or aesthetically unbalanced. Exceptions to this requirement may be made for electric utility line clearance. Trees are individual in form and structure, and pruning needs may not always fit strict rules. A pruning plan submitted at the time of permit application shall demonstrate that the proposed work conforms to the maximum pruning guidelines described here.

Types of Pruning: There are six types of pruning that may be performed on mature Street trees. Prior to performing major pruning, the tree worker is required to be familiar with these types of pruning as defined and described in *ANSI A300 (Part 1): Standard Practices for Tree, Shrub, and Other Woody Plant Management*. The pruning plan submitted at the time of permit application shall use these terms to describe the proposed work.

Crown Cleaning	Crown Cleaning The removal of dead, dying, diseased, crowded, weakly attached, low-vigor branches, and water sprouts from a tree crown.
Crown Thinning	The selective removal of branches to increase light penetration and air movement, and to reduce weight.
Crown Raising	The removal of the lower branches of a tree in order to provide clearance.
Crown Restoration	Crown restoration pruning should improve the structure, form, and appearance of trees that have been severely headed, vandalized, or storm damaged.
Crown Reduction	The reduction of the top, sides, or individual limbs by the means of removal of a leader or longest portion of a limb to a lateral no less than one-third of the total diameter of the original limb removing no more than one-fourth of the leaf surface.
Utility Pruning	The removals of branches to prevent the loss of utility service, prevent damage to equipment, avoid impairment, and uphold the intended sage of the utility space. Only a qualified line clearance tree trimmer should perform this work.

Pruning Guidelines

Wound Response

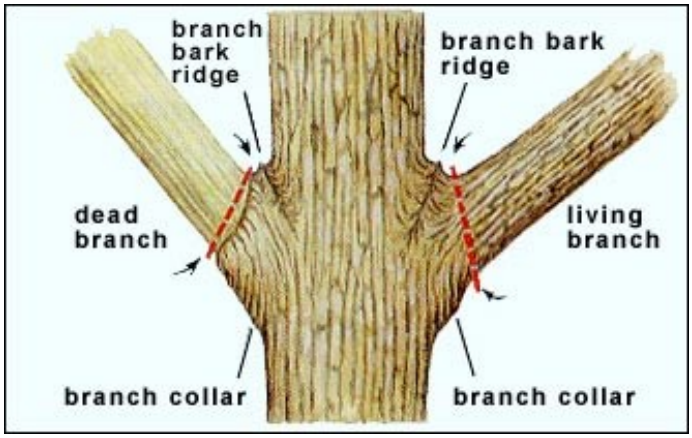
Pruning creates a wound. Trees don't heal the way people do, when a tree is wounded it must grow over the damage. As a result the wound is contained within the tree forever. Good pruning cuts encourage the closure of wounds while bad pruning can lead to weak growth and internal decay.

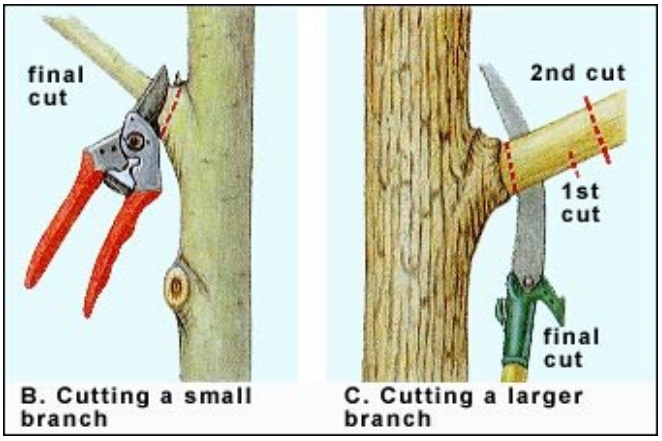
Pruning Tools

Small branches can be cut easily with hand pruners. Bypass-blade hand pruners are preferred over the anvil type as they make cleaner, more accurate cuts. Cuts larger than one-half inch (1.27 cm) in diameter should be made with lopping shears or a pruning saw. Whatever tool you use, make sure it is kept clean and sharp. Hedge shears should be used for shaping hedges only, do not use shears to prune a tree.

Making the Cut

Make pruning cuts just outside the branch collar to avoid damaging the trunk and compromising the tree's wound response. If a branch must be shortened, prune it back to a secondary branch or a bud. Cuts made between buds or branches (stubs) may lead to stem decay, sprout production, and misdirected growth.





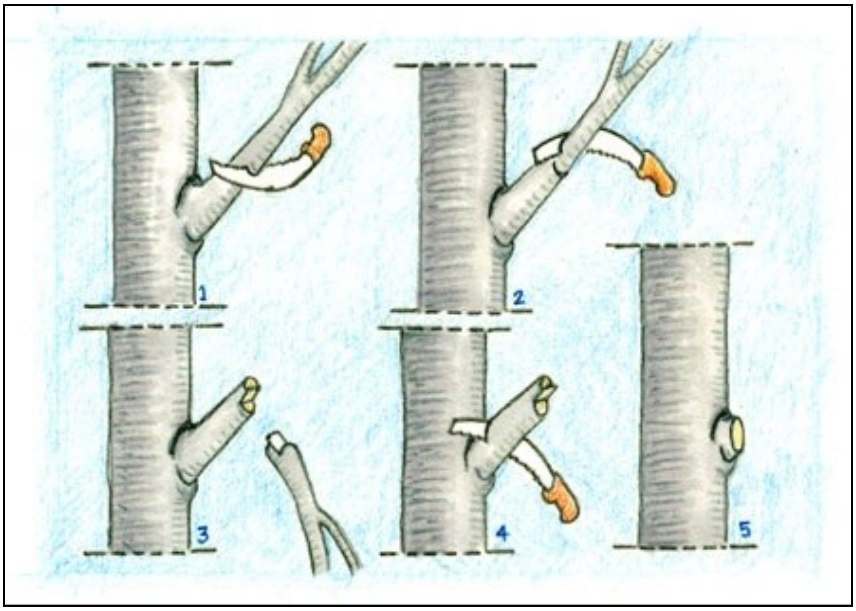
USDA Forest Service

Use the three-point method of limb removal for pruning any branch that can not be supported by one hand. This method reduces the chance of the bark tearing.

3-Point Cut

1. **Make an under cut partially through the branch.**
2. **Make the second cut on the top of the branch just past the under cut. This removes the majority of the weight of the branch.**
3. **Make the third cut just outside the branch collar.**

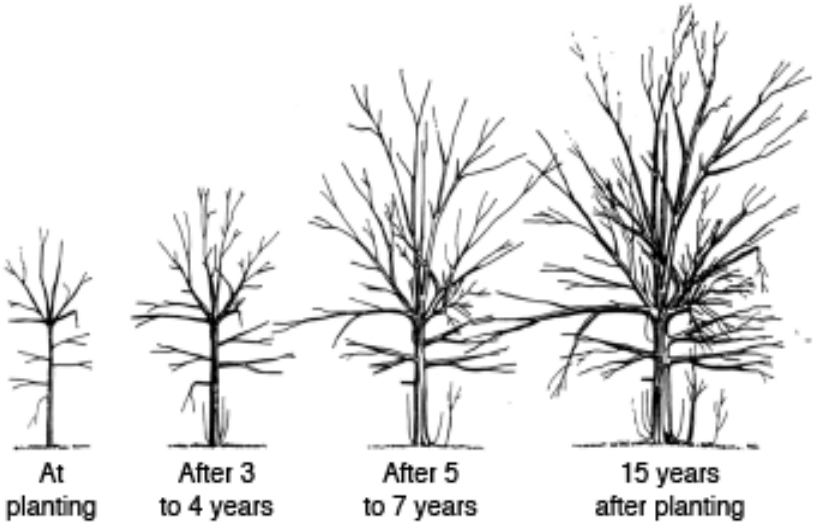
This final cut does not leave a stub or flush cut.



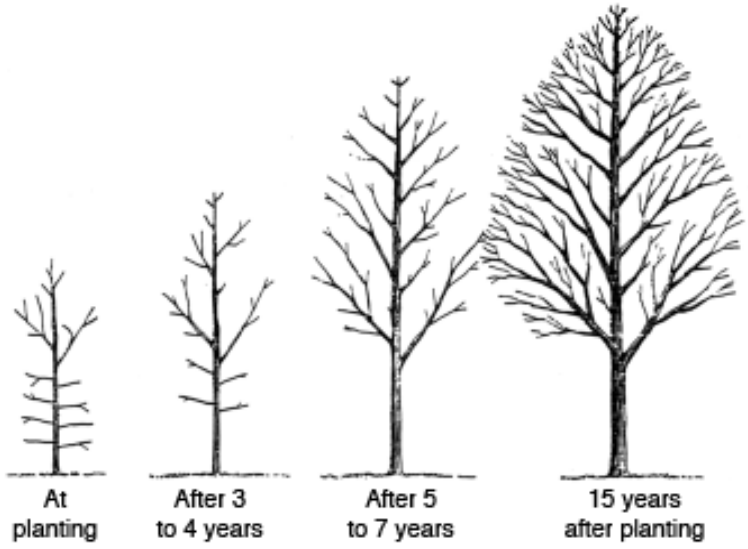
Pruning Guidelines

Pruning for Structure and Form

Pruning trees early can improve life expectancy and is a proven, cost-effective measure to prevent costly intervention in the future. Well-timed and careful pruning results in safer trees with fewer branch failures. Trees that receive the appropriate pruning while they are young will require less corrective pruning as they mature.



