STREET TREE POLICY
AND
POTENTIAL STREET TREE GUIDE

Adopted by City Council on
November 30, 2002

THE CITY THAT FRIENDLINESS BUILT

Special Thanks to Those Citizens Who Volunteered to Serve Their City in the Creation of this Original Plan:

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B. Lebanon Municipal Code Chapters Related to Trees
C. Pruning guide

III. **Referenced Material**

Located at the Reference Library at the Community Development Center and the Lebanon Public Library

- Natural Environment Section of Lebanon's Comprehensive Plan
- Landscaping Section of the Zoning Ordinance
- National Arborist Association Pruning Standards for Shade Trees
- American Standard for Nursery Stock, ANSI A-300
- Oregon State University, Dept. of Horticulture. Landscape Plants
- The City of Portland, Approved Street Tree Planting Lists.
- J. Frank Schmidt & Son Co. Nursery, Boring Oregon.

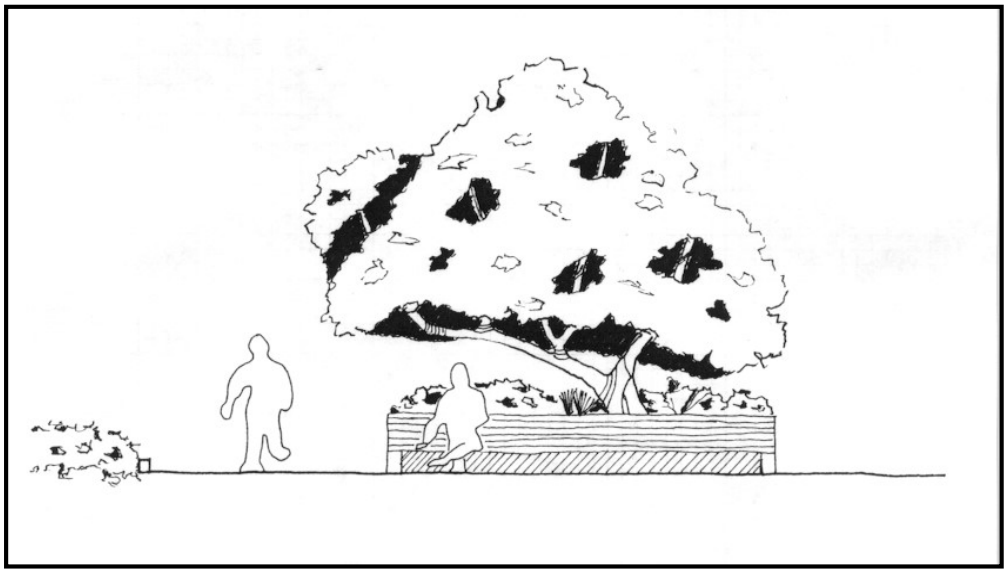
BENEFITS OF TREES

1. **STRENGTHEN COMMUNITY IMAGE**

Trees are an important element of the urban forest, including native or introduced trees and related vegetation that grow along streets, in parks, around homes, in naturals areas, and on other public and private properties. Lebanon's streets and public right-of-ways provide the major means of transportation for City residents. These areas represent the most viewed public areas within the City and provide a strong image for residents, visitors, or those passing through. Well-planned and maintained street trees can provide an element of beauty and comfort that will be strongly reflected in the community image. Trees can filter air, provide wind protection, create habitat for birds and small mammals, increase property values, and camouflage blighted areas. These advantages can translate into psychological benefits that help citizens enjoy and take pride in their community.

2. **ENCOURAGE PEDESTRIAN ACTIVITY**

Street trees can provide shade, cover from the weather, a barrier from traffic, and can reduce both noise and increase pedestrian safety. Comfortable pedestrian spaces should be developed to encourage pedestrian activity, provide space for public interaction, and attract people to adjacent businesses.



3. **PROVIDE CLEANER MORE COMFORTABLE ENVIRONMENT**

Trees play an important role in eliminating man made pollutants from the environment. Ground water is cleaned, and storm water quantities are significantly reduced by uptake into the trees and release of moisture through transpiration.

People tend to treat their surrounding environment as it appears. A clean, beautiful street is more likely to be well maintained by homeowners and passing pedestrians and drivers.

4. **IMPROVE LIVABILITY**

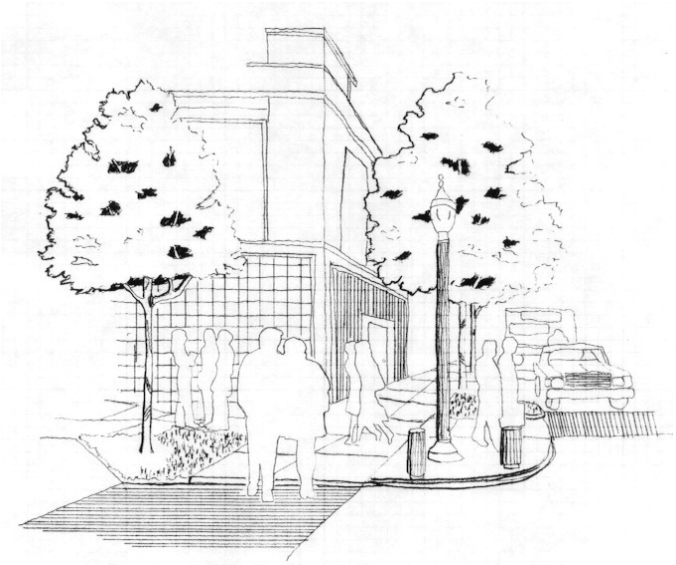
Community livability is greatly improved when street trees are incorporated into traffic calming techniques. These traffic-calming techniques effectively slow the flow of traffic.

5. **ENHANCE BUILDINGS, ENTRYWAYS, AND ENTRANCE CORRIDORS**

Trees and landscaping can help to enhance the visual appeal of vehicle and pedestrian entranceways to the downtown, subdivisions, streets, and historical areas. Entranceways to Lebanon's downtown could be greatly enhanced by additional trees and landscaping. Entries, as first impressions, contribute significantly to the image of a place or business. To generate a sense of welcome and arrival an entryway must focus one's attention, mark the change between that which is outside and inside, and suggest the tempting experience to come.

To strengthen an entry, it is important to:

1. Improve the approach
2. Accent the threshold
3. Connect the entry to the core



6. **ENHANCE DOWNTOWN ENVIRONMENT**

Lebanon has a unique downtown core that has a number of interesting visual features and contains a unique architectural and historic character. Street trees and landscaping can be used to highlight current features and to block undesirable views. Trees and landscaping also provide a number of benefits to pedestrians that can increase foot traffic and business in the downtown (See section 2 above).

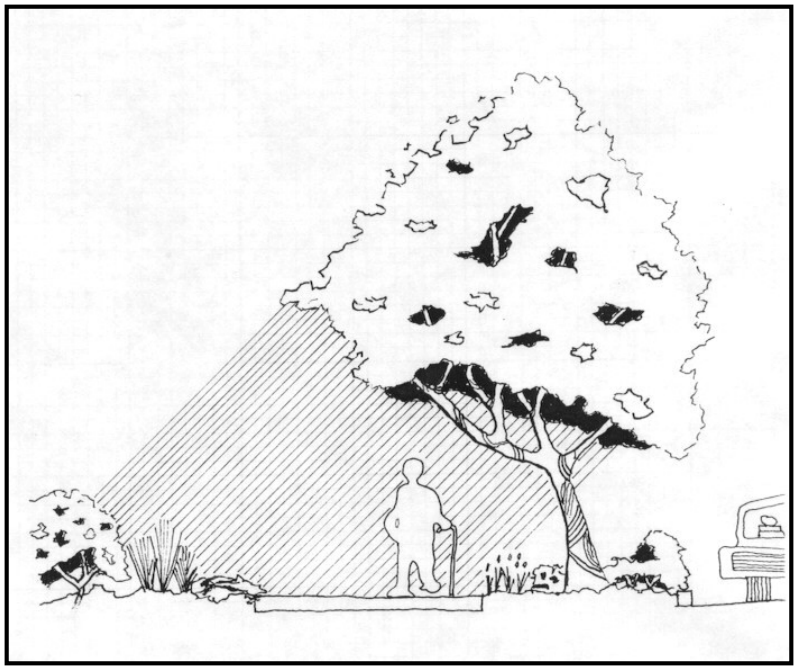
7. **MITIGATE NEGATIVE VISUAL IMPACTS**

Trees and landscaping can be used to obstruct less attractive but necessary aspects of the community. Unsightly views of trash dumpsters, parking lots, and fences can be mitigated through tree plantings and strategic landscaping.

8. **INCREASE VISUAL INTEREST**

This is important especially in areas where there is heavy pedestrian traffic, or there is a desire to create a pedestrian friendly environment. Pedestrian interest is maintained by variety and detail in the surrounding environment. The human eye visually encompasses three objects every second. A pedestrian traveling 3 mph can, therefore, distinguish and comprehend 21 different objects in a distance of 30 feet. A driver traveling at 25 mph can only distinguish two or three objects over the distance of 30 feet. Over the last forty years much of our built environment has become oriented toward the automobile, and street designs have been simplified in part as a response to the driver's capacity to observe.

Increasing visual variety and complexity in pedestrian oriented environments is important, and the inclusion of street trees and landscaping can contribute greatly to achieving this goal.



9. **DEVELOP INVITING PUBLIC AND PEDESTRIAN SPACES**

People in urban settings are drawn to places with interesting and diverse visual displays, places that provide protection from the sun and rain and places that provide a sense of separation from noise and traffic. A simple planter strip can transform a barren sidewalk into a pleasant, safe and comfortable place for pedestrian traffic. Other planting and design techniques can be utilized to transform public spaces into a more inviting environment.

STREET TREE AND POTENTIAL STREET TREE DEFINITIONS

STREET TREE DEFINITION

Any tree or part of a tree, existing or new planting, including the canopy and root system, that lies on or has grown onto or over public property, or in public "Right of Way" owned by a public entity.

POTENTIAL STREET TREES DEFINITION

Any tree or part of a tree, existing or new planting, including the canopy and root system, that lies on private property and has identifiable characteristics that indicate it may occupy public property or a Public Right of Way.

ALL OTHER TREES

All other trees that do not meet the definition of a Street Tree, or a Potential Street Tree are included.

