STREET TREE PLANTING GUIDE
Introduction
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. Maintaining a diverse population of trees helps ensure a healthy urban forest.

Street trees are an important component of La Grande’s urban forest. The Street Tree Planting Guide provides information about planning for a street tree planting, selecting the appropriate type of tree, planting a tree correctly and caring for the planted tree. While this manual focuses on the trees in the public right-of-way, the information presented here will be useful for planting trees on private property as well.

City of La Grande Urban Forestry Division
The Urban Forestry Division assists the public with the care of the trees in the public right-of-way within the City of La Grande. The program provides information regarding the condition and care of street trees and addresses concerns about insects, diseases, pruning, tree removal, stump grinding, replacement tree planting and tree health care as well as sidewalk, visibility and clearance issues. The Urban Forestry staff oversees the City tree ordinances and provides a list of licensed tree services. Projects coordinated through the Urban Forestry Division include the Street Tree Planting Program, the OTECC Removal and Replacement Program and the Tree Fund. The Urban Forestry Division provides educational programs and demonstrations for schools and other organizations. The maintenance of street trees is the responsibility of the adjacent property owner, but the Urban Forestry Division helps guide the public in the stewardship of La Grande’s street trees. Contact the City at 962-1352 for more information.

Tree Ordinances
The City of La Grande has Ordinances regarding trees in the public right-of-way. This includes tree planting, tree removal, pruning, and the hiring of a tree service. The brochure La Grande’s Tree Ordinances: A Homeowner’s Guide is available at no charge from the City. A Tree Removal Permit is required before removing a tree from the street right-of-way. There is no charge for the permit. Before planting a tree in the street right-of-way, you must obtain a Tree Planting Permit from the City of La Grande. There is no charge for the permit. In issuing the permit, the City will evaluate the location and ensure a good match between the type of tree and the planting site. City Ordinance prohibits topping of trees in the City right-of-way. For more information about La Grande’s Tree Ordinances, you may contact the City at 962-1352.

Parkway Responsibility
Land situated between the curb line and property line abutting and adjoining any street is defined as the parkway. In the absence of an actual curb, the curb shall be deemed to be 18 feet from the centerline of the street on residential streets and 22 feet from the centerline of the street on arterial streets.

- It is solely the owner’s responsibility to maintain all trees on private property and on the parkway. Maintenance may include pruning, spraying, or removing.
- The city shall have the right to request that the owner remove dead or diseased trees on private property.
- The City shall have the right to request that the owner prune or remove trees which obstruct traffic visibility or cause unsafe conditions.
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. Air quality may be poor and trees growing along the streets are subjected to vehicle exhaust. Urban trees may suffer from drought stress or from over-watering and are subject to neglect, vandalism and poor pruning. To help trees survive in this environment it is essential to match the best possible tree to the site.

The Right Tree in the Right Place
By planting a tree that is well adapted to its planting location, you give 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. Street trees must coexist with vehicles, pedestrians, traffic signs, underground utilities, overhead wires, and other trees and landscaping. Clearances must be maintained over streets and sidewalks. Clear Vision Areas or “Sight Triangles” are required at street intersections for pedestrian and traffic safety. Visibility is necessary at driveways as well. These are important concerns for public safety, quality streets and sidewalks and reliable utility service.

When selecting a tree variety that matches the planting site there are several variables to consider. Trees get big! Make sure there is space available for a mature tree, both above ground and below. Are there utility wires overhead or nearby? Are there underground utilities? Contact the Oregon Utility Notification Center at 1-800-332-2344 if you aren’t sure. Is there enough space between the sidewalk and curb for roots to grow without causing damage? Identify the environmental factors that will affect the tree. Is the tree suited to the local climate? How much moisture and light is available? Are there insects or diseases that could cause problems? Don’t forget the soil. Soil depth, structure and pH all affect the tree’s ability to grow and thrive. Urban soils are often disturbed or compacted. Finally consider the tree’s purpose. Street trees can provide shade, aesthetic interest and screening. The shape of the tree crown, types of leaves, flowers, fruit and bark patterns can be an important part of the tree’s function.

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. You may contact the Urban Forestry Division at 962-1352 for help choosing the right tree.