Without proper pruning a tree can become unhealthy and expensive to maintain. The tree is more likely to become a safety risk with branches that may break during storms, have weak and unsightly shoots, and interfere with traffic and pedestrians.



A tree that is pruned regularly when young grows into a strong, attractive tree and is more economical to maintain.

factsheets.okstate.edu

Pruning Young Trees

The goal in training young trees is to establish a strong, central trunk with sturdy, well-spaced branches:

- Young trees should be pruned to a single central leader. Remove co-dominant leaders and reduce the length of long branches.
- Remove crossing branches, multiple leaders, branches with narrow crotch angles, watersprouts, and root suckers.
- Select permanent scaffold branches that are 12-18 inches apart, are evenly distributed around the trunk, and have wide crotch angles.
- Branches should be 1/2 or less the diameter of the trunk. Reducing the length of a branch that is too big will slow down its growth and make it a better size over time.
- A few of the lowest branches can be removed each year to raise the canopy. Do not remove too many low branches at one time as these shade the trunk and protect the thin bark of the young tree from sun scald.
- As a general rule of thumb remove no more than 25% of the total crown of a young tree at one time. Leave some of the temporary branches in place to feed the tree.
- Pruning every two to four years as the tree matures will help establish strong structure and a natural form.

www.treesaregood.org

Pruning Guidelines

When to Prune

Light pruning and the removal of dead wood can be done anytime. Otherwise, here are some guidelines:

Winter

Pruning during dormancy is the most common practice. It results in a vigorous burst of new growth in the spring and should be used if that is the desired effect. It's usually best to wait until the coldest part of winter has passed. Some species, such as maple, walnuts and birches, may "bleed" when the sap begins to flow. This is not harmful and will stop when the tree leafs out.

Summer

To slow the development of a tree or branch, pruning should be done soon after seasonal growth is complete. Pruning in summer reduces the total leaf surface area, reducing the amount of food manufactured and sent to the roots. Another reason to prune in the summer is for corrective purposes to remove defective limbs, or limbs that hang down too far under the weight of the leaves. Actively growing trees can more quickly seal off pruning wounds.

Pruning Flowering Trees

To enhance flowering trees that bloom in spring, prune when their flowers fade. Trees and shrubs that flower in mid to late summer should be pruned in winter or early spring.

After a Storm

If damage is relatively slight, prune any broken branches, repair torn bark or rough edges around wounds, and let the tree begin the process of wound repair. If a valuable tree appears to be a borderline case, resist the temptation to cut it down. It is best to stand back for a while and give the tree a chance. Carefully prune broken branches and give the tree some time to recover. A final decision can be made later. Some trees simply can't be saved or are not worth saving. If the tree has already been weakened by disease, if the trunk is split, or more than 50% of the crown is gone, the tree should probably be removed.

When Not To Prune

Spring & Fall

Avoid pruning during the flush of spring shoot growth. The tree is directing its energy to new growth, with less energy available for wound closure. Fall is a good time to leave your pruning tools in storage. Decay fungi spread their spores profusely in the fall, and healing of wounds is slower on fall on cuts.

When Disease Organisms are Present

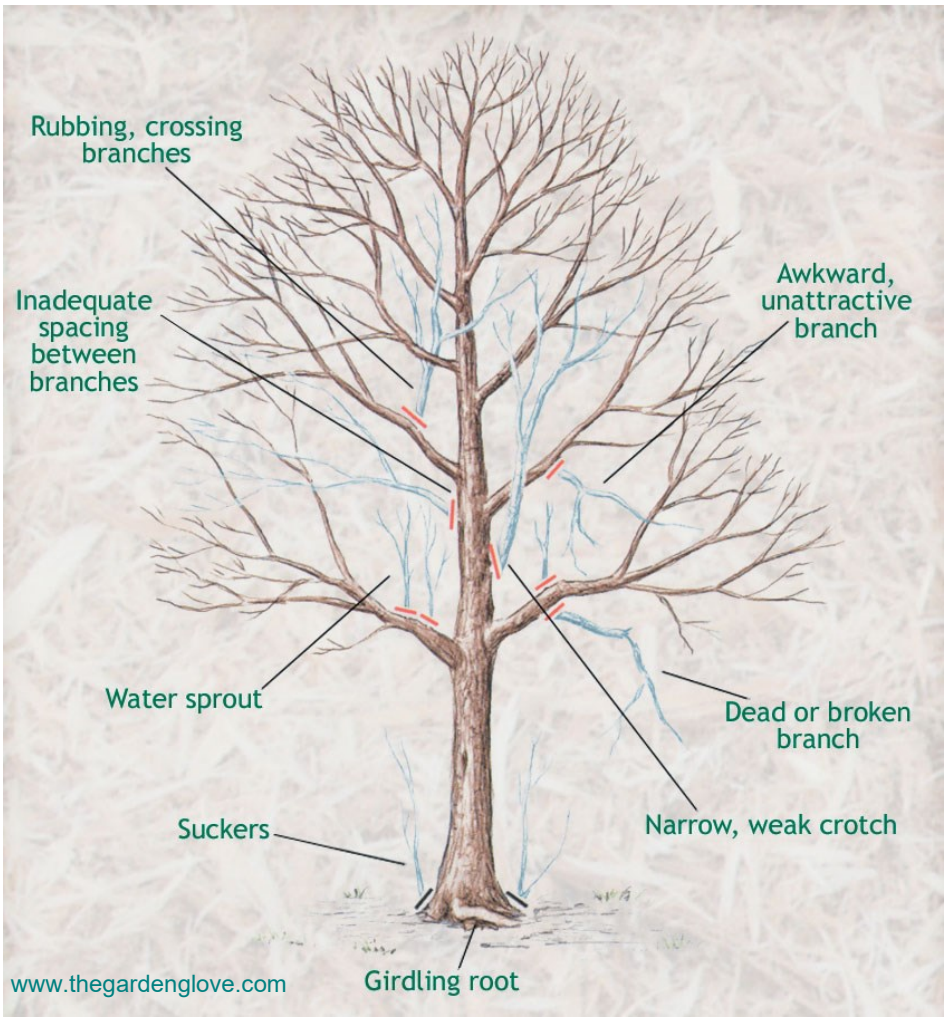
Do not prune pines (Pinus spp.) or Elms (Ulmus spp.) May-October to reduce possible exposure to pine bark beetle or Dutch Elm Disease. Check with the Urban Forestry Division to determine if other insects or diseases are a problem.

Stressed Trees

Avoid pruning trees suffering drought stress, injury or disturbance. Distressed trees require as much leaf area as possible to overcome stressed conditions.

www.arborday.org

Pruning Guidelines



Pruning Mature Trees

A tree that has been pruned regularly when young will need little pruning as a mature tree.

The picture shows pruning cuts that can improve the long term health of the tree and maintain the trees natural form.

No more than 20% of the live crown should be removed at one time.

Hiring an Arborist

Pruning work on large trees can be dangerous. If pruning involves working above the ground or using power equipment, it is best to hire a professional arborist. An arborist can determine the type of pruning necessary to improve the health, appearance, and safety of your trees. A professional arborist can also provide the services of a trained crew with the required safety equipment and liability insurance.

www.treesaregood.org

Keep these few simple principles in mind before pruning a tree:

Do:

- Prune with a purpose in mind. Each cut has the potential to change the growth of the tree.
- Learn proper pruning methods. Poor pruning can cause damage that lasts for the life of the tree.
- Prune when the tree is young. Small cuts do less damage to the tree than large cuts.
- Contact a licensed tree service to prune large limbs or limbs high in the canopy**.**

Don't:

- Don't use wound dressings. Wound dressings do not reduce decay or speed wound closure and rarely prevent insect or disease infestations.
- **Don't top trees!** Topping leads to poor branch structure, decay and increased limb breakage.
- Don't work from a ladder. Hiring a tree service will be much cheaper than a trip to the emergency room.
- **Don't prune near power lines!** Only certified line clearance specialists are allowed to prune within ten feet of power lines.

The Urban Forestry Division can provide assistance to help you prune your trees correctly.

Tree Service Providers

Commercial Tree Service Permit

Tree services working within the City limits must be registered with the City through the Parks and Recreation Department. The Commercial Tree Service Permit is renewed annually and tree service contractors are required to provide documentation of:

- Liability Insurance Certificate
- Automobile Insurance Certificate
- Oregon Contractors Board License
- Pesticide Applicators License (if applicable)

Tree service providers are also required to be familiar with City Ordinances regarding tree care and to follow the ANSI-A-300 best management practices for tree pruning, tree planting, tree support systems, integrated pest management and tree and shrub fertilization.

Commercial Tree Service Permit renewals are mailed to currently registered tree services in December. New contractors are required to register in person at the Parks & Recreation Department, 2402 Cedar Street, La Grande.