NOTE: The following section contains mandatory specifications for working in the Public Right of Way while dealing with Street Trees. These specifications are highly recommended for Potential Street Trees and are provided to help ensure the lasting health of our Urban Forest.

PERMIT

REQUIRED PERMIT.

As stated in the City of Lebanon Municipal Code # 12.16.070 a permit shall be obtained from the Director of Public Works / or his designee, applying criteria found in the City's Street Tree Policy and Potential Street Tree Guide, before planting, removing, or disturbing the root system of a Street Tree. With a permit, adjacent property owners may plant Street Trees so long as the selection; location and planting of such trees are in accordance with this policy. Request from other than the adjacent property owner will be considered on a case-by-case basis. As stated in the City of Lebanon Municipal Code Chapter 8.04.280 Trees – Interference with Traffic, "Any Street Tree planted that does not comply with said policy may be removed by the City at the direction of the Director of Public Works / or his designee. The cost of such removal will be borne by the person or persons who planted the tree". A permit shall be valid for a period of 180 days following the date of issuance or may be extended by action of the planning commission or planning official. Utilities or their contractors may apply for and receive blanket permits that will be valid for multiple locations for routine Street Tree maintenance.

EXEMPTIONS

As stated in the City of Lebanon Municipal Code #12.16. 080.in the event of a storm, freeze, or other event resulting in damage to street and potential street trees, the City Administrator may declare an emergency suspension of the permit requirements for the removal and maintenance of trees as set forth in this chapter. Such declaration shall prescribe dates during which permits are not required, but under no circumstances may any single declaration exceed 21 days.

STREET TREE STANDARD SPECIFICATIONS

The purposes of the following sections are to establish a set of workable specification standards and guidelines for activities affecting our urban forest resource. By developing these standards and guidelines for working around Street Trees and Potential Street Trees, the City will be able to assist others in maintaining this valuable resource. This section can also help minimize public safety hazards caused by tree related liabilities. It is the City's intention to work cooperatively with all tree owners toward a common goal of protecting the urban forest, while taking every effort to maintain the integrity of our existing trees. The following section contains mandatory specifications for working in the Public Right of Way while dealing with Street Trees. These specifications are highly recommended for Potential Street Trees and are provided to help ensure the lasting health of our urban forest.

Tree Standard Specifications are provided for the following areas:

- Tree Material, Species and Size
- Planting Methods
- Tree Establishment and Replacement
- Pruning, Maintenance and Tree Removal
- Tree Protection
- Design Standards for Development and Contracted Projects

RIPARIAN PROTECTION ZONE

Riparian Protection Zones in the City of Lebanon include all areas that lie within 75 feet of the South Santiam River, within 50 feet of Cheadle Lake and within 50 feet of Oak Creek. Regulations and specifications that govern these areas and similar areas that may be included in the future have superseding authority that may include and be in addition to the following specifications. For further directions pertaining to vegetation management in the Riparian Protection Zone see the City of Lebanon Municipal Code Chapter 17.27

STREET TREE PLANTING SPECIFICATIONS

PURPOSE: To ensure quality tree materials are used and that new plantings are acceptably established in their new environment in order to ensure the tree's longevity and to minimize potential maintenance problems in the future.

TREE MATERIALS

1. Trees shall have normal, well-developed branches and root systems. They shall be healthy, vigorous trees, free from decay, defects, sunscald injuries, and abrasions of the bark, insect pests, and all forms of infestations or objectionable disfigurements.

2. Balled and burlapped trees shall have solid balls of size at least meeting the American Nursery Association Standard, the balls shall be securely wrapped with burlap or canvas, tightly bound with rope, wire, or twine. Plastic wrapping material is not permitted.

3. A minimum of 1 ½" to 2" caliper tree diameter, at 6" above the ground (above the root flair), is required of all stock planted as street trees and highly encouraged for other public trees. ***Individual homeowners of single-family dwellings may plant approved street trees that are a minimum of 1" diameter or greater at 6" above the ground (above the root flair). The reasoning behind the decision to allow a smaller tree diameter for homeowners is that they take long-term ownership of the tree and provide the necessary high level of maintenance needed for the health of the tree during the establishment period and beyond.***

4. All street trees shall be of an approved species and variety from the Acceptable Street Tree List, approved by the City Park Committee/Tree Board found in Appendix A.

5. Trees should not be excessively pruned at, or directly before, the time of planting.

6. Tree material originating within the state shall have the Oregon inspection certificate attached or must be verifiable that they originate from Oregon. A certificate of inspection shall accompany nursery stock imported from other states from the place of origin as required by Oregon law.

PLANTING METHODS

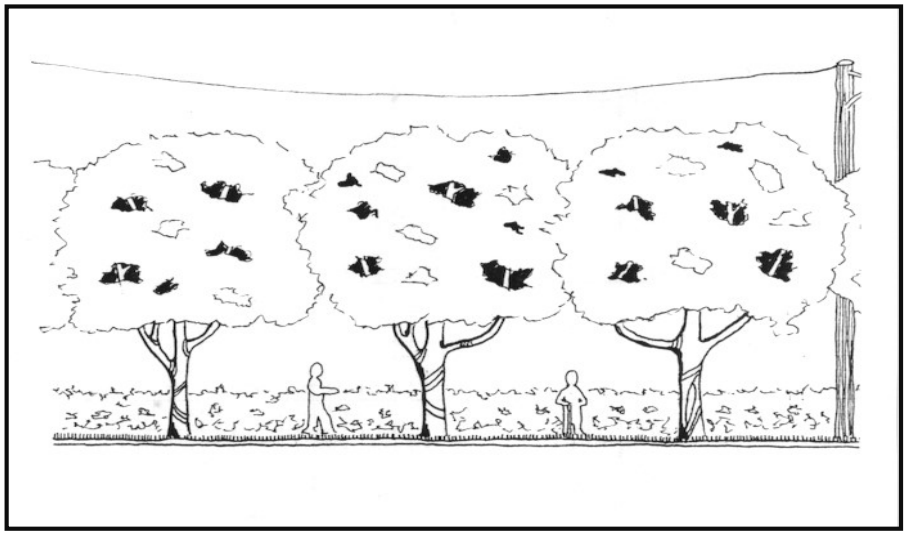
1. All planting work shall be performed using sound horticultural practices approved by the National Arborist Association and/or the International Society of Arboriculture (See Table of Contents, III Referenced Materials, Page 4)

2. No Street Tree shall be planted without first obtaining a Right of Way – Encroachment permit (Tree Permit) from the City. Permits are available at the Community Development Center (CDC)

3. Trees shall be set plumb. All trees shall be set so that, after settlement, they are at the same level as when growing in the nursery. Trees shall be watered in at the time of planting to eliminate air pockets. The person/s planting street trees shall remove excess soil.

4. Balled and burlapped trees may be placed with the wrapping in place if all materials are untreated and biodegradable. When burlap is left around trees, any string shall be removed, and the burlap folded down from the top half of the root ball.

5. No plant pit shall be dug or approved until all underground utilities have been marked. Utility locates may be obtained by calling 1-800-332-2344.



6. Tree spacing must conform to the "Minimum Street Tree Planting Distances" as suggested in this Policy. The Director of Public Works / or his designee, in conjunction with the City Planner shall approve the spacing before planting will proceed. At any time, minimum distances have been altered without previous approval, the Contractor or property owner will be responsible to move the tree.

7. Planting sites will be mulched with an approved mulch material with neither more nor less than 4 inches of wood chips, fibrous bark, or composted wood debris after planting is completed. When practical the mulch will be extended beyond the drip zone of the tree and cover an area no less than the width of the planting hole. The trunk of the tree should be left uncovered.

8. Every planting pit shall be at least 50% wider and at least the depth of the soil ball or the full extent of the root system of bare-rooted trees. In the process of digging the hole, "glazing", a hard-glossy finish on the sides of the hole, will not be accepted.

9. For all balled and burlapped, bare rooted, and container grown trees, the backfill will be of desirable structure, texture, and pH to support vigorous tree growth. When planting in the Public Right of Way, the Director of Public Works/ or his designee will approve the existing soil conditions at each location to decide whether the soil is adequate to use in backfill or if new soil will have to be introduced.

10. Where trees are planted with the trunk within 5 feet of the sidewalk or curb, watering tubes shall be placed at 3 locations around the tree to a depth equal to the depth of the root ball. This is required to provide deeper watering and promote growth down and away from curbs and sidewalks.

11. Wherever possible a watering berm shall be constructed around every tree or shrub.

12. When planting a tree that will be surrounded by an impervious surface, there shall be a minimum of 16 square feet of porous surface, (with no dimension less than 3 feet), maintained around the trunk. Whenever possible 40 square feet of porous surface should be maintained around the trunk. In the case of contracted projects, this area must be kept free of any competing grasses, weeds, or other debris throughout the length of the approved establishment period or throughout the length of the contract, whichever is greater.

13. All trees must be staked with material as approved by the City. The tree will be secured to the stakes with an approved rubber or approved other, adjustable, chain-lock "tree tie," no less than 1" wide and secured at no less than two points along the tree.

14. Trees will be protected at all times during handling, shipping, storage, and planting. Trees shall be protected from windburn during transit, extreme weather conditions, and drying of roots or root balls. Any trees showing substantial damage, as determined by the Director of Public Works/ or his designee, will be rejected and replaced by the Contractor or property owner at their own expense.

15. If root barriers are required they must be approved by the Director of Public Works / or his designee, before installation.

16. Erosion control methods as set forth in the City of Lebanon's Standard Specification will be used to control the runoff of sediment at all planting sites.

17. All plant pits which may cause hazards at any time to pedestrians or vehicles shall be adequately barricaded with qualified warning devices as per MUTCD, City of Lebanon, and Oregon OSHA standards

TREE ESTABLISHMENT AND REPLACEMENTS

PURPOSE: To ensure new trees are acceptable established and will continue to thrive in their new environment.

1. The "tree establishment" shall be understood to be part of the planting work to assure satisfactory growth of the planted materials by the end of a period of time as stated in paragraph 4.

2. Prior to the beginning of the establishment period, all trees which are dead, partially dead or which do not otherwise meet specifications shall be removed and replaced with healthy trees. All trees in place after this replacement will be classified as the "original planting" and will be subject to establishment.

