

The purpose of this chapter is to promote site planning which furthers the preservation of mature trees and natural areas, to protect trees during construction, to facilitate site design and construction which contribute to the long term viability of existing trees and to control the removal of trees when necessary. It is the further purpose of this chapter to achieve the following broader objectives:

- 1) Prohibit the indiscriminate clearing of property
- 2) Protect and increase the value of residential and commercial properties within the city
- 3) Maintain and enhance a positive image for the attraction of new business enterprises to the city
- 4) Protect healthy quality trees and promote the natural ecological environmental and aesthetic qualities of the city per our Vision Statement.

Definitions

- Protected Tree – Hardwood Trees with a DBH of 10” if deemed a fast growing tree of 5” if deemed a slow growing tree. See appendix A
- Critical Root Zone (CRZ) is **the distance from the trunk that equals one foot for every inch of the tree's diameter**. For example: if the tree has a trunk 12 inches in diameter, the CRZ is a 12 foot radius around the tree. At bare minimum, it's optimal to stay outside the drip line (tree canopy).

Permits

No person, directly or indirectly, shall cut down, destroy, remove or move or effectively destroy through damaging any healthy “Protected” tree situated on property regulated by this chapter without first obtaining a tree removal permit unless otherwise specificized in this chapter.

Authority for Review

The building official shall be responsible for the review and approval of all requests for tree removal permits submitted in accordance with the requirements specified herein.

- (A) Deferrals. The building official may defer the approval of a tree removal permit to the Planning & Zoning Commission for any reason.
- (B) Appeals. Any decision made by the Building Official may be appealed to the Planning & Zoning Commission. All decisions made by the Planning & Zoning Commission shall be final.

Submittal Requirement

The Building Official shall establish administrative procedures necessary to facilitate the implementation and enforcement of this chapter.

- A) Tree removal permit. A request for a tree removal permit must be submitted and approved prior to the removal of any Protected tree in the city unless the tree is exempt under a provision of this chapter.

- B) All tree removal permits shall be accompanied by a payment made to the city in the amount specified by City Council.
- C) Required documents. Either a transparency or tree survey shall be required as determined by the Building Official and must include items referenced in this chapter and its appendices.
- D) Permit Expiration. Permits for tree removal issued in connection with a building permit or site plan shall be valid for the period of that building's permit or site plan's validity. Permit(s) for tree removal not issued in connection with a building permit or a site plan shall become void 180 days after the issue date on the permit.

Action on Permit Application

The Building Official or Planning & Zoning Commission shall grant a tree removal permit based on the following criteria:

- a) Whether or not a reasonable accommodation or alternative solution can be made to accomplish the desired activity without the removal of the tree.
- b) The cost of preserving the tree
- c) Whether the tree is worthy of preservation depending on the individual characteristic of the tree
- d) The effect of the removal of erosion, soil moisture, retention, flow of surface waters and drainage systems.
- e) The need for buffering of residential area from the noise, flare and visual effects of nonresidential uses.
- f) Whether the tree interferes with a utility service
- g) Whether the proposed tree replacement pursuant to the tree requirements hereof adequately mitigates the removal of the tree
- h) Whether the removal affects the public health, safety or welfare.

Regulations:

Clear Cutting

The clear cutting of land as defined in this chapter is permitted as long as no Protected Trees are damaged during the clear cutting.

Selective Thinning

Removal of selected trees from within a densely forested area when done in a professionally accepted manner shall be allowed as a single permit upon approval by the Building Official. It is recommended to have an arborist or Texas Forest Service recommendation when seeking permitting for Selective Thinning to ensure that the manner this is conducted will enhance the environment and the likelihood of survival of the remaining trees.