A current list of tree services licensed with the City of La Grande is available at all City Departments and online at: cityoflagrande.org/urban-forestry

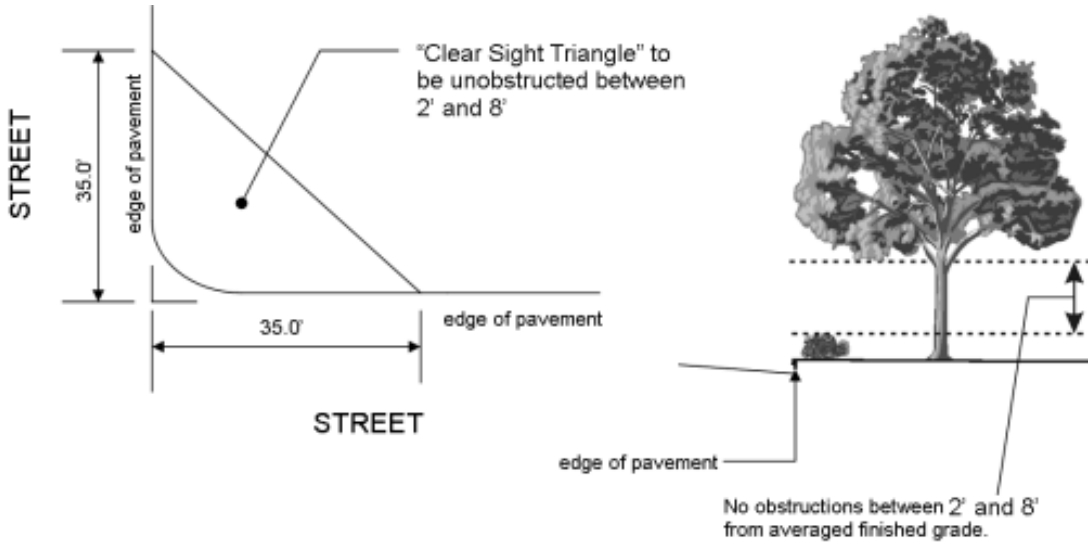
Why Hire an Arborist? An arborist is an individual trained in the art and science of planting, caring for, and maintaining individual trees. Arborists are knowledgeable about the needs of trees and are trained and equipped to provide proper care.

Proper tree care is an investment that can lead to substantial returns. Well-cared-for trees are attractive and can add considerable value to your property. Poorly maintained trees can be a significant liability. Pruning or removing trees, especially large trees, can be dangerous work. Tree work should be done only by those trained and equipped to work safely in trees.

Certified Arborists are individuals who have achieved a level of knowledge in the art and science of tree care through experience and by passing a comprehensive examination developed by some of the nation's leading experts on tree care. Certified Arborists must also continue their education to maintain their certification and adhere to a Code of Ethics. Therefore, they are more likely to be up to date on the latest techniques in arboriculture.

Vegetation Management at Intersections

Trees and other vegetation the intersections of streets and alleys must meet the requirements of the Land Development Code for a Clear Vision Area, or Site Triangle. Only single trunk trees may be planted within the Site Triangle and they must be pruned to provide for visibility. Any groundcover, shrub, grass or other vegetation is not to exceed two and 1/2 feet (2½) feet in height within the Clear Vision Area.



Debris Removal

The property owner is responsible for the timely removal of leaves and tree limbs which fall onto the sidewalk, street and other public right-of-way. Sweeping or raking grass clippings, leaves, or tree limbs onto public sidewalks, streets, or other public right-of-way is not allowed. The local waste disposal company accepts yard debris and wood waste March through November at no charge to waste service customers.

Waste-Pro 541-963-5459, http://waste-pro.com

Public Safety

If the City determines that a tree or other vegetation on public or private property poses an unacceptable risk to public safety the Urban Forester will work in cooperation with the City Planner to require the property owner to remove the threat and mitigate the nuisance.

Mitigation by the property owner may be required if a tree or other vegetation meets the any of the following conditions

- A tree or other vegetation poses a threat to the public safety.
- A tree is infected with a contagious disease, or insect, which threatens the health of trees in public places;
- A tree or other vegetation is determined to be a nuisance as defined by the current Nuisance Ordinance.

Vegetation Management

Utility Pruning

Oregon Trail Electric Consumers Cooperative (OTEC) contractors prune trees to ensure safe, reliable electrical service and to gain access to utility structures. Trees that grow too close to power lines can cause outages, start fires or create other hazardous conditions. Ice, snow, and wind can break branches growing above and among wires and cause the wires to malfunction or break. Weather conditions also effect the amount of sag in the power line and must be accounted for in clearance requirements.

Trees near powerlines are pruned to direct their growth away from the wires. This practice is referred to as *directional pruning*. This method, besides being healthier for the tree, also reduces re-sprouting and limits the length of sprouts that do occur. City Ordinance requires the utility contractor to use International Society of Arboriculture (ISA) best management practices for utility trimming to maintain the health of the trees.

Line clearance workers must have Electrical Hazard Awareness training. Never prune within 10 feet of a utility conductor unless you have the appropriate training.

Clearance Requirements

Pruning clearances depend on the voltage of nearby power lines and the tree species. Distribution lines, which are typically found in neighborhoods, require at least of 10 feet of clearance through the pruning cycle. Fast-growing species like willow, Siberian elm, cottonwood, and box elder, may require 14 feet of clearance while slow-growing species like spruce and oak require a minimum of 10 feet of clearance. One challenge of utility trimming is to remove enough material to comply with the clearance requirements of Oregon Public Utility Commission for the length of the pruning cycle. Trees near powerlines in the City of La Grande are typically pruned every two years.

Notification

The OTEC utility contractor will notify tenants by leaving a door hanger at the residence in advance of any clearance pruning work. OTEC provides this notification as a courtesy, the utility has easements which provides access to maintain the power lines.

Tree Removal

Sometimes the best solution to tree and power line conflicts is tree removal. The City of La Grande partners with OTEC to remove high risk trees, and trees in poor condition, from the public utility right-of-way. OTEC provides this removal service at no cost to the property owner and contributes $100 per tree to the City of La Grande to replant a suitable tree.

Planting Trees Near Powerlines

Using small trees near power lines can reduce the amount of pruning that the power company must do to reduce power outages caused by interfering tree limbs. The Recommended Street Tree List (Appendix A) provides guidance for choosing trees suitable for planting under power lines.

Tree Removal & Replacement

Tree Removal

A street tree must be protected and preserved unless the Urban Forester has issued a Street Tree Work Permit authorizing the removal of the tree. Removal of a street tree without a permit, or without replacing the tree, is a violation of City ordinance and subject to penalty.

A street tree may not be removed unless the Urban Forester determines that:

- The street tree poses a public safety hazard and the hazard can only be mitigated by removal;
- The street tree is in such a condition of poor health or poor vigor that removal is justified; or
- The street tree cannot be successfully retained, due to public or private construction or development conflicts.

Stump Grinding

City Ordinance requires that stumps in the public right-of-way be removed. Typically stumps and surface roots are removed by grinding to at least flush with ground level. In the event that a replacement tree is to be replanted at the site of the stump, the stump should be ground to a depth of 15 inches below grade.

If a replacement tree is to be planted on the site of the old stump as much wood material should be removed from the planting hole as possible. Stump grinding chips tie up nitrogen in the soil as they decompose, reducing the amount of nitrogen available to the new tree. The stump grinding material can be used as mulch.

Tree Replacement

When a street tree is removed, tree replacement is required if there is adequate space to support a mature tree. When a street tree is to be replaced, the following standards apply:

- Tree replacements shall be a species that provides comparable or greater canopy coverage at maturity, unless otherwise approved by the Urban Forester.
- Tree replacements shall be planted in the same location as the tree removed unless otherwise approved by the Urban Forester.
- Where planting space is not adequate to support replacement planting on the original location, alternative conditions may apply to achieve an appropriate balance for the loss of public investment and/or benefit. Conditions for replacement are based on assessment of trees and sites on a case-by-case basis.

Emergency Removal Conditions

When a street tree is in a condition that poses an imminent threat to a public place, and no other risk abatement options exist, the tree may be removed without prior City review or approval. In such instances, contact the Public Works Department at (541) 962-1325 to notify the City of the intended action.

Landscape Requirements

The City of La Grande Land Development Code requires landscaping for the following uses: industrial, commercial, civic, multi-family and planned unit developments. The purposes of landscaping are to enhance the appearance of structures and properties, to provide areas on sites which can absorb rainfall and reduce storm water runoff, and to improve the visual environment.

Site plan applications must include a landscape plan that details the plant materials to be used and the protection methods for existing trees. All required planting must be maintained by the owner in good condition, and a required planting that has not survived must be replaced with new plant materials similar to those which died. www.cityoflagrande.org

Tree Protection During Construction

Tree Protection Plans

Required landscaping plans shall identify all trees existing in or within fifty feet (50') of areas proposed for grading or other construction. A tree protection plan for the trees to be retained shall follow the guidelines set forth in *Tree Protection on Construction and Development Sites, a Best Management Practices Guidebook for the Pacific Northwest*.

Copies of the guidebook are available from the City Planner and the Urban Forestry Division. The publication is also available online at: extensionweb.forestry.oregonstateedu

Tree Replacement

Trees approved for removal during development will be replaced by the developer to prevent a net loss of canopy cover. If the Urban Forester determines there is not adequate space to replace those trees removed on site, the developer will pay an in lieu preservation fee determined by the City Council.

Penalties for Injuring Street Trees

In the event that street trees or their roots have been damaged in a manner that reduces tree health, vigor, or longevity but does not necessitate removal, penalties may be assessed as outlined in the section Prohibited Acts and Penalties of this manual. The civil penalty may be assessed as a percentage of appraised value of the tree as calculated by the current edition of the Council of Tree and Landscape Appraisers 'Guide for Plant Appraisal'. If more than 50 percent of the roots, limbs, or circumference of trunk is damaged or destroyed, the tree will be considered a total loss. See the section on *Prohibited Acts and Penalties.*

Insect and Disease Control

Getting an early start on dealing with insect and disease issues can make all the difference between a beautiful, healthy landscape and one that's plagued by problems all season. By focusing on prevention, rather than reacting to disease and pest infestation when it happens, you save money that may be spent on unnecessary pesticides and get to enjoy a more attractive environment.