3. The "tree establishment period" will begin when the "original planting" and all landscape construction under the contract has been completed and approved by the Director of Public Works/ or his designee.

4. If the "original planting" is completed and approved prior to the end of the spring planting season (June 30), the establishment period shall end October 31 of the following year. If the "original planting" is completed and approved prior to the end of the fall planting season (December 31), the establishment period shall begin the next spring and end October 31.

5. Where street trees are required with new construction, during the establishment period and until the final inspection, the Contractor or responsible party, shall be responsible for care of the tree to maintain a vigorous growing condition by weeding, watering, cultivating, repairing and adjusting tree stakes, spraying for pest control, removal of dead trees, removal of trees not showing vigorous growth, and replacement of missing trees.

6. Where street trees are included with new construction, the cost of furnishing and replacing trees, and caring for the trees as specified, shall be understood to be a mandatory element of that construction project.

7. Where Street Trees are required with new construction and during the establishment period the Contractor or responsible party will record each period of watering, replacement of stakes or trees, and any and all work done in maintaining the vigor of trees.

8. During the establishment period, the Contractor is responsible for scheduling and completing periodic inspections jointly with the Director of Public Works/ or his designee at the following intervals, near the end of one third of the establishment period, two thirds of the establishment period, and the end of the establishment period.

At these inspections, corrective work needed to be done will be determined by the Director of Public Works/ or his designee. Written notification, listing corrective work, will be mailed to the Contractor as soon as possible.

9. All corrective work shall be completed within 15 calendar days after written notification has been mailed to the Contractor, except that tree replacements shall be made only during the appropriate planting season unless otherwise approved by the Director of Public Works/ or his designee. The fifteen calendar days will not include those days that the City determines it is impractical for the work to be performed.

10. The contractor shall provide a watering schedule for the establishment period, to the Director of Public Works/ or his designee, for approval prior to the beginning of the establishment period.

11. Notification of any work being completed throughout the duration of the project, including the establishment period shall be recorded in writing by the contractor and provided at the request of the City. The contractor is responsible for all record keeping of maintenance records dealing with the trees.

12. At the end of the establishment period, an information packet with information covering tree care and ownership responsibilities will be provided to each property owner with street trees.

PRUNING, MAINTENANCE AND TREE REMOVAL STANDARDS

PURPOSE: To develop and preserve tree structure and health. These guidelines are presented as working guidelines, recognizing that trees are individually unique in structure, form, and growth response – not only between, but also within species and cultivars. Pruning activities should be chosen and/or modified depending on the species, the landscape site, intended function of the tree, the present age and condition of the tree, and desired extent of pruning. Pruning is also done to provide traffic and pedestrian clearance as required by the City of Lebanon Municipal Code. Utility companies with overhead lines prune as necessary to remove foliage that endangers their utility and threatens uninterrupted service. The final purpose of this section is to establish criteria for the evaluation and removal of trees that have lived beyond their useful life or may otherwise pose a danger to the public.

GENERAL PRUNING

1. All pruning activities affecting any Street Tree shall be done in accordance with the City of Lebanon Municipal Code 12.04 and 12.16.

2. All pruning work shall be done in accordance with the National Arborist Pruning Standards for Shade Trees, or the American National Standard Institute (ANSI A300) (See Table of Contents, III Referenced Materials, Page 4)

3. All work, including tree planting, in any Public Right of Way requires a Right of Way Permit that can be obtained at the Community Development Center (CDC). Any activity that blocks or delays traffic or pedestrians requires a Right of Way Permit.

4. Safety of pedestrians and vehicles must always be maintained and is the responsibility of the person or persons and/or owners of the trees being pruned.

5. Street and sidewalk surfaces and all utilities in the area of the trimming must be protected from damage. Repair or replacement to these facilities will be the responsibility of the person or persons responsible for the maintenance of the tree.

6. Pruning cuts should be clean and smooth with the bark at the edge of the cut firmly attached.

7. Large or heavy branches that cannot be thrown clear should be lowered on ropes to prevent injury to the tree or other property.

8. Wound dressings and tree paints have not been shown to be effective in preventing or reducing decay and are therefore not recommended.

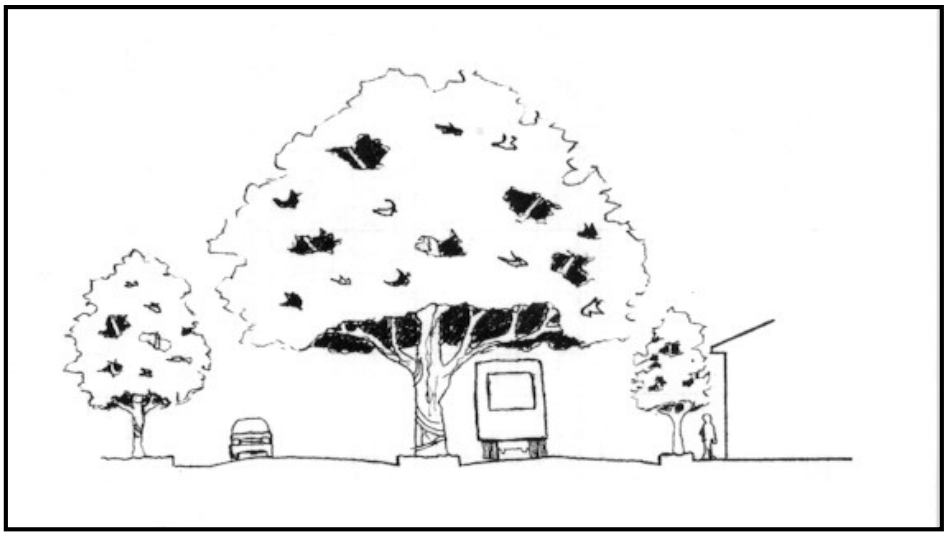
9. Climbing and pruning practices should not injure the tree and therefore, the use of spurs or gaffs should be avoided. Spurs may be used to reach an injured climber or when removing a tree.

10. Rope injury to thin barked trees from loading out heavy limbs should be avoided by installing a block in the tree to carry the load. This technique may also be used to reduce injury to a branch crotch from a climber's line.

11. Any tree beneath or over an overhead-energized conductor shall be inspected by the appropriate utility before any pruning work begins or is approved.

12. All pruning work within 10 feet of an overhead-energized conductor shall be assumed by the appropriate utility.

13. Where inappropriate trees are planted under overhead utility lines and where the excessive size of the trees requires frequent and substantial pruning, efforts should be made to remove and replace the trees with specific species approved for planting under overhead utilities.



PRUNING FOR REQUIRED CLEARANCE

All pruning for required clearances shall be in conformance with the City of Lebanon Municipal Code Chapter 12.04 and 12.16, See "*Appendix B" of this document*.

1. Property owners have responsibility for Street Trees adjacent to their property. Trees overhanging any street or right-or-way within the city needs to be pruned so that their branches do not severely obstruct the light from any street lamp, obstruct the view of any street sign, or street intersection, and allow for the safe passage of pedestrians, private, emergency, and maintenance vehicles.

2. Trees and shrubs need to be trimmed to maintain a clear space of thirteen feet (13') above street surfaces, fourteen feet (14') above street surfaces on established truck routes, and eight feet (8') above the sidewalk surface. Property owners should remove all dead, diseased or dangerous trees, or broken or decayed limbs, which constitute a menace to the safety of the public.

3. The Director of Public Works / or his designee may cause a tree to be trimmed for the proper spread of light along the street from a street light, for proper visibility of any traffic control device or sign or vision triangle at intersections, and for street or sidewalk clearance. The city shall have the right to cause the pruning of any hazardous tree on private property within the City, when such trees constitute a threat to human life or safety. Except in an emergency the adjacent property owner will be notified and allowed at least 10 days from the time of notice for property owners to do the trimming. The Director of Public Works / or his designee upon request may grant an extension beyond 10 days from the affected property owner. Tree limbs that grow near high voltage electrical conductors shall be maintained clear of such conductors by the electric utility responsible for the conductor in compliance with any applicable franchise agreements.

4. Topping of any Street Tree, potential street tree, park tree or other tree on public property is prohibited. Under special circumstances, the Director of Public Works / or his designee may grant permission or suggest alternatives, due to damage by storm or other causes where trees are severely damaged or interfere with utilities or other obstructions in the area.

TREE REMOVAL

1. No Street Tree shall be removed from a public right-of-way without first obtaining a Right of Way permit from the City. Criteria for determining whether issuance of a permit is appropriate to remove the tree shall include reason for the removal. The removal of healthy trees is prohibited unless it can be shown that removal is not merely for convenience but would be necessary to the completion of an appropriate project. Tree removal may also be considered for trees that have grown to a point where their root system is causing irreversible damage to streets, curbs or sidewalks and a practical alternative is not evident. Determination as to the appropriateness of tree removal shall be left up to the Director of Public Works / or his designee. Where practical, when a tree is removed a suitable tree should be replanted in its place.

2. Unless severely damaged by storm or other cause, no tree shall be removed from the city parks or other public spaces without the tree being evaluated first by the Director of Public Works / or his designee using criteria set forth in the City of Lebanon's Street Tree Policy and Potential Street Tree Guide.

3. Tree Removal on Private Property. As addressed it the City of Lebanon Municipal Code Chapter 8.04.280 Nuisance Abatement. The city shall have the right to cause the pruning or removal of any hazardous tree on private property within the city, when such trees constitute a threat to human life or safety. Except in an emergency, when immediate action is necessary for safety, the Director of Public Works / or his designee will notify in writing the owners of such trees. Said owners at their own expense shall complete the removal within 30 days after the date of notice. In the event of failure of owners to comply with such provisions, or in the above mentioned emergency situation, the city shall have the authority to remove or cause to be removed such trees and assess the cost of removal plus reasonable and actual administrative charges as a lien against the property.

   A. Right to Enter. In the event that it becomes necessary for the Director of Public Works / or his designee to undertake the inspection, or removal of a hazardous or dead tree from any private property within the city, the Director of Public Works / or his designee shall have the right at reasonable times to enter into or upon said property to inspect or remove said dangerous or dead tree.

TREE PROTECTION

Purpose: This section is intended to aid in the protection and preservation of trees while maintaining existing facilities or new construction activities and to provide technical assistance by describing methods for tree protection during these activities. The following requirements are mandatory for Street Trees but are highly recommended for Potential Street Trees and all other trees.