The Recommended Street Tree List
The Recommended Street Tree List included with this manual provides information about tree species and varieties that are suitable for planting in the street right-of-way in the City of La Grande. There are four different categories of trees based on minimum space requirements:

- **Class I Trees** are small trees, 10’ to 25’ mature height, for limited growing spaces and are suitable for planting under high voltage electric power lines. The minimum planting strip width is 4 feet. The minimum tree spacing is 20’.
- **Class II Trees** are columnar trees that remain narrow in width but are not suitable for planting under high voltage electric power lines because they will grow too tall. These trees are useful in the downtown and other areas where growing space is limited horizontally but not vertically. The minimum planting strip width is 4 feet unless otherwise noted. The minimum tree spacing is 20’.
- **Class III Trees** are medium sized trees, 35’ to 40’ mature height. These trees are not suitable for planting under high voltage electric power lines. The minimum planting strip width is 6 feet. The minimum tree spacing is 30’.
- **Class IV Trees** are the largest trees, up to 50’ mature height, and require a minimum 8 foot planting strip. The minimum tree spacing is 30’.
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 live much longer.

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 will grow larger, but usually at a slower rate of growth.

Cold hardiness ratings are from the United States Department of Agriculture (USDA) system. The rating is based on an approximate range of average annual minimum temperatures. 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. All of the trees listed here 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 certain 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.

**Prohibited Species**
The tree species listed below 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, excessive debris and messiness.

- American elm (*Ulmus americana*) which are susceptible to Dutch elm disease
- Birch (*Betula spp.*) which are not resistant to the bronze birch borer
- Black locust (*Robinia pseudoacacia*)
- Boxelder (*Acer negundo*)
- Cottonwood and other poplars (*Populus spp.*)
- Fruit trees
- 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 because of the traffic obstruction they present.

**Tree Planting Guidelines**
To grow a healthy tree, you need to plant it correctly. Many instances of tree decline and death are the result of poor planting techniques.

**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 to prevent damage, can be planted throughout the growing season.

Examine the Tree to be Planted
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 an obvious root flare: the bottom of the trunk should widen at the base where it is attached to the root crown. If not it may have been transplanted too deep. The fine roots should be white in appearance and firm, not woody or mushy. The buds should be plump and a thin layer of green should be detected between the bark and wood of twigs and branches. There should be no scars or tears along the trunk or major limbs.

Digging the Hole
Dig hole at least twice as wide as the root ball. This prepares 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 down 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. Scratch the outer walls and the bottom of the planting hole with a shovel or pick to break up any glazing or compaction so that the new roots can penetrate.

Different Types of Trees
Containerized trees: These trees come in a plastic container which must be removed prior to planting. Lay the tree on its side with the container next to the planting hole. Do not damage the thin bark of the young tree. Remove the container from the root ball while carefully holding the trunk. Two people make this process easier. Rolling the container and tapping it with a mallet will help loosen the root ball. Stubborn containers may need to be cut off with a utility knife. When the container is removed, break up any circling roots on the outside of the root ball. Slice them with a knife and/or pull them apart by hand but do not leave them in place. If left untreated, circling roots continue to grow in circles after planting and this will cause problems for the tree in the future. Roots that are exposed to the air begin to die so don’t delay planting once the container has been removed.

Balled and burlapped trees: The roots of these trees are wrapped in burlap and may be tied with twine or have a wire cage surrounding the burlap. Handle the tree carefully so that the root ball does not break up. When the tree is in the proper location in the hole, remove as much of the burlap as possible without disturbing the root ball. At a minimum, roll the burlap down so that no part of it will project above the soil level after planting. If the wire basket was left on the tree, remove at least the
upper portion of the basket by cutting it away while the tree is in the hole. Remove any twine that wraps around the tree trunk.

**Bare root trees:** These trees have no soil surrounding the roots. They should only be planted in the early spring when they are dormant and their buds are closed. 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 can not be straightened should be pruned off. Prune away diseased, damaged or abnormally long roots. Do not prune off any roots unless necessary.

**Orienting the Tree**
Do not lift the tree by the trunk; this can damage the tissue under the bark. Lift the tree by the root ball or roll it into place. When the tree is in the hole check the planting depth. Remember the root crown should be above ground level. You may orient the tree by carefully rotating the root ball. Make sure that the trunk is straight. Step back and check it from more than one angle and adjust the root ball to make the tree as straight as possible.

**Soil amendments**
Soil amendments are usually not necessary, but they can be useful in heavy clays, sandy or gravely soils. If you use an amendment, it should be an organic material such as peat moss, garden compost or thoroughly composted manure. Do not use sand, sawdust, wood chips or other organic materials that have not been thoroughly composted. It is very important to mix the amendment thoroughly with the backfill soil. Do not use more than one part amendment to three parts native soil.