Integrated Pest Management

Prevention involves a number of steps, including proper monitoring, plant care, and treatment. It often follows an approach called Integrated Pest Management (IPM).

This streamlined, ecological approach to pest management provides more effective results with less need for harmful chemicals. Ultimately, results are more successful and the process is safer for people, pets, and the environment.

How Does IPM Work?

IPM uses lots of tools in the pest and disease fighting toolbox. These include regular monitoring of pest populations for fast action, the use of proper plant care practices, planting pest-resistant varieties, and treating when needed. The ultimate goal is to manage for long-term prevention. If pest populations are kept down or eliminated, they will cause fewer problems in the yard or garden.

The essentials of IPM can be applied to street trees and trees and plants on your own property.

Monitor Regularly

Regular monitoring of plants for pests allows for early detection when populations are low and easy to eradicate. The key is stopping them before their numbers get out of control.

Take, for example, monitoring for aphids. The best time to check for these pests is in spring. Initially they stay on the plants where they hatched, but later in spring and summer you may see them moving to other plants (they'll even infest conifers in late summer).

That means in early spring, before bud break, is a good time to treat plants with a systemic insecticide. This application will provide season long control of aphids and other insects that can damage your plants. It's all a matter of well-timed monitoring and action.

Use Good Plant Care Practices

There's a lot you can do to keep pests and diseases at bay just by using good plant care practices. For example, something as simple as keeping plants and beds clean and well-tended can help control numerous insect pests. Water plants well throughout the year (drought-stressed plants are more susceptible to damage). If necessary, amend the soil before planting and apply organic matter regularly. Use a thick layer of organic mulch to suppress weeds and retain moisture. And provide extra care to newly -planted trees and shrubs, as well as ones that have suffered damage.

Plant Properly

Plant pest-resistant varieties. If there is a popular plant that is prone to specific pest problems, it's likely that a resistant variety has been bred for it. Choosing varieties that are generally more vigorous and robust can also help with pest resistance.

Select the right plant for the right place. Each plant has a preference for soil type, moisture, sunlight, temperature, space and more. Planting the wrong plant in the wrong location or conditions will only stress it to the point that it becomes a target for insect pests and diseases.

Encourage plant diversity. When pests like Black Locust Borer become prevalent, they can infect entire areas of trees. It's important to have several different kinds of trees, plants, and shrubs, not only to ensure that you'll have something left if one of those pests attacks, but to improve the overall look and health of your landscape.

Treat When Needed

Before applying treatments (such as insecticides), consider whether there are already "biological controls" in place. The most popular biological controls for homeowners are beneficial insects. These are garden-friendly insects, such as ladybugs, lacewings, praying mantids, and parasitic wasps, which can consume insect pests in huge numbers. If you're seeing large numbers of these, you may want to hold off on using pesticides to give the beneficials a chance to do their job. Remember that close monitoring and treatment before problems emerge will be most effective.

For treatment, consult a certified arborist to identify the target pest. Accurate timing of control measures is critical for success. Nontoxic materials should be used whenever possible.

Disease and Decay

Disease such as heart-rot decay that erodes the health or weakens the structure of a street tree may compromise the safety of people or property. It is the property owner's responsibility to correct a known hazardous condition in a timely fashion. Consult with a certified arborist for possible treatment options. For example, pruning infected branches, thinning, or other abatement options.

Soil borne diseases, such as Armillaria, Verticillum and Phytophthora are present in Eastern Oregon soils. Often, a poor landscape design encourages harmful and often lethal diseases.

Conditions to avoid: Compacting of the soil within the tree's dripline, adding fill dirt, rototilling, trenching, removing soil from the tree root area, excessive or regular watering on or near the tree trunk area, and planting incompatible water loving plants within the tree's dripline. Combined with poorly-drained soil, these factors often activate normally dormant fungi to become opportunistic and infect the tree to cause the decline and eventual death of the tree.

Landscape Design: When planning landscaping around a street tree, an evaluation of the tree and soil is an important first step to determine if there is a disease present. If the tree is diseased and landscaping will contribute to decline or permanent damage, it is the obligation of the property owner to take reasonable measures to reduce or eliminate the conditions that may cause the decline of the street tree. Setback for planting and/or irrigation beyond the critical root zone is often the most prudent option to sustain the health of a mature tree. To identify cultural conditions that may lead to diseases such Armillaria, Verticillium, Phytophthora or other soil borne fungi, review the *Sunset Western Garden Book* or consult with a Certified Arborist.

Oregon Heritage Trees

Oregon Travel Experience (OTE) is a State of Oregon agency that operates the Oregon Historical Marker and Heritage Tree Programs. To be recognized as an Oregon Heritage Tree, OTE reviews certain criteria such as accessibility to the public, tree health and historic significance. Honored groves, single trees or groups of trees have something in common with one another – they are trees that tell a story.
www.ortravelexperience.com/oregon-heritage-trees

La Grande Heritage Tree Designations

Victory Way

250 Norway maple trees, *Acer platanoides,* were planted by volunteers along Spruce Street and "S" Avenue in 1923 to commemorate the end of the First World War and to appreciate the returning veterans. The tree-lined parkway, known as Victory Way, stretched from downtown to Riverside Park.

Although fewer than 25 of the original maples survive today, a variety of new trees have been added to honor the original planting and to continue La Grande's reputation as a "Tree City." In April of 1998, 40 additional trees were planted to celebrate the 75th anniversary of the Victory Way.

Dedicated on April 10, 2003, three Norway maples are located in front of the Greenwood Elementary School on North Spruce Street.

Baker Black Locust

James and Elizabeth Baker were among the first Oregon Trail emigrants to settle in Eastern Oregon. They traveled from Iowa in 1862 and were one of the original five families to settle in what is now the City of La Grande.

La Grande was a treeless prairie when they arrived. James Baker was known as a horticulturist and planted many of the first trees in the community. Elizabeth Baker loved the black locust trees, *Robinia psuedo acacia,* he planted near their home. When she died in 1883, he planted this black locust, near her grave. Into his 80s, he was seen carrying two pails of water up the hill to her gravesite to water the tree. As La Grande grew, the remains of Elizabeth Baker were moved to a new cemetery but the locust tree remains.

Dedicated on April 4, 2002, the Baker black locust tree is located on the campus of Eastern Oregon University.

Additional Resources

To learn more about the benefits of trees and their proper care and maintenance check out these resources:

Online

La Grande Urban Forestry
www.cityoflagrande.org/urban-forestry
Trees Are Good: the International Society of Arboriculture's tree care site.
www.treesaregood.com/
National Arbor Day Foundation
www.arborday.org/trees
University of Florida: Environmental Horticulture
https://hort.ifas.ufl.edu/woody
Oregon Community Trees: resources page.
www.oregoncommunitytrees.org
Tree Care Industry Association
www.tcia.org
Union County Extension: Master Gardeners
www.extension.oregonstate.edu/union

Literature

Tree Protection on Construction and Development Sites: A Best Management Practices Guidebook for the Pacific Northwest, Oregon State University Extension Service

An Illustrated Guide to Pruning, 3rd Edition, Edward F. Gilman

American National Standard for Arboricultural Operations—Safety Requirements, American National Standards Institute

American National Standard for Tree Care Operations—Tree, Shrub and Other Woody Plant Maintenance—Standard Practices (Pruning), American National Standards Institute

Sunset Western Garden Book, Sunset Publishing Corporation

Glossary of Terms

Certified Arborist: An individual who is current with the International Society of Arboriculture (ISA) requirements and qualifications to be rated as a Certified Arborist.

Certified Tree Worker: An individual who is current with the International Society of Arboriculture (ISA) requirements and qualifications to be rated as a Certified Tree Worker.

Critical Root Zone: Area of tree protection, the radius of which is half of the dripline. Critical Root Zone is often referred to as the CRZ, and is calculated as six inches of radius for every inch of trunk diameter measured at 54 inches above grade.

Directional Pruning: Only branches that head toward the utility lines (or other obstructions) are pruned. Those that are growing down or out away from the wires are left alone to continue their growth.

Disturbance: Any action with the potential to impact a tree including but not limited to change in soil or drainage conditions in area supporting roots.

Dripline: For typical trees, this is the area directly below the upper canopy of the tree. In the case of columnar trees, or to calculate this area: the dripline radius equals 1 foot for every inch of trunk diameter measured at 54 inches above grade. Construction activities within the dripline are restricted.

Excessive Pruning: Removing more than ¼ (25 percent) of the functioning leaf, stem or root area. Pruning in excess of 25 percent may be injurious to the tree and is a prohibited act. Excessive pruning (including pruning and removal of roots; removal of the leaf or stem area predominantly on 1 side; topping; or excessive tree canopy or crown raising) deemed necessary to meet mandated standards for public safety may be permitted as an exception, with conditions to ensure tree health.

Girdling: A selective wounding process that removes bark and underlying cambial tissue from the trunk or scaffold branches. In the case of roots, the term refers to roots that grow around the main stem and cut off or restrict the movement of water, nutrients, and food reserves.

Hazardous Tree: Refers to any tree or tree part that poses a high risk of damage to persons or property located in the public place according to the tree risk evaluation standards established by the International Society of Arboriculture (ISA).