1. Restrict stripping of topsoil around trees. Woody vegetation to be removed adjacent to trees should be cut at ground level and not pulled out by equipment, or root injury to remaining trees may result.

2. Use retaining walls with discontinuous footings to maintain natural grade as far as possible from trees. Excavate to finish grade by hand, cut exposed roots with a saw to avoid wrenching and shattering from equipment. Spoil beyond cut face can be removed by equipment sitting outside the dripline of the tree.

3. Removal of soil or excavation under the drip line of any Street Tree is not permitted. In some instances, special permission may be granted by the Director of Public Works / or his designee. Written request for excavation under the drip line must be submitted and approved prior to disturbance of any facility, ground cover or soil.

4. Coordinate utility trench locations with installation contractors. Consolidate utility trenches. Excavate trenches by hand in areas with roots larger that (2 inch) diameter. Tunnel under woody roots larger than (4 inch) diameter rather than cutting them. If necessary, equipment should operate on double, overlapping, thick plywood sheets within the dripline.

5. Compaction can be minimized by spreading a 4 – 6-inch layer of foam rubber or small round rock around the root zone of the tree(s) being worked around. Normally, the root zone extends beyond the canopy spread, but compaction should be limited to the drip zone.

6. Fencing material should be used to incorporate low branches and protect the tree's trunk. Report all tree injuries to the City so that it can be treated promptly.

7. Prune to height requirements prior to construction. Consider maximum height requirements of construction equipment and emergency vehicles over roads. All pruning must be done by a Certified Arborist or licensed tree service, not construction personnel.

8. Fence trees to keep traffic and storage from within the dripline of trees. Provide a storage yard and traffic areas for construction activities well away from trees. Protect soil surface from traffic compaction with thick mulch or double, overlapping, thick plywood sheets.

9. Dumping of waste from job sites is prohibited around the base of the tree(s).

10. Maintain the original ground level around trees.

11. When root cutting for sidewalk replacement, no more than three roots of 3 inches in diameter from any given tree will be removed without the consultation of the Director of Public Works / or his designee who may require written approval of a I.S.A Certified Arborist.

12. Guidelines and tunneling under trees will be based on A.N.S.I. Z60.1 Nursery Standards, latest addition, which state that for each inch of trunk diameter the tree needs a root ball of at least one foot in diameter.

DESIGN STANDARDS FOR DEVELOPMENT AND CONTRACTED PROJECTS

SPACE FOR STREET TREE PLANTING

No Curb or Open drainage next to the street

In areas with no curb the right-of-way is often used for both drainage and as a parking area. Street tree planting in these areas is not recommended, as it is not compatible with existing uses. Tree planting in open areas of private property visible from the street is encouraged.

Curb only or curb and sidewalk with no planting strip

In open planting areas where the street has only a curb or the curb and the sidewalk are adjacent with no planting strip, planting should be restricted. In this situation the planting area must be located between the sidewalk and the property line or on private property. A benefit to this planting design is that it allows a much greater area for the tree roots to spread and reduces the risk of damage to the curb and sidewalk. Trees should be located within one and one half to four feet of the curb or sidewalk depending on species and as specified in the approved street tree list.

Planting Strip

The space between the curb and the sidewalk is often referred to as the beauty or planting strip. Planting areas that divide lanes of traffic are referred to as median or parkway strips. To accommodate large trees, planting strips should be a minimum of 8 feet wide, for medium sized trees it should be a minimum of 5 feet wide, for small trees it should be a minimum of 3 feet wide (the Acceptable Street Tree List provides a reference column for suitable planter strip size). Trees grown in spaces that are too small will have reduced life spans, develop insect and disease problems, and become stunted by the limited growing space. Tree roots can also cause damage to sidewalks, curbs, foundations, and utility infrastructure if confined to small areas. Trees selected for planting between the curb and sidewalk should be selected to attain as large a mature size as space for planting makes possible.

Tree Wells or Sidewalk Cutouts

Downtown business districts can benefit greatly from this type of design. In these areas, sections of the walkway must be cut and removed prior to planting. Sidewalk cutouts should be a minimum of 16 square feet in area. It is important to consider underground utility line locations, overhead utilities and store signs, signs, entrances, and parking when locating planting spaces.

Planting Island or Bulb-Out Planting

A planting island or bulb-out planting is an area 6 by 8 feet or larger which has been designed for the planting of trees and shrubs. This area usually extends out into the street. Planting islands have the advantage of being more visible and making a greater impact on the overall streetscape. Larger plants can also be used, and seating areas can be incorporated into the landscape design. Space for planting islands should be designed into street construction.

SPACING

Width of Planting Area

Tree planting should not be permitted in areas where the distance between the curb and the sidewalk is less than three feet.

Distance from Sidewalk

Trees should be centered in the planting strip when the distance from curb to sidewalk is less than six feet. If no sidewalk exists or the sidewalk and curb are attached the tree planting should be no closer than three feet from the street edge or the back of the sidewalk.

Distance from Alley or Drive

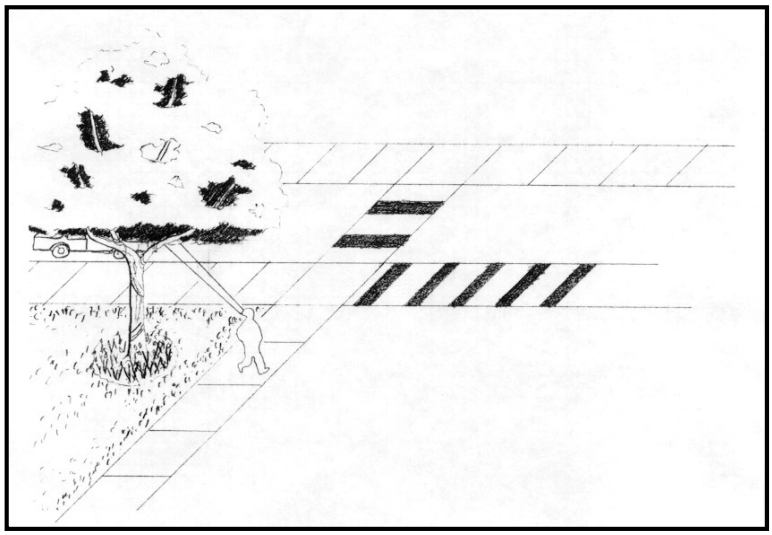
Trees should be planted to allow for a minimum of **10** feet between the trunk of the tree and any alley or drive.

Distance from Crosswalks

Trees should be planted no closer than six feet to a cross-walkway, except when the tree is one that has a mature height of less than **35** feet. In the case of such small trees, they may be planted no less than four feet from a cross-walkway.

Sight Triangle

At the intersection of roadways or vehicular access point, no plant material with a mature height greater than **30** inches shall be planted within a sight triangle measuring **20** feet along the boundary of each of the intersecting roadways, measured from the point of intersecting curb lines. Existing trees within this area should be trimmed up to at least eight feet to allow a direct line of vision for cars and trucks.



Distance to Stop Signs and Traffic Signals

Thirty to fifty feet should be allowed for a clear line of site for stop signs and traffic signals.

Spacing Between Trees

Spacing between trees shall be at least ½ the sum of the mature crown spreads. Generally, large trees should be spaced **40 to 60** feet apart, medium trees **30 to 50** feet apart, and small trees **30** feet apart.

Distance to Underground Utilities

The location and type of underground utilities will be determined during the planning and design process. Tree selection should be based on the needed space for a tree's root system. The minimum horizontal and vertical distance from a water meter or sewer service line shall be six feet unless the trees mature height is less than **35** feet, then the minimum distance shall be no less than four feet. ***(No street trees shall be planted within 3 feet of an underground water, storm or sewer line that is less than 5 feet below the surface.)***

Distance to Overhead Electrical Utility

No tree should be planted within **25** feet of any overhead electric utility, except service lines, unless it is a species, which attains a mature height of 25 feet or less.

Distance to Buildings

Trees should not be planted within **5** feet of any building for very small trees and a larger distance for most species.

Sidewalk Cutouts

Tree planting made in sidewalks must have a minimum **16** square feet of area. The tree must be set back from the face of the curb at least two feet.

Distance from Fire Hydrant

Trees should be planted to allow for a minimum of **15** feet between the trunk of the tree and any fire hydrant.

SPECIES DIVERSITY

One particular cultivar, species, or group of species should not comprise more than five, ten, and twenty-five percent respectively of the total tree population. On a single project, one species should not exceed **50** percent for plantings of less than **80** trees; **30** percent for plantings between **80** and **120** trees; and **25** percent for plantings of more than **160** trees. Street tree designs that use one species can be unhealthy and are susceptible to insects, disease and blight.

GRADE

Unless otherwise specified by the City, all trees shall have straight trunks, well-developed leaders and tops. The root system shall be characteristic of the species and shall exhibit evidence of proper nursery practices.

At the time of planting, all trees shall be healthy and free of mechanical injuries.

TYPE OF PLANTING STOCK

Tree materials shall conform to the latest version of the American Standard for Nursery Stock (ANSI Z60.1-1990). Tree materials shall be of standard quality or better, true to name and type of their species or cultivars.

The type of planting stock, whether bare root, balled or burlapped or boxed or container grown has less effect on the success of the project than the use of healthy nursery stock, proper planting techniques and good care after planting. The Tree Planting Specifications section of this Policy describes stock selection and planting methods in greater detail.

TREE SELECTION

An Acceptable Tree Species List is included in Appendix A of this Policy. This is not a complete list of all trees that can grow and thrive in Lebanon; rather it is a list of species that will help to guide the development of a unified and consistent street and park tree-planting plan.

The Director of Public Works / or his designee shall be notified and have the right to inspect any trees or shrubs before they are planted, or at any time during the term of a contract that is administered by the City to ensure the trees meet standard specifications. The city reserves the right to reject any materials at any time.

Tree material originating within the state must be verifiable that they originate from Oregon. A certificate of inspection shall accompany nursery stock imported from other states from the place of origin as required by Oregon law. All certificates shall be given to the Director of Public works or his designee prior to tree approval.