Ground Level Cuts

Where protected tree removal is allowed through exemption or by tree removal permit and the root system is intertwined with protected trees which are intended to be saved, the tree shall be removed by flush cutting with the natural level of the surrounding group. Where stump

removal is desired, stump grinding shall be allowed. When recommended by an arborist of the Texas Forest Service, a trench may be cut between trees sufficient to cut the roots near the tree to be removed, thereby allowing removal of the remaining stump with out destruction of the root system of the saved trees.

New Developments

All developments which have not submitted final construction plans as of the effective date of this chapter shall be subject to the requirements for tree protection and replacement specified as follows:

- 1) Residential Developments. All areas within street right-of-ways, utility or drainage easements as shown on an approved final plat and areas designated as cut/fill on the master construction plan shall follow the protected tree plans as reasonably possible. Meaning plans should be designed to allow for Protected trees to remain on site. A developer may request a permit to allow for the removal of Protected Trees prior to final approval of the plat. Additionally Protected trees within potential building pads may be removed from permit requirements if identified during the plat review process and placement of the building pads cannot prevent the Protected tree from being saved.
- 2) Non-residential development. All areas within street right-of-ways, utility or drainage easements as shown on an approved final plat and areas designated as cut/fill on the master construction plan shall follow the protected tree plans as reasonably possible. Meaning plans should be designed to allow for Protected trees to remain on site. A developer may request a permit to allow for the removal of Protected Trees prior to final approval of the plat. Additionally Protected trees within potential building pads, fire lanes, and parking areas may be removed from permit requirements if identified during the plat review process and placement of the building pads cannot prevent the Protected tree from being saved.
- 3) Gas well drilling and production facilities/natural gas pipelines shall not be exempt from the tree protection and replacement requirements

Private Property

- a) Homestead – the owner of property which is used for an individual residence or homestead shall be permitted to remove one Protected tree per calendar year without obtaining a permit.
- b) Agricultural Property – the owner of property being used for agricultural purposes shall be permitted to remove up to seven Protected trees per calendar year without obtaining a permit. Protected trees removed in excess of seven will require permits. It is not the intent of this chapter to prohibit the clearing of land for legitimate, agricultural use.

Exceptions

A tree removal permit and tree protection and replacement requirements shall not be required under any of the follow circumstances. Burden of proof as a qualified exemption is upon the remover of the tree.

- A) Preexisting Conditions: All construction activities for which final construction plans and building permit applications have been submitted prior to the effective date of this ordinance shall be exempt.
- B) Diseased Trees: The tree is diseased, damaged beyond the point of recovery or in danger of falling as determined by the Building Official prior to the removal of the tree. The removal of a diseased tree by the city or an individual is required to reduce the changed of spreading the disease to adjacent healthy trees.
- C) Public Safety: The tree endangers the public health, welfare, or safety and immediate removal is required
- D) Utility Service Interruption: The tree has disrupted a public utility service due to weather or act of God. Removal shall be limited to the portion of the tree reasonable necessary to reestablish and maintain reliable utility service.
- E) Landscape nursery. All licensed plant or tree nurseries shall be exempt from the requirements of this chapter as they pertain to those trees planted and growing on the premises of the licensee that are for sale or intended to sale to the general public in the ordinary course of the licensee's business.

Tree Replacement Requirements

- a) In the event that it is necessary to remove a protected tree, the party removing the tree (Other than franchise utility companies) shall be required to replace the protected trees being removed with quality trees of the same nature, that has the ability to grow to the same canopy as the removed trees within a reasonable time frame. This mitigative measure is not meant to supplant good site planning. Tree replacement will be considered only after all design alternative which could save more existing trees have been evaluated and reasonable rejected. Said replacement trees shall be a minimum of three-and-a-half inch diameter (measured at one foot above ground and seven feet in height when planted. Cedar, Juniper, and Fruitless Mulberry, Mimosa, and Hackberry trees are not acceptable replacement trees.
- b) Replacement procedures: The replacement trees shall be located on the subject site whenever possible. However, if not possible, the agent responsible for replacement, the time of replacement, and the location of the new trees will be determined by the Building Official in conjunction with the Public Works Director. The replacement site should be on public or city owned property. A suitable site cannot be determined by staff then City Council in conjunction with private citizens may determine an alternative replacement location. Franchise utility companies shall be exempt from this requirement. Replacement Trees must be planted within 6 months of the removal of the protected tree and must be covered by a one-year warranty that is acceptable to the building official.
- c) If a suitable replacement location cannot be found, upon approval of the Building Official, a payment may be made into a Tree Reforestation Fund in lieu of planting a replacement tree on the subject site. The funds shall be used for: purchasing and planting trees on public property, acquiring wooded property which shall remain in a naturalistic state in perpetuity, and any herein and other activities in support of tree