**Backfilling the Planting Hole**
With the tree in position in the planting hole, backfill with soil until the hole is halfway filled and tamp it gently but firmly. 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. Be very careful not to compact the soil once you have added water. 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 hold water. Water the tree thoroughly after planting! Fill the water basin, allow the water to soak in and fill the basin up again. The water slowly infiltrates the backfill soil, the root ball soil and the native soil surrounding the planting hole.

**Mulch**
Starting 4 to 6 inches away from the tree trunk to prevent crown rot or insect damage, spread a thick layer of mulch under the tree. Three to four inches of bark mulch or wood chips works well. Cover the entire planting area including the watering basin ring. Fine textured materials such as bark dust or peat moss are less preferable because they tend to blow away and decompose faster. Mulch conserves water, discourages weeds and protects the young tree trunk from lawn mowers and weed whackers. Any weeds that appear in the future can easily be pulled by hand from the mulch ring after watering loosens the soil. Tree roots grow better under mulch than they do under sod. 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. Apply new mulch every year or so as needed.

**Watering**
A newly planted tree will not survive unless it receives adequate water. Water your new tree thoroughly at the time of planting and then again the next day. After that, the frequency of watering depends on the weather and the soil type. You can check the soil moisture by sticking your finger down into the root ball and the backfill soil. The soil of both the root ball and the backfill should be damp but not constantly wet. As a general rule of thumb, water a young tree three times a week during hot and dry summer weather, applying at least 5 gallons per watering. Water slowly and allow the water to soak deep into the soil. During the cooler, moister weather of spring and fall water about once a week. Be sure to check the soil moisture periodically. When the weather is dry into late autumn, continue to water as needed. If you water your lawn with a sprinkler, you still need to give the tree additional deep watering from a hose. This will encourage deeper rooting. Continue this
watering routine for several years after planting. Mature landscape trees in our climate benefit from supplemental water during hot and dry weather. Established trees should be watered a few inches from the trunk to beyond the drip line. Avoid hitting the trunk with a sprinkler to discourage crown rot. Mulch helps conserve water as well as providing other benefits for trees. Do keep in mind that too much water will also kill a tree; the soil should be moist, not saturated.

**Staking**
Most young trees can stand unsupported and will be stronger without stakes. Staking actually delays the development of a strong tree. Trunk movement signals the lower trunk and roots to produce increased growth and a better trunk taper and root system results. Trees planted in windy areas, or trees with weak trunks may benefit from staking. Staking can also help protect against vandalism and lawn mower damage. Use flexible tying material with a broad, smooth surface. Wire or twine should not be used because it can easily damage the bark of young trees. Stakes and ties must be inspected and maintained to prevent damage to the tree. Generally, stakes and ties should be removed after the first year.

**Fertilizer**
Fertilization is generally not recommended at the time of planting. If you are planting a containerized tree, the root ball may already contain slow-release fertilizer in the soil. If you apply fertilizer, do not exceed the recommendations on the label. A soluble fertilizer dissolved in water or a slow-release fertilizer is best. Over-fertilization will harm the tree. Mulching with an organic material will provide nutrients for the tree over time.

**Pruning**
Little to no pruning is needed at the time of planting. Generally, only dead, damaged or broken branches should be removed at this time. Once a young shade tree has become established it should be pruned periodically to maintain structure and the natural form of the tree. If your tree is planted through the La Grande Street Planting Program, the Urban Forestry Staff will check the tree three years after planting to access the tree’s structure and form and perform any necessary pruning. Street trees will require periodic pruning to maintain clearances for sidewalks and streets.

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

- Each cut has the potential to change the growth of the tree. Always have a purpose in mind before making a cut. Proper technique is essential.

- Poor pruning can cause damage that lasts for the life of the tree. Learn where and how to make the cuts before picking up the pruning shears.

- Trees do not heal the way people do. When a tree is wounded, it must grow over and compartmentalize the wound. As a result, the wound is contained within the tree forever. Small cuts do less damage to the tree than large cuts.

- For that reason, proper pruning (training) of young trees is critical. Waiting to prune a tree until it is mature can create the need for large cuts that the tree cannot easily close.

For detailed information about pruning trees in the City of La Grande street right-of-way, contact the Urban Forestry Division by calling 962-1352 X 204.