The Acceptable Street Tree List does contain some cultivar names, however, there are numerous cultivars for many species. A cultivar is a tree that has been selected for specific characteristics. In most cases each tree of a named cultivar is genetically identical. With few exceptions if a species were listed its cultivars would also be acceptable for planting. However, the City must approve street tree cultivars not listed on the Acceptable Street Tree List before planting. For more information on cultivars see the following sources.

Handbook of Landscape Tree Cultivars, available from East Prairie Publishing Company, PO Box 174, Gladstone, IL 61437.

Sunset, New Western Garden Book, available at local retail nursery stores.

Oregon State University, Dept. of Horticulture. Landscape Plants: Images, Identification, and Information. Copyright 1999-2015

The City of Portland, Approved Street Tree Planting Lists

J. Frank Schmidt & Son Co. Nursery, Boring Oregon.

PROHIBIT STREET TREES

1. The City of Lebanon Municipal Code prohibits the planting of the following street trees in any public planting strip:
   - Poplar
   - Elm
   - Hawthorn
   - Willow
   - Ailanthus
   - Fruit Trees
   - Conifer
   - Cottonwood
   - Nut Trees
2. The City of Lebanon Municipal Code prohibits the planting of the following trees anywhere within the City without an approved permit and site approval by the Public Works Director or his designee.
   - Willow
   - Poplar
   - Cottonwood
3. Exceptions
   - Riparian Protection Zones require the use of native trees that are not included in the Street Tree list. The Director of Public Works, or his designee, may issue a permit that allows species that are not on the approved street tree list for planting in Riparian Protection Zones.

APPROVAL OF SPECIES

To allow for the planting of trees not included on the Acceptable Street Tree List the following steps are required. A written request complete with the description of the tree and a description of the planting site must be provided to the City for the approval of the Director of Public Works / or his designee. The request will be forwarded to the Tree Board and reviewed at the next scheduled meeting. A letter explaining the board's decision will be sent to the applicant within 10 days of Tree Boards review. Recommendations from the Tree Board go to the Director of Public Works or his designee for final approval. In Riparian protection zones the exception noted in the above section, Prohibited Street Trees, paragraph 3, might apply.

This description must include:

- The location and description of the planting site
- The property owners name or if a Street Tree, the adjacent property owners name
- The mailing address of the applicant
- The day phone number of the applicant for questions
- The common name, scientific name, and the cultivar of the tree
- The mature size of the tree
- The mature spread of the tree
- The tree shape
- Insect and disease problems
- The caliper (circumference/size) at 6" above the ground of the tree to be planted
- Other outstanding features

CONCLUSION

- The standards presented in this chapter and the Acceptable Street Tree List should be reviewed and updated every three to five years to allow for changes in Lebanon's needs, and new planting techniques and products.

APPENDIX A

ACCEPTABLE STREET TREE LIST
Including:
TREES FOR USE UNDER POWER LINE

City of Lebanon
Approved Street Tree List

Common Name	Scientific Name	Cultivar	Height (feet)	Width (feet)	Planting Strip Width[1]			Overhead Utility Wires[2]	For Use in Stormwater Quality Facilities	Comments
					6'+	6'-5'	4-5'			
Amur Maackia	*Maackia amurensis*		25	20	✓	✓		OK		Hardy tree, upright vase, white flower clusters
Box Elder	*Acer negundo*	Flamingo	20	15	✓	✓	✓	OK		Male selection only, short lived
Cascara	*Rhamnus purshiana*		30	12	✓	✓	✓	NR	OK	**Native:** small green cup-shaped flowers, black cherry-like fruit
Cherry	*Prunus serrulata*	Royal Burgundy	20	15	✓	✓	✓	OK		Red-purplish foliage, pink flower
	Prunus x yeodensis	Cascade Snow	25	20	✓	✓		OK		White flowers, upright growth, very disease resistant
	Prunus sargentii 'JFS-KW58'	Pink Flair	25	15	✓	✓	✓	OK		Pink flower clusters, orange-red fall color, upright narrow vase-shaped growth form
Crabapple, Flowering	*Malus sp.*	Adirondack	18	10	✓	✓	✓	OK		Good columnar variety, very good disease resistance
		Centurion	20	15	✓	✓	✓	OK		Good disease resistance; Red flowers, upright growth
		Purple Prince	20	20	✓	✓		OK		Purple foliage becoming bronze green; rose red flowers
		Prairifire	20	20	✓	✓		OK		Very pink flowers, red fruit
		Red Jewel	15	12	✓	✓	✓	OK		Very red persistent fruit, white flowers
		Sugar Tyme	15	15	✓	✓	✓	OK		Good disease resistance, white flowers
Dogwood,Kousa	*Cornus kousa*	Many Cultivars	20	20	✓	✓		OK		Low branching, the kousa hybrid selections are the best choices, Constellation, Aurora, and Stellar Pink. All are resistant to anthracnose.

Amended by the Trees & Trails Committee on April 17, 2019

Common Name	Scientific Name	Cultivar	Height (feet)	Width (feet)	Planting Strip Width[1]			Overhead Utility Wires[2]	For Use in Stormwater Quality Facilities	Comments
					6'+	6'-5'	4-5'			
Goldenrain	*Koelreuteria paniculata*		30	30	✓			NR	OK	Beautiful yellow flowering tree, very adaptable
		Fastigata	25	10	✓	✓	✓	OK		Columnar, yellow fall color, flowers bright yellow in large clusters
		Summerburst	30	30	✓			NR		Unique lantern-like seed capsules
Hawthorn, Paul's Scarlet	*Crateagus laevigata*	'Paul's Scarlet'	25	20	✓	✓		OK		Scarlet double flower; susceptible to rust and leaf spot
Hornbeam, American	*Carpinus caroliniana*		25	20	✓	✓		OK		Difficult to transplant, dig in spring; does not tolerate compaction
Lilac Tree	*Syringa reticulata*	Several Cultivars	20	15	✓	✓	✓	OK		Upright spreading to oval, white flower clusters
Linden	*Tilia cordata 'Halka'*	Many Cultivars	20							
Magnolia Hybrid	*Magnolia hybrids*	Galaxy	30	15	✓	✓	✓	NR		A bit messy when flowers drop off
		Merril	25	25	✓	✓		OK		Yellow fall color, large white flower
Maple	*Acer buergeranum*	Trident	25	20	✓	✓		OK		Lovely fall color; must train to single stem
	Acer campestre	Hedge	30	30	✓			NR	OK	A tough tree with corky bark
	Acer ginnala	Flame	20	20	✓	✓		OK		Fragrant flowers great fall color; very adaptable; prolific seeds; multi-stemmed
	Acer griseum	Paperbark	25	20	✓	✓		OK		All year interest tree; good urban tolerance
Maple, Hybrid	*Acer truncatum x A. platanoides*	Pacific Sunset	30	25	✓	✓		NR		Yellow orange to bright red fall color; resistant to Japanese beetle
Persian Parrotia	*Parrotia persica*		30	20	✓	✓		NR	OK	Excellent, many fine attributes…bark, fall color; specify tree form

Common Name	Scientific Name	Cultivar	Height (feet)	Width (feet)	Planting Strip Width[1]			Overhead Utility Wires[2]	For Use in Stormwater Quality Facilities	Comments
					6'+	6'-5'	4-5'			
		Vanessa	28	14	✓	✓	✓	NR		Upright, tightly vase shaped; fall color is orange-red
Pistachio, Chinese	*Pistacia chinensis*		30	25	✓	✓		NR		A very good urban tree, although hard to find
Redbud, Eastern	*Cercis canadensis*	Several Cultivars	25	30	✓			OK		Beautiful small flowering tree, but can experience a lot of branch breakage, die back, and is susceptible to Verticillium
Serviceberry	*Amelanchier laevis*	Snowcloud	28	15	✓	✓	✓	NR		Upright, oval good tree form, small berries
	Amelanchier laevis 'JFS-Arb'	Spring Flurry	28	20	✓	✓		NR		Upright, oval form, white clustered flowers, orange fall colors, small purple berries
	Amelanchier x grandiflora	Autumn Brilliance	25	15	✓	✓	✓	OK		Upright, white clustered flowers bright red fall color, small purple berries
Sourwood	*Oxydendrum arboreum*		20	15	✓	✓	✓	OK		Temperamental tree, difficult to establish
Stewartia, Japanese	*Stewartia pseudocamellia*		30	20	✓	✓		NR		Great tree with white camellia-like flowers and red fall color
Snowbell, Japanese	*Styrax japonica*	Snowcone	25	20	✓	✓		OK		White bell-shaped flowers, yellow fall color, pyramidal growth form
		Pink Chimes	15	15	✓	✓	✓	OK		Pink flowers; smaller cultivar
Yellowwood	*Cladrastis kentukea*	Cultivars Rare	30	40	✓			NR		White and fragrant flowers
Zelkova	*Zelkova serrata 'JFS-KW1'*	City Sprite	24	18	✓	✓		OK		Compact oval to vase, yellow fall color

Appendix B

LEBANON MUNICIPAL CODE CHAPTER RELATED TO TREES

Chapter 12.16 STREET TREES*

*Note to Chapter 12.16

12.16.010 Purpose.

12.16.020 Definitions.

12.16.030 Tree planting.

12.16.040 Public tree maintenance and care.

12.16.050 Tree topping.

12.16.060 Tree removal.

12.16.070 Permits.

12.16.080 Exemptions.

12.16.090 Protection of trees.

12.16.100 Penalties.

*Note to Chapter 12.16

* Prior Ordinance History: Ord. 2012.

12.16.010 Purpose.

It is the purpose of this chapter (as established by the Lebanon city council) to protect the public health, safety and welfare, and to promote establishment and maintenance of trees in general throughout the city by providing regulations and guidelines for planting, maintenance, and removal of trees, shrubs and other woody plants in the city of Lebanon. (Ord. 2332 § 1 (part), 2002)

12.16.020 Definitions.

As used in this code, the following definitions apply:

"Director of public works or his designee" means a person hired or appointed by the city to oversee matters concerning trees within the city. In the absence of the director of public works or his designee, the city administrator or his designee shall assume this authority.

"Hazardous tree" means a tree that is classified as a dangerous tree by the director of public works or his designee.

"Potential street tree" means any tree or part of a tree, existing or new planting, including the canopy and root system, that lies on private property and has identifiable characteristics that indicate it may occupy public property or public right-of-way.