Oregon Heritage Tree: A tree or group of trees, given special designation by the Oregon Heritage Tree Program.

Injury: The term injury refers to a tree wound resulting from any activity, including but not limited to excessive pruning, improper pruning cuts, cutting, girdling, trenching, excavating, grade alteration, paving, or compaction within the tree protection zone of a tree. Injury shall include bruising, scarring, tearing or breaking of roots, bark, trunk, branches or foliage, herbicide or poisoning, or other action predictably leading to the death or permanent damage to tree health.

Planting Strip: The term planting strip means that part of a street right-of-way between the abutting property line and the curb or traveled portion of the street, exclusive of any sidewalk.

Pruning, Major: Major pruning means removal of branches two inches in diameter or greater; removal of roots two inches in diameter or greater; or removal of branches constituting more than 15 percent of a tree's foliage bearing area.

Public Places: The public right-of-way and the space above or beneath its surface, whether or not open or improved, including streets, avenues, ways, boulevards, drives, places, alleys, sidewalks and planting strips.

Glossary of Terms

Recommended Practice: An action, treatment, technique, or procedure recommended for optimum tree health and growth to maturity. Recommended practices may be required under specific conditions of approval for development projects or injury mitigation.

Root Buffer: A temporary layer of material to protect the soil texture and roots.

Severe Crown Reduction: The reduction of the overall size of the tree by altering the tree's natural structure, cutting limbs back to lateral limbs less than one-third of the diameter of the limb that is cut.

Street Tree: Refers to any tree planted or growing within the public right-of-way.

Structural Defect: Condition within a tree due to natural deformity, damage, or mismanagement deemed by a tree risk assessments indicative of a structural weakness.

Target: A term used to include the presence of people, vehicles, structures, or property subject to damage by a tree that cannot be moved to mitigate risk.

Topping: The severe and indiscriminate cutting back of limbs to stubs within the tree's crown, to such a degree as to remove the normal canopy and disfigure the tree; or the cutting back of limbs or branches to lateral branches that are not sufficiently large enough to assume the terminal role, or are less than one-half of the diameter of the limb or branch that is cut.

Tree Canopy: The area of the city covered by the branch and leaf structure of trees. In the case of an individual tree, canopy is the branches and leaves.

Tree Protection Fencing: A temporary enclosure erected around a tree to be protected. As a tree protection measure fencing provides protection of unpaved areas within the Tree Protection Zone; as well as identification of the tree for protection from construction impacts to trunk and canopy.

Tree Risk Assessor (Qualified): Individual who has completed all requirements of the ISA Tree Risk Assessment Qualification (TRAQ) course.

Tree Service Provider: Individual or business entity that engages in the business of pruning, removing, or otherwise treating trees for monetary or other compensation.

Tree Protection and Preservation Plan: Plan requirements typically include measures for preconstruction, demolition, and/or construction to confirm the natural dripline and establish a critical root zone (CRZ) for each tree. Plan components may include a tree monitoring and inspection schedule and conditions for continued maintenance of trees after construction.

Trenching: Any excavation to install or repair foundations, utility lines, services, pipe, drainage, irrigation infrastructure or other property improvements below grade. Trenching within the CRZ is injurious to roots and tree health and is prohibited, unless approved.

Appendix A: Recommended Street Trees

The list of recommended street trees reflects selections that have performed well in our area over time. This in not a complete list of possible trees as similar cultivars are available, and new cultivars are being continually developed. New selections will be added, and older varieties may be removed, as their performance is evaluated.

Class I		
Small trees appropriate for under high voltage electric lines: 4' minimum planting strip		
Common & Botanical Name	**Height** **Spread**	**Description**
Ruby Slippers Maple *Acer ginnala Ruby Slippers'*	20' 20'	This amur maple cultivar is a very hardy small tree with brilliant orange-red fall color.
Fireburst Paperbark Maple *Acer griseum 'JFS KW8AGRI'*	25' 20'	Red fall color, reddish-brown exfoliating bark and superior branch structure to the species.
Cinnamon Girl Maple *Acer Griseum X A. maxiowiczianum*	25 20	Hybrid parebark maple with good heat tolerance. Fall color is deep crimson and red.
Bloodgood Japanese Maple *Acer palmatum 'Bloodgood'*	18 18	Graceful, upright Japanese maple. Burgandy colored leaves turn bruight red in fall.
Korean Maple *Acer psuedosieboldiamun*	22' 18'	Similar to Japanese maple but more cold hardy. Yellow-orange to bright red fall color.
Rugged Charm Maple *Acer tartaricum*	25' 20'	White flowers, bright red samaras. Fall color is a mix of yellow to red.
Ruby Sunset Maple *Acer truncatumx A. platanoides 'JFS-KW249'*	25' 20'	Compact tree, dark green glossy leaves, deep red fall color.
Autumn Brilliance Serviceberry *Amelanchier x grandiflora 'Autumn Brilliance'*	20' 15'	Clusters of white flowers, fall color orange to red. 3/8" blue berry-like fruit are attractive to birds.
Snowcloud Serviceberry *Amelanchier laevis 'Snowcloud'*	28' 20'	Nicely shaped tree with clusters of white flowers, fall color scarlet. Edible 3/8' purplish-blue fruit.
Spring Flurry Serviceberry *Amelanchier laevis 'JFS-Arb'*	28' 20'	Good street tree form with clusters of white flowers, fall color orange. 3/8' purplish-blue fruit.
Washington Hawthorn *Crategus phaenopyrum*	25' 20'	White flowers, 1/4" persistant red fruit, orange to scarlet red fall color
Amur Maackia *Maackia amurensis*	25' 20'	Hardy tree, fixes nitrogen. Clusters of white flowers in mid-summer.
Golden Raindrop Crabapple *Malus 'Schmidt Cutleaf'*	20' 15'	Cut leaf crabapple with showy white flowers. Fruit is golden yellow and very tiny - 1/4".

Appendix A: Recommended Street Trees

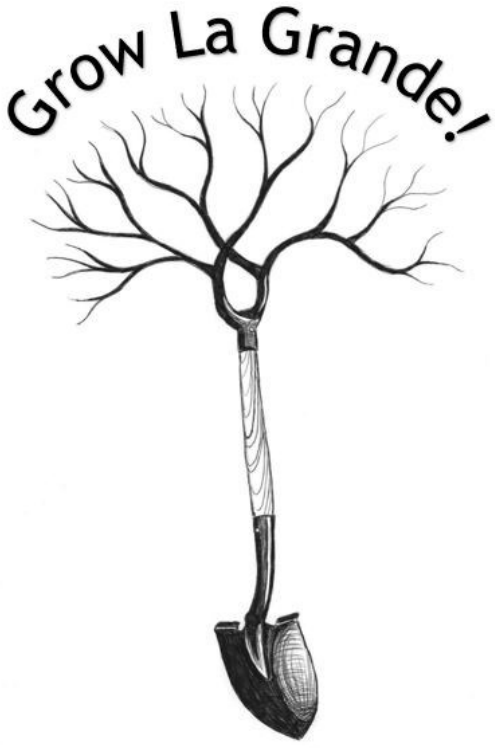
Class I		
Small trees appropriate for under high voltage electric lines: 4' minimum planting strip		
Common & Botanical Name	**Height** **Spread**	**Description**
Royal Raindrops Crabapple *Malus 'JFS-KW5'*	20' 15'	Purple cut leaf foliage. Flowers are deep pink, fruit is red, 1/4".
Spring Snow Crabapple *Malus 'Spring Snow'*	20' 20'	Popular fruitless crabapple. The crown is uniform with a mass of white flowers in spring.
Persian Spire Parrotia *Parrotia persica 'JLColumnar'*	25' 12'	Deep green leaves have purple tinted margins. Fall color is yellow, orange, red and burgundy.
Pink Flair Cherry *Prunus sargentii 'JFS-KW58'*	25' 15'	Upright, narrow vase shape with clusters of single, pink flowers. Fall color is orange-red.
Mt. St. Helens Plum *Prunus 'Mt. St. Helens'*	20' 20'	Hardy ornamental plum, foliage purple-red, flowers are pink. Can bear 1" fruit in some years.
Great Wall Tree Lilac *Syringa pekinensis 'WFH2'*	20' 12'	Compact tree with sparkling white flower clusters. Fall color is golden yellow.
Ivory Silk Japanese Tree Lilac *Syringa reticulata 'Ivory Silk'*	20' 15'	Rounded crown with dark green foliage. Creamy white panicles of flowers in early summer.
Summer Sprite Linden *Tillia cordata 'Halka'*	20' 15'	A semi-dwarf tree with sheared appearance. Fall color is yellow.
City Sprite Zelkova *Zelkova serrata 'JFS-KW1'*	24' 18'	A semi-dwarf tree with compact oval shape. Bright green foliage and yellow fall color.