planting, preservations and maintenance, and the general purpose and intent of this chapter. The amount of the payment requirement for each replacement tree shall be calculated based on the average cost of a quality tree that is approved as a replacement tree and the average cost of planting a tree at the time of the tree removal.

TREE PROTECTION

A major purpose of this chapter is to protect ALL protected trees which are not required to be removed to allow approved construction to occur. The following procedures are required:

- A. Construction Plan Requirements: All plans shall include the requirements noted in Appendix ____
- B. The following activities shall be prohibited within the limits of the critical root zone of any protected tree subject to the requirements of this chapter.
 - a. Material Storage – No materials intended for use in construction or waste materials accumulated due to excavation or demolition shall be placed within the limits of the critical root zone of a protected tree. However, this restriction shall not apply to materials stored in areas exempt from the tree protection and replacement requirements (For example, building pad, driveway, patio, parking lot, and the like.)
 - b. Equipment cleaning/liquid disposal. No equipment shall be cleaned, or other liquids deposited or allowed to flow overland within the limits of the critical root zone of a protected tree. This includes, without limitation, paint, oil solvents, asphalt, concrete, mortar, or similar materials.
 - c. Tree Attachments. No signs, wires, or other attachments, other than those of a protective nature shall be attached to any protected tree.
 - d. Vehicular traffic. No vehicular and/or construction equipment traffic or parking shall take place within the limits of the critical root zone of any protected tree other than on an existing street pavement. This restriction does not apply to single incident access within the CRZ for purposes of clearing underbrush, establishing the building pad and associated lot grading, vehicular traffic necessary for routine utility maintenance or emergency restoration of utility service or routine mowing operations.
 - e. Grade Changes. No grade changes shall be allowed within the limits of the critical root zone of any protected tree unless adequate constructions methods are approved by the Building Official or if grading is as directed by the city, county, or state official.
 - f. Impervious paving. No paving with asphalt, concrete or other impervious materials in a manner which may reasonably be expected to kill a tree shall be placed with in the limits of the CRZ except as otherwise allowed in this chapter.
 - g. Preserved tree. A protected tree shall be considered to be preserved only if a minimum of 75% of the CRZ is maintained at undisturbed natural grade and no more than 25% of the canopy is removed due to building encroachment.

- h. Prior to construction. The following procedures shall be followed on all types of construction projects (including but not limited to residential subdivisions, commercial, multi family, industrial developments, residential builders, and municipal/public).
 - i. Tree flagging or marking. Protected Trees shall be flagged with bright fluorescent orange vinyl tape wrapped around the main trunk or at a height to four feet or more such that it is very visible to workers operating construction equipment. Trees that are not flagged do not need to be protected.
 - ii. Protective fencing. In those situations, where a protected tree is so close to the construction area that constructive equipment might infringe on the root system or is within 20 feet of the construction activity area. Four feet high protective fencing shall be supported at a maximum of ten feet intervals by approved methods. All fencing shall be in place prior to the commencement of any site work and remain in place until all exterior work has been completed.