"Street tree" means any tree or part of a tree, existing or new planting, including the canopy and root system, that lies on or has grown onto or over public property, or in public right-of-way owned by a public entity. (Ord. 2332 § 1 (part), 2002)

12.16.030 Tree planting.

A. Tree Species to be Planted: The city park committee / tree board will develop and maintain a list of desirable trees for planting along streets in three size classes based on widths of planting strips in the right-of-way. There shall also be a desirable list of trees for planting under power or other utility lines. These lists shall be found in the city's street tree policy and potential street tree guide. Trees not on this list shall not be planted as street or potential street trees without specific approval from the director of public works or his designee.

B. Prohibited Trees. It is unlawful to plant in any public parking strip the following trees: poplar, willow, conifer, elm, ailanthus, cottonwood, hawthorn, fruit trees and nut trees. It is unlawful to plant willow, cottonwood or poplar anywhere in the city unless the city administrator or his/her designee approves the location as one where the tree roots will not interfere with a public sewer. In designated riparian areas, native species may be planted if the city administrator or his/her designee approves the location

C. Spacing. The spacing of street trees shall be in accordance with the three species size classes listed in the above-mentioned policy, and no trees may be planted closer together than the following:
small trees, thirty feet; medium trees, thirty to fifty feet; and large trees, forty to sixty feet; except in special plantings designed by a landscape architect or urban forester and approved by the city planner.

D. Distance between Curb and Sidewalk. The distance required for tree planting between curbs or curb lines and sidewalks will be in accordance with the three species size classes listed in the city's street tree policy and potential street tree guide. No trees may be planted in planting strip widths less than the following: small trees, three feet; medium trees, five feet; and large trees, eight feet and/or as specified in the street tree policy and potential street tree guide.

E. Planting in Roadways Having No Gutter or Curb. No trees, shrubs or other vegetation shall be planted in the public right-of-way abutting roadways having no established curb or gutter.

F. Planting Methods. All trees shall be planted using methods prescribed in the city's street tree policy and potential street tree guide with regard to depth, staking, root barriers, water tubes, etc., whenever practical.

G. Distance from Street Corners and Fire Hydrants. No street tree or potential street tree shall be planted within twenty-five feet of any street corner, measured from the point of nearest intersecting curb or curb line. No street tree shall be planted within fifteen feet of any fire hydrant.

H. Utilities. No street tree or potential street tree, other than those species listed as trees appropriate for planting adjacent to power lines in the city's street tree policy and potential street tree guide shall be planted within twenty-five feet of any overhead electric utility, except service lines. Trees planted within twenty-five feet of a overhead electric utility will only be allowed if it is a species which attains a mature height of twenty-five feet or less. No street trees shall be planted within three feet of an underground water, storm or sewer line that is less than five feet below the surface. (Ord. 2332 § 1 (part), 2002)

12.16.040 Public tree maintenance and care.

A. Tree Maintenance The primary responsibility for trees in the right-of-way is upon the adjacent property owners. However, the city shall have the right to plant, prune, maintain and remove trees, plants and shrubs within the lines of all street, alleys, avenues, lanes, squares and public grounds, as may be necessary to insure public safety or to preserve or enhance the symmetry and beauty of such public grounds. The director of public works or his designee may remove or cause or order to be removed, any tree or part thereof which is in an unsafe condition or which by reason of its nature is injurious to sewers, electric power lines, gas lines, water lines or other public improvements, or is affected with any injurious fungus, insect or other pest. This section does not prohibit the planting of street trees by adjacent property owners providing that the selection and location of said trees is in accordance with the city's street tree policy and potential street tree guide and the provisions of this chapter and a permit is obtained.

B. Standards. All street trees and potential street trees shall be pruned as directed in ANSI, A-300 Standards.

C. Pruning, Corner Clearance. Property owners have responsibility for street trees and potential street trees adjacent to their property. Tree overhanging any street or right-of-way within the city shall be pruned so that their branches shall not severely obstruct the light from any street lamp or obstruct the view of any street sign or street intersection. Adjacent property owners shall trim to maintain a clear space of thirteen feet above street surfaces, fourteen feet above street surfaces on truck routes, or eight feet above the sidewalk surfaces. Said property owners shall remove all dead, diseased or dangerous trees, or broken or decayed limbs, which constitute a menace to the safety of the public. The city shall have the right at any time to prune any tree or shrub on or adjacent to private property when it interferes with the proper spread of light along the street from a street light or interferes with visibility of any traffic control device or sign or vision triangle at intersections. The director of public works or his designee may cause a tree to be trimmed for street or sidewalk clearance after notifying adjacent property owners and allowing at least ten days from the time of notice for property owners to do the trimming. An extension beyond ten days may be granted by the director of public works or his designee upon request from the affected property owner. Tree limbs that grow near high voltage electrical conductors shall be maintained clear of such conductors by the electric utility responsible for the conductor in compliance with any applicable franchise agreements. (Ord. 2332 § 1 (part), 2002)

12.16.050 Tree topping.

It is unlawful for any person or firm to top any street tree, park tree or other tree on public property. "Topping" is defined as the severe cutting back of limbs to stubs larger than three inches in diameter within the tree's crown to such a degree so as to remove the normal canopy and disfigure the tree. Trees severely damaged by storms or other causes, or certain trees under utility wires or other obstructions where other pruning practices are impractical may be exempted from this section at the determination of the director of public works or his designee. (Ord. 2332 § 1 (part), 2002)

12.16.060 Tree removal.

A. Street Trees. No tree shall be removed from a public right-of-way without first obtaining a permit from the city. Permit request shall include sufficient detail to determine whether issuance of a permit will be granted and shall include reason for the removal. The removal of healthy trees is prohibited unless it can be sufficiently demonstrated that removal is not merely for convenience but would be necessary for the completion of an appropriate project. Tree removal may also be considered for trees that have grown to a point where their root system is causing irreversible damage to streets, curbs or sidewalks and a practical alternative is not evident. Determination as to the appropriateness of tree removal shall be left up to the director of public works or his designee.

B. Park Trees and Other Public Trees. Unless severely damaged by storm or other cause, no tree shall be removed from city parks or other public spaces without the tree being evaluated first by the director of public works or his designee using criteria set forth in the city's street tree policy and potential street tree guide.

C. Tree Removal on Private Property. The city shall have the right to cause the pruning or removal of any hazardous tree on private property within the city, when such trees constitute a threat to human life or safety. Except in an emergency when immediate action is necessary for safety, the director of public works or his designee will notify in writing the owners of such trees. Said owners at their own expense shall do pruning or removal within thirty days after the date of notice. In the event of failure of owners to comply with such provisions, or in the above-mentioned emergency situation, the city shall have the authority to remove or cause to be removed such trees and assess the cost of removal plus reasonable and actual administrative charges as a lien against the property.

D. Right to Enter. In the event that it becomes necessary for the director of public works or his designee to undertake the inspection, pruning or removal of a hazardous or dead tree from any private property within the city, the director of public works or his designee shall have the right at reasonable times to enter into or upon said property to inspect, prune or remove said dangerous or dead tree. (Ord. 2332 § 1 (part), 2002)

12.16.070 Permits.

A permit shall be obtained from the director of public works or his designee, applying criteria found in the city's street tree policy and potential street tree guide, before planting, pruning, removing or otherwise affecting a street tree or potential street tree. With a permit, adjacent property owners may plant street trees so long as the selection, location and planting of such trees are in accordance with this policy. Any street tree planted that does not comply with said policy may be removed by the city at the direction of the director of public works or his designee. The cost of such removal will be borne by the person or persons who planted the tree. A permit shall be valid for a period of one hundred eighty days following the date of issuance. Utilities or their contractors may apply for and receive blanket permits that will be valid for multiple locations for routine trimming. (Ord. 2332 § 1 (part), 2002)

12.16.080 Exemptions.

In the event of a storm, freeze or other environmental event resulting in damage to street, potential street trees and public trees, the city administrator may declare an emergency suspension of the permit requirements for the removal and pruning of trees set forth in this chapter. Such declaration shall prescribe dates during which permits are not required, but in no event may any single declaration exceed twenty-one days. (Ord. 2332 § 1 (part), 2002)

12.16.090 Protection of trees.

It is a violation of this chapter to plant or remove any street tree or potential street tree without first obtaining a permit. It is a violation of this chapter to destroy, break or otherwise injure any street tree or potential street tree. It is unlawful for any person to attach or keep attached to any street or potential street tree, or to the guard or stake intended for the protection of such tree, any rope, wire, chain, sign or other device whatsoever, except as a support for such tree. During the construction, repair, alteration or removal of any building or structure it is unlawful for any owner or contractor to leave any street tree or potential street tree in the vicinity of such building or structure without a good and sufficient guard or protectors as shall prevent injury to such tree arising out of or by reason of such construction or removal. Excavation shall not occur within ten feet of any street tree or potential street tree without approval of the director of public works or his designee. Utility pole installations under the direction of a public utility or the city of Lebanon shall be exempt from the requirements set forth in this section. During such excavation or construction, any such person shall guard any street tree or potential street tree within ten feet thereof. All building material or other debris shall be kept at least ten feet from any street tree or potential street tree. (Ord. 2332 § 1 (part), 2002)

12.16.100 Penalties.

Any person violating the provisions of this chapter shall be guilty of a violation, with a maximum penalty of a fine of not more than one thousand dollars. Any person willfully, recklessly or knowingly violating the provisions of this chapter shall be guilty of a misdemeanor, subject to a penalty of not more than one year in jail and/or a fine of up to five thousand dollars, or both (Ord. 2332 § 1 (part), 2002)

Appendix C

PRUNING GUIDE

EB1619

Pruning Landscape Trees

WASHINGTON STATE UNIVERSITY EXTENSION

by Ray Maleike

WASHINGTON STATE UNIVERSITY
EXTENSION

Trees add beauty and value to your home's landscape. They modify your home's environment by providing shade and blocking the wind. Trees may help remove pollutants from the air. Correctly selected trees that are healthy and properly pruned dramatically increase property values. Trees enhance our quality of life.