Appendix A: Recommended Street Trees

Class II		
Columnar trees suitable for narrow spaces: 5' minimum planting strip		
Common & Botanical Name	**Height** **Spread**	**Description**
Armstrong Gold Maple *Acer rubrum 'Armstrong Gold'*	45' 15'	Uniform, columnar crown, the foliage is light green and fall color is golden to orange.
Bowhall Maple *Acer rubrum 'Bowhall'*	40' 15'	Sturdy narrow tree. Fall color is yellow-orange to reddish orange.
Red Rocket Maple *Acer rubrum 'Red Rocket'*	38' 15'	Very cold hardy columnar maple that is also seedless. Fall color is orange to red.
Frans Fontaine Hornbeam *Carpinus betulus 'Frans Fontaine'*	40' 15'	This European hornbeam is heat and drought resistant. Fall color yellow.
Palisade American Hornbeam *Carpinus carolinian 'CCSQU'*	30' 15'	Uniform oval crown, mature trees have sinewy grey bark. Fall color is yellow orange.
Rising Fire American Hornbeam *Carpinus carolinian 'Rising Fire'*	30' 15'	Narrow upright form, vigorous and cold hardy. Fall color orange to red.
Princeton Sentry Ginkgo *Ginkgo biloba 'Princeton Sentry'*	40' 15'	Very narrow crown and good tolerance to urban conditions. Fall color is bright yellow.
Autumn Treasure Hophornbeam *Ostrya virginiana'JFK-KWS'*	40' 20'	Uniform narrow crown and golden yellow fall color. Hop-like fruit.
Ruby Vase Parrotia *Parrotia persica 'Ruby Vase'*	28' 14'	Showy red stamens in spring. Deep green leaves turn orange-red in fall.
Vanessa Persian Parrotia *Parrotia persica 'Vanessa'*	28' 16'	Summer foliage is green and textured, fall color is an impressive orange-red.
Columnar Sargent Cherry *Prunus sargentii 'Columnaris'*	35' 15'	Columnar cherry with mahogany colored bark, clusters of pink flowers and orange-red fall color.
First Blush Cherry *Prunus sargentii 'JFS-KW14'*	25' 12'	Small tree with fragrant, double pink flowers. Fall color is orange to orange-red.
Capital Pear *Pyrus calleryana 'Capital'*	35' 12'	Especially glossy green foliage with clusters of white flowers. Fall color is reddish-purple.
Chanticleer Pear *Pyrus calleryana 'Chanticleer'*	40' 15'	This variety of callery pear is fireblight resistant. White flowers and reddish fall color.
Crimson Spire Oak *Quercus robur x alba 'Crimschmidt'*	45' 15'	Hardy and adaptable this columnar oak has dark green foliage and rusty red fall color.

Appendix A: Recommended Street Trees

Class II		
Columnar trees suitable for narrow spaces: 5' minimum planting strip		
Common & Botanical Name	**Height** **Spread**	**Description**
Street Spire Oak *Quercus robur x alba 'JFS-KW1QX'*	45' 14'	Sturdy tree with strong branch structure. Rusty red fall color.
Skyrocket Oak *Quercus robur 'Fastigiata'*	45' 15'	Columnar English oak has a uniform crown, dark green leaves and yellow-brown fall color.
Corinthian Linden *Tillia cordata 'Corzam'*	45' 15'	Narrowest of the lindens. Small, dark green leaves. Fall color yellow.
Musashino Zelkova *Zelkova serrata 'Musashino'*	45' 15'	Upright, narrow vase shape. Leaves are medium green and the fall color is yellow.



Appendix A: Recommended Street Trees

Class III		
Medium sized trees - 6' minimum planting strip		
Common & Botanical Name	**Height** **Spread**	**Description**
Crimson Sunset Maple *Acer truncatumx A. platanoides 'JFS-KW202'*	35' 25'	Deep purple foliage is heat and drought tolerant. Fall color is maroon to bronze
Norwegian Sunset Maple *Acer truncatumx A. platanoides 'Keithsform'*	35' 25'	Good branch structure and uniform canopy. Dark green leaves turn orange to bright red in fall.
Pacific Sunset Maple *Acer truncatumx A. platanoides 'Warrenred'*	30' 25'	Outstanding glossy green leaves turn to yellow,orange and red in fall.
Urban Sunset Maple *Acer truncatumx A. platanoides 'JFK-KW187'*	30' 25'	A low maintenance tree with dark green summer foliage and red fall color.
Emerald Avenue Hornbeam *Carpinus betulus 'JFS-KW1CB'*	40' 28'	A fast growing tree with superior heat tolerance. Fall color is yellow.
Native Flame American Hornbeam *Carpinus carolinian 'JFS-KW6'*	30' 20'	Widely adapted small tree with dependable bright red fall color.
Golden Colonnade Ginkgo *Ginkgo biloba 'JFS-UGA2'*	45' 25'	Virtually disease and insect free this ginkgo cultivar has bright yellow fall color.
MaacNificent Amur Maackia *Maackia amurensis'JFS-Schichtel1'*	30' 22'	Very nice symmetrical vase shape. Clusters of white flowers in mid-summer.
American Hophornbeam *Ostrya virginiana*	35' 25'	Pest resistant and adaptable this tree has bright yellow fall color and hop-like fruit.
Sargent Cherry *Prunus sargentii*	30' 30'	More cold-hardy than other cherries. Clusters of single pink flowers. Fall color is bronze-orange.
Aristocrat Pear *Pyrus calleryana 'Aristocrat'*	40' 28'	A beautiful tree in all seasons: dark glossy green leaves, white flowers, deep red fall color.
Redmond Linden *Tillia americanax euchlora 'Redmond'*	35' 25'	A handsome and hardy cultivar of the native American basswood tree. Yellow fall color.
Frontier Elm *Ulmus 'Frontier'*	40' 30'	Broadly oval crown. Foliage glossy green. Fall color burgundy.

Appendix A: Recommended Street Trees

Class IV		
Large trees - 8' minimum planting strip		
Botanical Name	**Height** **Spread**	**Description**
Red Pointe Maple *Acer rubrum 'Frank Jr.'*	45' 30'	This red maple cultivar has good branch structure and bright red fall color.
Autumn Fest Maple *Acer saccharum 'JFK-KW8'*	45' 40'	A sugar maple cultivar with good branch structure and great orange-scarlet fall color.
River Birch, *Betula nigra* Cultivars: Heritage, Northern Tribute	45' 35'	This graceful tree has peeling bark in patches of cream, orange and tan. Fall color is yellow
Hackberry, *Celtis occidentalis* Cultivars: 'Magnifica '	50' 40'	Tolerant of harsh conditions this deep rooted tree rarely lifts sidewalks.
Hardy Rubber Tree *Eucommia ulmoides*	45' 45'	Shiny green leaves are pest free. Tolerant of drought and poor soils.
American Beech *Fagus grandifolia*	50' 40'	Smooth silver-grey bark. Slow growing, but ultimately a very large tree. Best in wide plantng
Ginkgo, *Ginkgo biloba* Cultivars: *Autumn Gold, Magyar, The President*	45' 35'	Virtually disease and insect free the ginkgo has fan shaped leaves and yellow fall color.
Espresso Kentucky Coffee Tree *Gymnocladus dioicus 'Espresso-JFS'*	50' 35'	Huge double compound leaves give this tree a tropical appearance. Fall color is yellow.
Exclamation Planetree *Platanusx acerfolia 'Morton Circle'*	55' 35'	Attractive exfoliating bark, large maple-like leaves and excellent branch structure.
White Oak *Quercus alba*	60' 45'	Majestic North American oak with red to purplish-red fall color.
Swamp White Oak *Quercus bicolor*	45' 45'	Well adapted to wet soils. Foliage is dark, glossy green, fall color is reddish brown.
American Dream Oak *Quercus bicolor'JFS-KW12'*	50' 40'	Vigorous swamp white oak cultivar with good disease resistance, fall color is yellow to brown.
Shingle Oak *Quercus imbricaria*	50' 40'	A Midwest native tree with beautiful summer foliage and striking reddish-purple fall color.
Urban Pinnacle Oak *Quercus macrocarpa 'JFS-KW3'*	55' 25'	1/2" acorns are very small for a bur oak making it a better street tree. Fall color is yellow.

Appendix A: Recommended Street Trees

Class IV		
Large trees - 8' minimum planting strip		
Botanical Name	**Height** **Spread**	**Description**
English Oak *Quercus robur*	50' 40'	Sturdy, adaptable tree. Very long-lived like most oaks, it has yellow-brown fall color.
Forest Knight Oak *Quercus robur x alba*	50' 40'	Excellent street tree where space allows. Fall color orange-red.
Red Oak *Quercus rubra*	50' 45'	A fast growing oak tree, its leaves turn deep red in fall.
American Sentry Linden *Tillia americana 'McKSentry'*	45' 30'	A handsome and hardy cultivar of the native American basswood tree. Yellow fall color.
Boulevard Linden *Tillia americana 'Boulevard'*	50' 30'	Native American basswood cultivar, hardy and urban tolerant yellow.
American Sentry Linden *Tillia americana 'McKSentry'*	45' 30'	A handsome and hardy cultivar of the native American basswood tree. Yellow fall color.
Greenspire Linden *Tillia cordata 'Greenspire'*	40' 30'	Popular linden variety with a formal pyramidal crown and yellow fall color.
Sterling Linden *Tillia tomentosa 'Sterling'*	45' 35'	Vigorous tree with two toned leaves, dark green above and silver below. Yellow fall color.
American Elm, *Ulmus americana* Cultivars: Jefferson, New Harmony, Princeton	65' 50'	Vase shaped crown with good Dutch Elm Disease resistance. Yellow fall color.
Greenstone Elm *Ulmus davidiana 'JFS KW2UD'*	60 40	Strong branch structure with classic American elm form.
Accolade Elm *Ulmus japponicax wilsonsonia 'Morton'*	70' 60'	Hybrid elm with good disease resistance and graceful vase shape. Yellow fall color.
Lacebark Elm, *Ulmus parvifolia* Cultivars: Allee, Emerald Flair	60' 40'	Exfoliating bark in orange, tan and gray, yellow to red fall color

Appendix B: Prohibited Street Trees

Certain tree species are not permitted for planting within the public right-of-way in the City of La Grande. These trees are not suitable as street trees because of undesirable characteristics that cause significant problems. These characteristics include weak wood, branch breakage, shallow roots, tendency to decay, invasiveness, serious insect and disease problems and excessive debris.