C. Permanent construction methods.

- a. Boring. Where it is not possible to trench around the CRZ of a protected tree, boring of utilities under the protected tree shall be required. The length of the bore shall at least be the width of the CRZ and depth of the bore shall at least be 24 inches.
- b. Grade Change. In situations where grade change within the CRZ of the protected tree exceeds the limits noted in division ____ of this section, the procedures noted in the city standard detail sheet shall be required.
- c. Trenching. All trenching shall be designed to avoid trenching across the CRZ of any protected tree. Although this section is not intended to prohibit the placement of underground services such as electric, phone, gas, and the like, the placement of these utilities is encouraged to be located outside of the CRZ. Irrigation system trenching shall be placed outside of the CRZ with only the minimum required single head supply line allowed within that area placed radially to the tree trunk.
- d. Root pruning. All roots two inches or larger in diameter which are exposed as a result of trenching or other excavation shall be cut off square with a sharp medium tooth saw and covered with pruning compound within two hours of initial exposure.

TREE PRUNING RESTRICTIONS

- A. GENERAL. No protected tree should be pruned in a manner which significantly disfigures the tree without proper cause or in a manner which would reasonably lead to the death of the tree. All pruning shall be conducted in accordance with universally accepted arboricultural standards and the regulations contained in this chapter.
- B. Required Pruning. The owners of trees adjacent to public right-of-way shall be required to maintain a minimum clearance of 14 feet above the traveled pavement or curb of a public street. Said owners shall also 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 also have the right to prune trees overhanging within public right-of-way which interfere with the proper spread of light along the street from streetlight or interfere with visibility of any traffic control device or sign or as necessary to preserve the public safety. If the City does deem it necessary to prune trees growing on privately owned land, they may submit the costs of the pruning to the landowner.

- C. Tree Topping. It shall be unlawful as a normal practice for any person, firm or city department to top any protected 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 exempt from this chapter at the determination of the Building Official.

TREE PLANTING RESTRICTIONS

- A. Overhead lines. Any trees shall not be planted within an area such that the mature canopy of the tree will be within ten feet of overhead utility lines.
- B. Proximity to utilities. Any tree shall not be planted within five feet of electrical facilities (underground or surface), public utility lines, including water lines, sewer lines, transmission lines, or other utilities. No trees shall be planted within ten feet of a fire hydrant. Shrubs will be permitted outside of the minimum clearance of surface electrical facilities established by the franchise electrical company.
- C. Street Corners. No street tree shall be planted closer than 25 feet of any street corner, measured from the point of nearest intersecting curbs or curb lines.

ADMINISTRATION AND ENFORCEMENT

- A. Building Permit
 - a. No building permit shall be issued unless the applicant signs and an application or permit request which states that all construction activities shall meet the requirements of this chapter. The building official shall make available to the applicant a copy of this chapter.
- B. Acceptance of Improvements
 - a. No acceptance of public improvements shall be authorized until all replacement trees have been planted or appropriate payments have been made to the Tree Reforestation Fund.
- C. Certificate of Occupancy
 - a. No certificate of occupancy shall be issued until all replacement trees have been planted or appropriate payments have been made to the Tree Reforestation Fund.
- D. Violations
 - a. It shall be deemed a violation of this chapter for any person or firm to remove, damage, or destroy a protected tree without prior approval from the city, county or state as allowed in this chapter.
- E. Penalty
 - a. Any person, firm, corporation, agent or employee thereof who violates the provision of _____ shall be guilty of _____ and upon conviction hereof

shall be fined not to exceed _____ per diameter inch of the tree(s) removed or damaged, not to exceed the calculated amount of the tree replacement as defined in this chapter.

Appendix A:

Protected Trees:

Central Texas are the live oak, cedar elm, Spanish oak, Texas ash and the black cherry.

LIVE OAK

Live oaks, also known as *Quercus virginiana*,

The escarpment live oak is best suited for shallow soil, as it is more drought tolerant, and prunes only during the hottest and coldest months. Under the right conditions, these trees can live for more than 100 years, with some local trees surviving up to 500.