Trees require maintenance, and pruning is one of the most important maintenance tasks. Pruning is the removal of plant parts to induce the plant to grow in a particular manner. Using correct pruning techniques can help maintain the health, vigor, and attractiveness of trees. Recent research has given new insight into the effects of pruning on trees and also has discredited some commonly accepted pruning practices. When work is done correctly, many plants need only an occasional light pruning rather than major annual pruning. Shaping the basic skeleton of a tree when you plant it may avoid drastic corrective pruning and other problems later.

Reasons for Tree Pruning

Size Control

Pruning can maintain or reduce the size of a tree, to keep it in balance with the rest of the landscape. Size control also can reduce shade, lessen the danger of a tree blowing over in a wind, avoid interference with utility wires, and simplify pest control. To reduce the amount of pruning needed, choose a plant species that at maturity will be the size and shape wanted. If a tree must be severely pruned every 5 to 7 years, it probably is too large for the given location. Choose a smaller species to plant there instead.

Health

Pruning may help prevent the spread of diseases, insects, and in some cases, rot of the main stem and branches. Correct pruning can increase light penetration and air circulation. Removing rubbing, interfering, or badly placed branches, and narrow "V" crotches can avoid serious future problems.

Safety

Removal of dead limbs and hazardous low limbs will increase the safety around a tree. You also may reduce wind resistance through correct pruning.

Training Young Plants

Main scaffold branches are easiest to train when the plant is young. It is better to shape the basic skeletal branches at this time using pruning shears than to attempt the same thing 10 years later using a chain saw. Initiate unusual tree forms, such as topiary, bonsai, or espalier, when plants are young. These pruning styles require much more maintenance than natural forms.

Improve Appearance

Pruning should shape the tree to accentuate, but not alter, its natural form.

Influence Flowering, Fruiting, or Vigor

Pruning can improve flower quality, which in turn improves fruit quality. You can change the balance between vegetation (leaves, shoots) and flowers (fruits) by pruning. Minimize alternate year flowering and cropping, and stimulate production of fewer but larger flowers or fruit by judicious pruning.

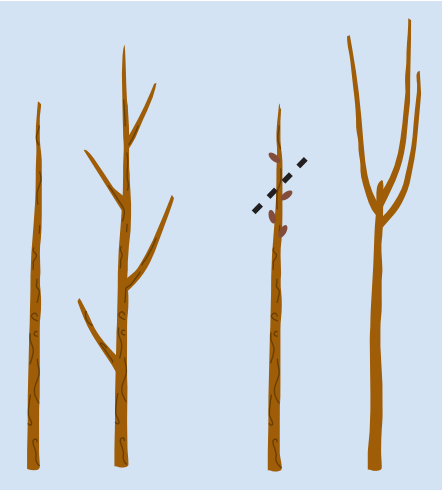


Figure 1. An unpruned 1-year stem usually develops a branching pattern with wide crotch angles dispersed along the stem (left). Heading a 1-year branch causes one to four buds to grow. These will be vigorous, upright, competing, and may be weakly attached (right). Codominant leaders may result.

How Pruning Affects Plant Growth

Two basic types of pruning cuts are the heading cut and the thinning cut.

Heading Cut

This cut removes part of a 1-year branch back to a lateral bud (Figure 1), or removes part of an older branch without regard to the location of any branches or buds (Figure 2). On large branches, this type of pruning also is called stub cutting. The heading cut affects only the limb or trunk area where the cut is made.

A heading cut on a 1-year branch (Figures 1 and 3) forces growth of those buds close to the pruning cut. The bud closest to the top will determine the direction of new growth. Choosing to cut to a particular bud gives you some control of the direction of growth in young trees.

Do not head large branches or branches more than 1 year old (Figures 4 and 5). The results of heading cuts:

- New growth will be vigorous, upright, dense, soft, disease-prone, and generally a tangled mass close to the cut end of the branch.

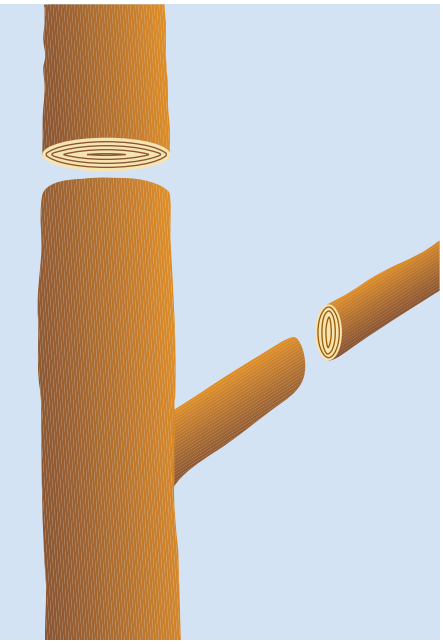


Figure 2. A heading cut, also called a stub cut, partially removes a branch or the main trunk. Subsequently, many vigorous, unsightly, weakly attached shoots emerge from below the cut. Growth is initiated only where the heading cut is made.

Figure 3. A heading cut made to an outside bud. The new branch will grow toward the outside of the tree.

Figure 4. This large heading cut has left exposed and dead branch wood. The interior portions of the stem and possibly the trunk will eventually rot because of this massive cut, creating a very hazardous tree.

- Newly emerging growth will be weakly attached and susceptible to limb breakage. The tree will be disfigured.
- Large areas of bare wood will be left exposed at the cuts, increasing the probability of disease entry or internal rot starting at the cut end of the branch. Rot can create an unsafe tree or eventually kill the plant.

Shearing (overall growth removal) is a series of heading cuts, typically done only on 1-year-old branches. This practice usually causes no long-term damage to the plant. However, most trees are not sheared.

Thinning Cut

A thinning cut removes a branch to its origin of growth or point of attachment. Pruning a branch back to another branch, a branch to the main trunk or the main

Figure 5. The heading or stub cuts of these large limbs have led to vigorous new growth. The tree also has been severely disfigured by this type of pruning. (Heart rot evident at arrow).

trunk back to a large branch are thinning cuts (Figures 6 and 7).

Thinning cuts:

- Direct growth to the remaining branches or trunks of the tree
- Retain natural form of tree and avoid vigorous sprouting at the site of the cut.
- Reduce rank, undesirable, vigorous (sucker) growth
- Allow more light to the center of the plant
- Decrease wind resistance
- Reduce potential disease problems
- May have a dwarfing effect on the tree.

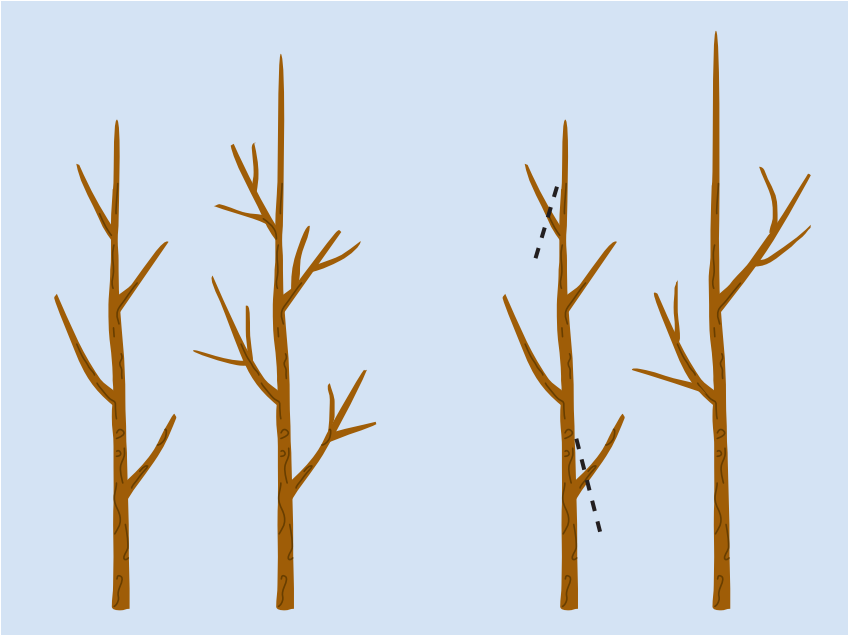


Figure 6. Typical branch development of an unpruned tree trunk and branches (left). A thinning cut eliminates the highest and lowest branches on the trunk and redistributes the growth to the remaining branches and main trunk (right).

Pruning Wounds and Wound Closure

Trees are unable to heal wounds the way animals do. Plants grow callus tissue in response to an injury. This tissue grows ***over*** the wounded area, but the damaged tissues are not repaired. Trees also chemically wall off the wounded tissue, in a process called compartmentalization.

Make pruning wounds as small as possible so the tree can close the wounds more quickly. The longer a wound remains open, the more chance it has to develop a problem such as internal decay.

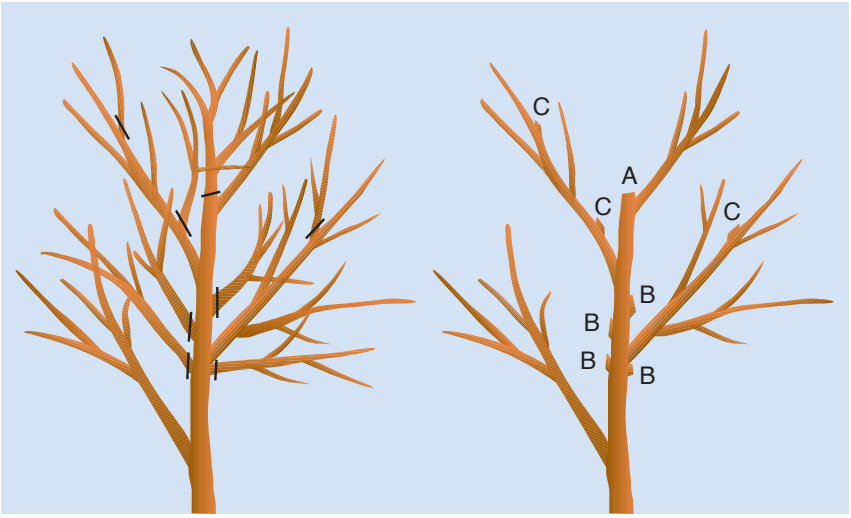


Figure 7. Thinning cuts remove branches to a point of origin, such as the removal of the main trunk to a branch large enough to assume apical (highest point) dominance (A), the removal of branches to the trunk (B), or the removal of branches to another branch (C). The basic shape of the tree remains the same after pruning.