Prohibited Species

- American elm, *Ulmus americana* which is susceptible to Dutch elm disease. New cultivars have been developed that are Dutch elm disease resistant.
- Birch, *Betula spp.* not resistant to the bronze birch borer.
- Black locust, *Robinin pseudo acacia*
- Boxelder, *Acer Segundo*
- Cottonwood and other poplars, *Populus spp.*
- Crabapple varieties, *Malus spp.* with fruit larger than 1/2”
- Fruit trees, unless approved.
- Siberian elm, *Ulmus pumila*
- Silver maple, *Acer saccharinum*
- Tree of Heaven, *Ailanthus altissima*
- Willow, *Salix spp.*
- Evergreens and shrubs over two and one-half feet (2.5’) high are not allowed in the parkway due to the traffic obstruction they present.

Appendix D: Street Tree Work Permit

STREET TREE WORK PERMIT

Property Address: _____ Zone # _____

Property Owner/Manager: _____ Phone or email: _____

Applicant: _____ Phone or email: _____

Mailing Address: _____

Work to be done: ☐ Tree Removal ☐ Tree Pruning ☐ Pesticide Application ☐ Tree Planting

Work to be done by: ☐ Owner ☐ Property Manager ☐ Tenant ☐ Contractor _____

Date when work will be undertaken (a minimum of 2 working days' notice is required for permit approval): _____

Removals: Trees are to be removed at least flush with ground level, stumps shall be ground, and all debris removed. City Ordinance requires replacement with new trees when space is available, the number and variety to be determined by the City.

Species/Inventory # _____

Replacement Tree(s): ☐ No ☐ Yes: Class/Location: _____

Pruning/Pesticide Application: Trees are to be pruned in accordance with ANSI 300 guidelines. City Ordinance prohibits the topping of trees in the public right-of-way.

Species/Inventory #: _____ Scope of Work_____

_____

_____

Planting: The City of La Grande provides street trees at a reduced cost, or at no cost through the OTECC removal and replacement program. Privately purchased street trees must be approved by the City. All street trees shall be planted and cared for following the attached guidelines to ensure their continued good health.

City Provided Tree(s) ☐ Species/location: _____

_____Cost per Tree $ _____Total _____

OTECC Replacement Tree(s) ☐ Species/location: _____

Privately Purchased Tree(s) ☐ Species/location: _____

Permission to Work in the Right of Way: If one of the following applies, contractor must contact Public Works Department's Engineering Division for a ROW Permit @ 541-962-1333. Please check all that apply:

☐ Excavation in any street, alley or planting strip ☐ Detour of traffic

☐ Closure of street or alley, all or part of ☐ Block more than 9 feet of street adjacent to curb

☐ Block the sidewalk for more than one hour ☐ Other _____

Tree Work Permit Issued by: _____ Issue Date: _____

The grantee agrees to protect and save harmless the City of La Grande and each of the officers and employees of the City against any injury or damage that may result from the acts of grantee on or in named street and against any damage of liability of any character whatsoever arising or growing out of any act of grantee due to the issuance of this permit. The applicant further agrees to perform the above work in accordance with all the provisions of Ordinances, Policies, and Resolutions of the City of La Grande pertaining to such work.

☐ Applicant's Signature: _____ Date: _____

THIS PERMIT IS VALID FOR 30 DAYS FROM THE DATE ISSUED

Appendix E: Commercial Tree Service Permit

COMMERCIAL TREE SERVICE PERMIT APPLICATION

BUSINESS NAME: _____

OWNER: _____

MAILING ADDRESS: _____

CITY/SATE/ZIP: _____

OFFICE PHONE: _____

EMAIL ADDRESS: _____

CELL PHONE: _____

OREGON CCB NUMBER: _____

TYPE (S) OF WORK ENGAGED IN:

- ☐ Tree Removal
- ☐ Tree Pruning
- ☐ Tree Planting
- ☐ Pesticide Application

OFFICE USE ONLY

- ☐ Liability Insurance Certificate
- ☐ Automobile Insurance Certificate
- ☐ Contractor's License
- ☐ Standard Fee: $100.00
- ☐ Structured Fee: $50.00

Approved by: _____

Date Paid: _____

Notes: _____

_____

The City maintains a list of licensed commercial tree services, which is distributed to citizens upon request.

May we include your name and contact information? ☐ **Yes** ☐ **No**

ISA Certified Arborist or TCIA Accreditation? ☐ **Yes** ☐ **No**

Preference for receiving and submitting application: ☐ **Email** ☐ **Regular Mail**

PERMIT REQUIREMENTS

☐Certificate of Insurance naming the City of La Grande as an additional insured, for a commercial general liability Insurance policy in the maximum amount required by the State of Oregon for tort liability coverage for municipalities ($500,000)

☐Certificate of Insurance, naming the City of La Grande as an additional insured, for a business automobile liability insurance policy with limits not less than the minimum Oregon Tort Liability requirements ($500,000)

☐Oregon Construction Contractors Board License

☐Pesticide Applicators and Pesticide Operators License (if applicable)

☐Standard Commercial Tree service Permit Fee: $100 ☐Structured Commercial Tree service Permit Fee: $50

By signing below, applicant agrees to save, indemnify and hold harmless the City of La Grande, and its officers, employees and agents against any injury of damage that may result from the acts of said applicant on or in any City street or right-of-way and against any damage or liability of any character whatsoever arising or growing out of any act of applicant due to the issuance of this Permit.

Applicant further agrees to perform the above work in accordance with ISA Best Management Practices and the provisions of the applicable Ordinance, Policies, and Resolutions of the City of La Grande. This includes, but is not limited to the following when working within City right-of-ways: The requirement to obtain a City Permit before planting, pruning, treating or removing a tree; mandatory grinding of stumps after tree removal; no topping of trees.

_____ _____

Signature Date

Permit Expires December 31

Appendix F: Present Conditions

Setting

The City of La Grande is situated on the edge of the Grande Ronde Valley, lying partly on the valley floor and partly on side slopes of the Blue Mountains. Mean elevation is 2,750 feet. The Grande Ronde Valley lies close enough to the maritime moderating influence associated with the Columbia Basin that temperatures are not as extreme as other valleys farther south. Mean annual air temperature in La Grande ranges from 45 to 50 degrees F and the average frost-free season is 100-150 days. The mean highest monthly temperature is 86 degrees F (July) and the mean lowest monthly temperature is 24 degrees F (January). La Grande is protected from strong southerly winter winds by Glass Hill and other mountains to the south. Still, winds can be significant. Highest wind speeds occur in January when they average 11 mph, gusting at times to more than 25 mph. Mean annual precipitation in the Grande Ronde Valley is 17 inches, but exceeds 20 inches at elevations above 3,000 feet. The USDA plant hardiness index for La Grande is 5a-6a.

Landform/Soils Groups

Different landforms and soils combine to form distinct types of habitats within City limits that have implications for landscaping. The principal landforms are (1) Alluvial Valley Floor; (2) Clayey Foot Slopes and (3) Foothills. Within each of these major landforms are a variety of soil types that vary in physical and chemical properties to which different plant species are best adapted (Appendix _A - “Landform/Soil Groups for Landscaping in La Grande”). Knowledge of these “Landform/Soil Groups” can be useful in planning landscaping designs and selecting plant species.

Alluvial Valley Floor

North and east of a line between Pioneer Park, Eastern Oregon University and Grandview Cemetery, is the Alluvial Valley Floor landform type (Map A, “City of La Grande Landform/Soil Groups”). This area includes the downtown and north side of La Grande where soils are very deep and the terrain is flat to gently sloping. Much of the area has well-drained, silty soils with high water storage capacity (L/S Group 1a). Areas of the west end of town where the Grande Ronde River pours onto the valley floor have coarse alluvial gravels near the surface and have low water holding capacity (L/S Group 1b). A third set of these deep, nearly level soils are to the east and southeast which have poor drainage (L/S Group 1c). Many of these settings did not become available for building until the Grande Ronde River channel was diverted to the north. After the State Ditch northeast of La Grande was constructed, the Grande Ronde River Channel began cutting deeper and water tables were lowered.

Clayey Foot Slopes

The south and west sides of La Grande lie on the foot slopes of the mountains where Taylor Creek, Mill Creek and Deal Creek alluvial fans pour onto the valley floor. The terrain is gently sloping to flat. Here, soils are commonly deep and well-drained with dark, silty clay loam surface layers overlying clay (L/S Group 2a). A large area in the vicinity of Sunny Hills Subdivision and to some extent to the west, up-slope from Grande Ronde Hospital contains large amounts of poorly-drained soils (L/S Group 2b). In this area slopes are gentle and soil depth is variable. Clay-rich soils are common and often have poor drainage and a high water table.

Foothills

The foothills above the Clayey Foot Slopes on the west and south side of La Grande are gently sloping to very steep. Where the terrain is gently sloping (L/S Group 3a), soils are somewhat variable. In places they are deep and well-drained, but are frequently shallow and provide little water-holding capacity. Where the terrain is steep to very steep and development limited, soils show a wide variety of soil depths and textures (L/S Group 3b).