How to Prune

To reduce the size of a 1-year-old branch, cut the branch back to a bud that points in the direction you want the new shoot to grow. Or, in the case of a central leader,

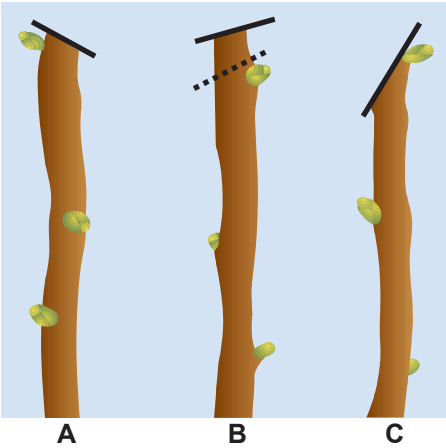


Figure 8. A correct heading cut (A) is made slightly above the bud, sloping down and away from it. The top bud grows either vertically or outward for a more horizontal branch. If the cut is too high (B) the branch may die back to the bud or further. The dotted line shows the correct cut. A heading cut made too close or at too steep an angle (C), may cause the top bud to dry out and die.

Figure 9. A tree branch with a branch bark ridge (arrow). The branch collar lies between the branch bark ridge and the red line. It usually appears as a swelling. The red line shows where to make a pruning cut to remove the branch.

where you want the first set of branches. Make the cut slightly above the shoot, sloping down away from the bud (Figure 8a). Make the cut too close to the bud, and it may dry out and die (Figure 8c). Leave too much branch above the bud, and the stub may die back and decay (Figure 8b).

It is important to make thinning cuts on larger branches correctly. Both the branch bark ridge and branch collar are thought to help the rapid closing and compartmentalization of pruning wounds. Make pruning cuts close to the outside of these areas (Figure 9). Use the three-cut system on large branches (Figure 11), so the bark of the pruned branch will not strip the bark down the trunk of the tree. Make the final cut outside the branch bark ridge and the branch collar.

Much of the pruning literature still recommends the traditional flush cut, making the cut as close to the trunk or branch as possible. Recent research has shown flush cuts may open large wounds, which may not close rapidly. Thus, flush cuts may be more susceptible to decay and may eventually cause the death of large sections of the trunk above and below the cut (Figure 10).

Wound dressings, tree paints, and other preparations used for years to seal and prevent decay are ineffective in preventing decay or hastening wound closure. If you feel it is absolutely necessary to use them, apply for cosmetic purposes only, using a very thin coat.

What to Prune

You may have three main goals when pruning a tree:

- to remove dead, diseased, or damaged wood,
- to eliminate rubbing, interfering or poorly placed branches, and
- to shape the tree.

Cut dead wood back to, but not into, live wood. You may prune out diseased wood to stop the spread of disease. Make a thinning cut well below the infected site into the healthy wood. Disinfect your pruning tools between each cut with 70% alcohol or rubbing alcohol; rinse and oil. Do not use chlorine bleaches that rust tools. Cut back damaged branches to another branch. This damage includes previous poor pruning cuts or stubs (Figure 12).

Eliminate rubbing, interfering, or poorly placed branches (Figure 13). Cut off branches that rub, will eventually rub, or that grow in the wrong direction.

Figure 10. Death of parts of the trunks on two trees due to flush cuts.

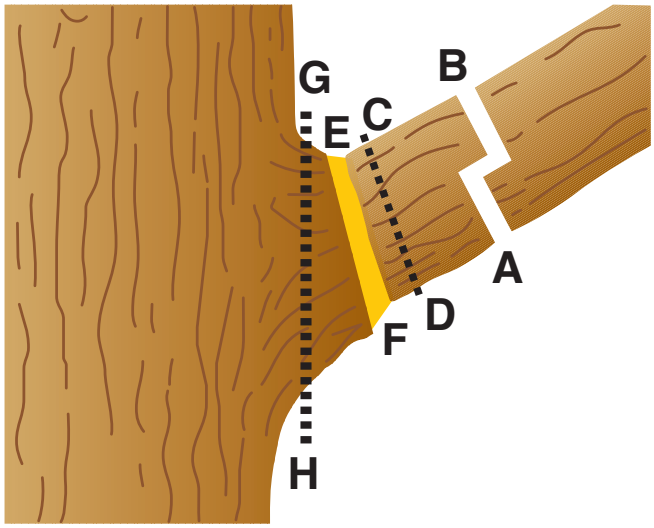


Figure 11. To avoid bark stripping when removing a large limb, make the first cut at A about 12 inches from the trunk. Make the second cut at B on the outside of A. Make the final cut outside the branch collar (E-F). A cut at C-D would leave too much of a stub, which might rot, and a cut at G-H is a flush cut.

Figure 12. Stubs left by previous pruning. Remaining stubs can allow internal rot. Cut the stubs back to, but not into, live tissue.

Figure 13. Examples of rubbing, interfering and poorly placed branches that should be removed.

Narrow "V" crotches (bark inclusions) occur when a layer of bark is squeezed between two branches growing very close together (Figures 14 and 15). Cut off one of these branches. Bark inclusions may cause one of the limbs to split in strong winds or under a heavy snow or ice load.

You may have very large, codominant leaders braced and cabled. Allow only a competent, certified arborist to undertake such a project.

Figure 14. Two branches (codominant leaders) with a layer of bark squeezed between them. This is called a bark inclusion and causes a very weak crotch. Remove one of the branches.

Prune the plant to the shape desired

Prune to accentuate the tree's normal shape. When planting young trees, do not prune one-fourth to one-third of the top as is sometimes recommended. Severe pruning at the time of planting may reduce shoot and root growth the following year. When planting a tree, prune out the dead, diseased, and damaged branches, cut the rubbing, interfering, and poorly placed branches, then prune the plant to the shape desired. Select the main scaffold branches as early as possible.

Water sprouts or suckers sometimes emerge when a tree has been severely pruned. These almost always grow from a stub cut. Species such as crabapples, hawthorns, and flowering plums produce many of these vigorous shoots—always poorly placed and interfering. Prune them when young or physically rub them off when they are quite small (right after the shoots emerge).

Tree Topping

Tree topping removes a major portion of a tree's top by cutting large branches back to stubs. Topping is a poor practice and is not recommended. Topping a tree may reduce property value, shorten the life span of the tree, and make the tree a safety hazard. Large stubs produced by topping:

- May not callus over, open to internal wood rot (Figure 4)
- May die back because of sun scald
- Produce rank growth more susceptible to ice, snow, and storm damage
- Produce lush growth that depletes root food reserves, weakens roots, and increases pathological problems
- Disfigure the tree and make it unattractive (Figure 16).

If a tree is much too high or large, or requires severe size reduction each year, replace it with a species that is smaller at maturity. **Topping a large tree is not the answer.**

Most bad pruning jobs on trees and subsequent rot problems are due to overuse of heading (stub) cuts on large limbs.

The only good way to reduce the size of a tree is to make thinning cuts, also called "drop crotching." To do this, select and cut higher branches back to a large lateral branch at least one-third the size of the main trunk or the limb to be removed (Figures 7 and 17). This reduces plant height, retains the natural shape of the tree, and allows the wounds to grow over.

When to Prune

Trees may be pruned any time of the year, but pruning at different seasons will cause different plant responses. Late winter and early spring after a general warming trend are good times to prune because callus tissue then forms rapidly. These are the periods of fastest redevelopment and readjustment to pruned limbs. Also, disease and insect activity is usually minimal. Prune trees that "bleed" from wounds (sap flow), such as birches, walnuts, and some maples, in late summer or early fall. Bleeding is normally not harmful to the plant.

Removing large quantities of foliage after (not during) a flush of growth, usually in late spring or early summer, tends to retard or dwarf a tree. If dwarfing is desired, this is a good time to prune. If you want more rapid development, pruning prior to leaf emergence in the spring is better.

Figure 15. Advanced stage of a bark inclusion between codominant leaders. Notice the split developing. One or both of these trunks may split and fall during high winds or under ice and snow load.

Figure 16. Stub cut trees are not only unsightly and disfigured, they probably will start to rot, become unsafe, and can die from this type of pruning.

Pruning in late summer or early fall can cause vigorous regrowth, which in some species may not harden off by winter. During this period, more disease pressure exists, and wounds close more slowly.

Pruning during cold periods in winter in colder regions, such as east of the Cascades, may cause some dieback around the cut.

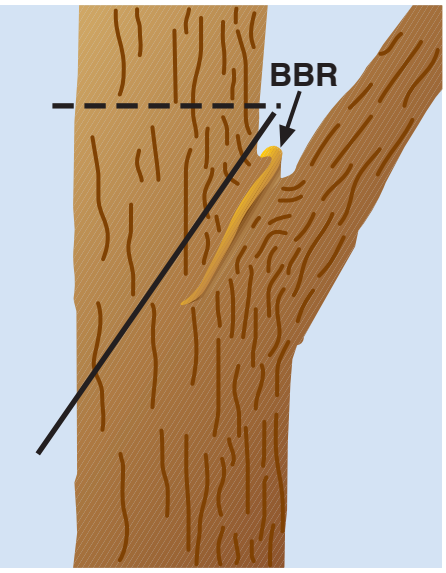


Figure 17. Drop crotching is a method of reducing the size of trees without making the potentially fatal stub cut. Make the initial cut on the dotted line and the second cut (solid line) outside the branch bark ridge (BBR).

Pruning Checklist

1. Determine why you want to prune the tree.
2. Most pruning cuts should be thinning cuts (cutting a branch back to the point of origin). Make heading cuts only on small branches just above a bud.
3. Make all cuts outside the branch collar.
4. Select branches to remove for the following reasons in this order:
   - Dead, diseased, or damaged (include stubs from previous poor pruning jobs)
   - Rubbing, interfering, poorly placed branches and narrow "V" crotches (codominant leaders)
   - Shaping the tree to the desired form
5. Select the main scaffold branches when the plant is young. This will avoid many problems later.
6. Do not use heading (stub) cuts on limbs more than 2 years old.

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Ray Maleike, Ph.D., Washington State University Cooperative Extension horticulturist, WSU Puyallup. All photographs are by the author, except Fig. 16, courtesy Roy Van Denburgh, Ph.D., WSU Cooperative Extension area agent, Yakima. Designed by Gerald Steffen.

College of Agriculture and Home Economics

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