Pockets of poorly-drained areas such as occur in south La Grande in L/S Group 2b and in north and east La Grande in L/S Group 1c, are minor but important inclusions in all three landform types. Gravelly alluvial soils occur near stream channels which cut across most soils in these areas. Some of the historical drainage ways in La Grande may still have high water tables and provide the kind of sites needed by riparian plants. These sites are not extensive because of channelization, diversion and culverting of drainages such as Mill Creek and Deal Creek.

Native Vegetation

Few native plant communities remain within La Grande city limits. In their absence, landform/soil groups can be used to approximate what species may have been present. Approximations can be confirmed by examining undisturbed sites within the same landform/soil group. Each of the three major landform groups has a distinctive mix of native species. Species composition on sites within any given landform group is determined by aspect, soil characteristics and depth to water table.

The valley floor is bisected by riparian areas that likely supported gallery forests of cottonwoods (*Populus*), alder (*Alnus*), and many species of shrubs including redosier dogwood (*Cornus sericea* L.), currants (*Ribes*), serviceberry (*Amelanchier alnifolia*) and various willows (*Salix*). Sites with poor drainage were dominated by such marsh plants as sedges, rushes, tufted hairgrass (*Deschampsia caespitosa*) and a variety of forbs such as camas (*Camassia quamash*). On sites where water ponds during spring runoff and soils are saline, plant communities included greasewood *(Sarcobatus vermiculatus*), saltgrass (*Distichlis spicata*) and other salt-tolerant species.

Foot slopes are drier and warmer than higher-elevation foothills and likely supported a mixture of grasses, forbs and shrubs. The cooler, wetter north-facing slopes were dominated by Idaho fescue (*Festuca idahoensis*) while the dry, warm soils of south-facing slopes were predominately bluebunch wheatgrass (*Pseudoroegneria spicata*) and Sandberg bluegrass (*Poa secunda*). Forbs such as arrowleaf balsamroot (Balsamorhiza sagittata) still punctuate the hills surrounding La Grande during spring, and black hawthorn (*Crataegus douglasii*) is still common where the water table is near the surface.

Foothills supported a mosaic of forests and grasslands. Forests dominated the cooler north-facing slopes or areas where moisture can accumulate allowing Ponderosa pine (*Pinus ponderosa*) and Douglas-fir (*Pseudotsuga menzieii*) to grow. Understory plants here included pinegrass (*Calamagrostis rubescens*) and elksedge (*Carex geyerii*). Drier soils supported grasses such as Idaho fescue, bluebunch wheatgrass and Sandberg bluegrass.

Landscaping as Applied to City Parks

The Parks system consists of eleven (11) properties: two (2) community parks; one (1) town square; seven (7) neighborhood and pocket parks; and one (1), 205 acre natural area park.

Historically, tree plantings in the two larger community parks, Pioneer and Riverside, were mostly Black Locust, Norway Maples, Siberian Elm and Silver Maples. All of these species seed readily and produce ample seedlings, which were in all likelihood the source of much of the early tree plantings.

Since 2000 a concerted effort has been made to replace the aging, high risk trees in all parks, using a wider range of species. Future plans of the Parks Department will involve promoting the acquisition of green spaces consisting of natural and traditional parks space, adding social, environmental and economic benefits to the community and the Urban Forest.

Appendix F: Present Conditions

Urban Forest

The City Tree Inventory completed in 2021 provides a geo-spatial map of all publicly owned trees and individual information on over 5500 trees. Fifty-five (55) genera and 158 species are represented in the inventory. 80% of the total number of trees are in just 10 genera, and 33% are maples.

65% of the trees in the City's right-of-way and parks are recorded to be in "Excellent" or "Good" condition. Many of these are younger, smaller diameter trees planted in the last fifteen years. The remaining 35% are classified as "Fair", "Poor" or "Very Poor".

The majority of the large trees in La Grande are fast growing varieties that reach maturity quickly and then begin to decline. The most common species are Norway maple, silver maple and black locust. These are not long lived and many are older trees suffering from improper pruning. Crabapple, Siberian elm, plum species, and Colorado spruce are also very common trees found in the City. General observation of the density and location of the City's street trees shows La Grande to be below average density compared to other Tree City USA urban areas. Some neighborhoods have a much lower street tree density than others. Tree species diversity is also below average compared to other Tree City USA cities.

Aging, inadequate species selection and improper pruning techniques have contributed to the poor health of the existing forest. A large percentage of the trees in older neighborhoods have been topped to meet utility line clearance requirements. Disease and decay is much more likely to occur in improperly pruned trees, especially those that have been topped. Construction caused root damage can also lead to disease infection and decay. Both topping and construction damage are a major cause of tree failure and death. Insects may become periodically epidemic on some tree species but rarely directly cause tree death. Insects like the bronze birch borer and the locust borer physically damage trees and can incite disease by introducing decay organisms. Defoliating insects are also a periodic problem.

Disturbances associated with urban development have altered many soils and affected their suitability for landscaping. Subsoils from excavation are often placed atop extant soils. Heavy equipment can compact soils creating unfavorable planting conditions. In these settings mulching with course wood chips will improve soil condition.

Improving the health of the urban forest includes expanding the forest canopy, reducing the stress that trees and landscape plantings face in the urban environment and replacing trees in poor condition. Efforts are being made to increase new tree plantings in "targeted" neighborhoods with low canopy density. There has been a shift in recent history to plant large tree species that have fuller canopies and longer lives to further enhance the City's urban forest. Where power transmission lines limit the use of large tree species, trees with a mature height of less than thirty feet are recommended. Selecting the right species and variety for the site improves the long-term health of the tree by reducing stress and the need for pruning.

Newly planted trees and landscape plants must receive adequate water to become established. Proper pruning for structure and form will increase longevity and enhance the planting. Established trees and plantings may also require supplemental water and will benefit from proper pruning. Protecting trees and landscape plantings from poor pruning and construction damage reduces the chance of infection and decay.

Reducing stress factors makes it easier for trees and landscape plantings to resist insects and disease organisms. Monitoring and treating disorders can minimize the spread of insects and disease. Increasing the diversity of tree species and landscape plantings also reduces the opportunities for host specific diseases and insects to spread. In a natural setting, dead and dying trees are part of the forest ecology.

Appendix F: Present Conditions

Setting, Climate and Tree Selection

While native species can be a good choice for natural areas, the urban environment has been manipulated from the native landscape and is full of stressors that impact trees. Poor soils, reflected heat from building and paved surfaces, pollution and watering regimes all impact the survival of urban trees. Many non-native species have demonstrated they can thrive in La Grande and provide more diversity and ecoservices than native trees.

Historically, cold winter temperatures and pathogens have been the greatest natural restrictions to choosing landscaping materials. Going forward, climate change considerations should guide species selection, in relationship to changing temperatures, the impacts of pests and pathogens, and the availability of adequate soil moisture.

Current climate projections indicate that mean global temperatures will increase 2-4°F by 2050 and increase an additional 2-5°F by the end of the century. In addition, severe heat waves and other extreme events are likely to increase in severity and intensity. Trees in urban ecosystems are especially vulnerable to climate change since general warming will be exacerbated by urban heat island effects. Urban heat island effects generally add 7°F to air temperatures of cities compared to surrounding rural areas. This magnitude of temperature increase can result in doubling of atmospheric humidity deficit, dramatically increasing a tree's water needs. *Urban Tree Selection in a Changing Climate, Bert Cregg and Dana Ellison Michigan State University, Department of Horticulture and Department of Forestry*

Landscapers and urban foresters need to incorporate climate predictions into tree selection decisions since trees are long-lived organisms and will experience changes in climate during their projected lifespan. Selecting trees that are adapted to changing environmental conditions is essential to the future of urban and community forestry.

Invasive and Noxious Species

Invasive species are those nonnative plants, animals, and diseases that can cause harm to the economy, environment, and human health. Most introduced plants do not cause problems; however, those that do have significant economic and environmental costs. Invasive plants reproduce and grow quickly, easily invading adjacent natural areas, woodlands, and even landscaped areas. Invasive insects and diseases weaken and sometimes kill trees. Invasive propagules, insects, and diseases can be moved by human activities, including fire wood harvesting and chip disposal. Invasive species displace, weaken, or kill desirable plants resulting in loss of diversity. This can degrade wildlife habitat, interfere with recreational activities, disrupt urban ecosystems, and divert resources for control

Invasive and noxious species are capable of thriving within La Grande city limits. The City should promote awareness of these species and coordinate with Union County to prevent and control them whenever possible.

TREE CITY USA®

The Tree City USA program is co-sponsored by the National Arbor Day Foundation, the National Association of State Foresters and the USDA Forest Service. This program nationally recognizes cities and towns for urban and community forestry and helps provide assistance and public attention to showcase the importance of urban forestry.

The Tree City USA program has been greening up cities and towns across America since 1976. It is a nationwide movement that provides the framework necessary for communities to manage their public trees and expand the urban forest.

More than 3,400 communities have made the commitment to becoming a Tree City USA. They have achieved Tree City USA status by meeting four core standards of sound urban forestry management: maintaining a tree board or department, having a community tree ordinance, spending at least $2 per capita on urban forestry and celebrating Arbor Day.

La Grande has been a Tree City USA since 1990.

La Grande has more Tree City USA Growth Awards than any other Oregon city!

Eastern Oregon University Became a Tree Campus USA in 2017.

LA GRANDE
PARKS & RECREATION

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