CEDAR ELM

Cedar elms, which have the scientific name of *Ulmus crassifolia*, the cedar elm is recognized for its smaller leaves and thicker cuticles, which help these plants survive in hot, dry climates. Similar to live oak trees, this species can live up to 100 years or more under ideal conditions. The cedar elm can reach anywhere from 50 to 90 feet high when mature and can tolerate poor drainage, compacted soil and urban air pollution.

SOUTHERN RED (SPANISH) OAKS

The *Quercus falcata* and *Quercus buckleyi* southern red varieties are typically found on rocky ridges and slopes and in areas where the trees have shaded root zones. This species, which is considered medium to large in size, can also be found in greenbelts. Because of this tree's inability to retain large amounts of water, planting them where few other plants or trees will grow is ideal.

TEXAS ASH

The Texas ash (also known as the mountain ash or by its scientific name, *Fraxinus albicans*) has a relatively short life, typically lasting between 15 and 20 years, and sometimes less. The Texas ash is also considered a small tree, growing to a height of between 35 and 40 feet.

BLACK CHERRY

The *Prunus serotina* grows relatively fast. This upright native Texas tree prefers well-drained limestone and does better in moist areas where the alkaline in the soil is more moderate. Under ideal conditions, this tree typically doesn't grow taller than 50 feet or wider than 35 feet, making it ideal to include in yards.

MEXICAN WHITE OAK

Also known as the netleaf white oak or Monterrey oak, the *Quercus polymorpha* can grow as wide as 60 feet and as high as 80 feet. This species is resistant to oak wilt, in addition to other diseases and pests that typically affect other oaks; it is classified as a hardy evergreen oak tree.

SHUMARD OAK

Quercus shumardii grows to be between 50 and 90 feet tall with bark that is thick, smooth, and grayish. These oaks can grow in a variety of soil types, including sandy, clay, limestone-based or caliche, but prefers deeper soils. A Shumard oak is a relatively fast-growing, adaptable tree that is relatively drought-resistant and can tolerate short-term flooding.

TEXAS ASH

Not only is the Texas ash a native species, but also it can quickly grow to provide your yard with some nice shade. This medium sized tree prefers salty soil that is loamy and well-drained. The Texas ash can tolerate dry soils as well. Water needs are moderate, and this species has a long life

AMERICAN SYCAMORE

This wide-canopied, deciduous tree with the scientific name *Plantus occidentalis* grows to be 75 to 100 feet tall and has an open crown and a large trunk. The sycamore trunk's diameter grows larger than any other native hardwood. Though this species can tolerate moist, sandy loams or silty clays, moist soils are preferred for optimal growth.

AMERICAN ELM

This well-known species, also known as the common elm and soft elm, typically grows between 60 and 80 feet high. The vase-shaped trunk of the *Ulmus americana* divides into several erect limbs that are recognizable on front lawns and streets. The American elm prefers full sun well-drained soils and can tolerate high heat.

ANACUA

The Anacua tree, also known as the anaqua tree, the knockaway tree, the sandpaper tree and *Ehretia anacua*, grows well along streams and sandy deposits, but has also been known to thrive in alkaline soils. These trees grow to be between 30 and 50 feet tall with trunks up to two feet in diameter. A very low maintenance tree, the anacua doesn't require much watering and can tolerate lots of sun.

YAUPON

Llex vomitoria prefer some shade and can do well in poor drainage areas, as well as having a high drought tolerance. These trees are usually taller than 10 feet, but they normally don't grow more than 25 feet.

REDBUD

the Texas redbud tree (*Cercis canadensis* var. *texensis*) can withstand drought and dry temperatures and is easily adaptable to varying soil conditions. Redbuds can grow up to 20 feet tall.

MEXICAN BUCKEYE

Ungnadia speciosa—usually grow to be 8 to 12 feet tall. In some cases, however, these trees can reach heights of up to 30 feet. These trees don't require much watering and are tolerant of cold weather as well.

DESERT WILLOW

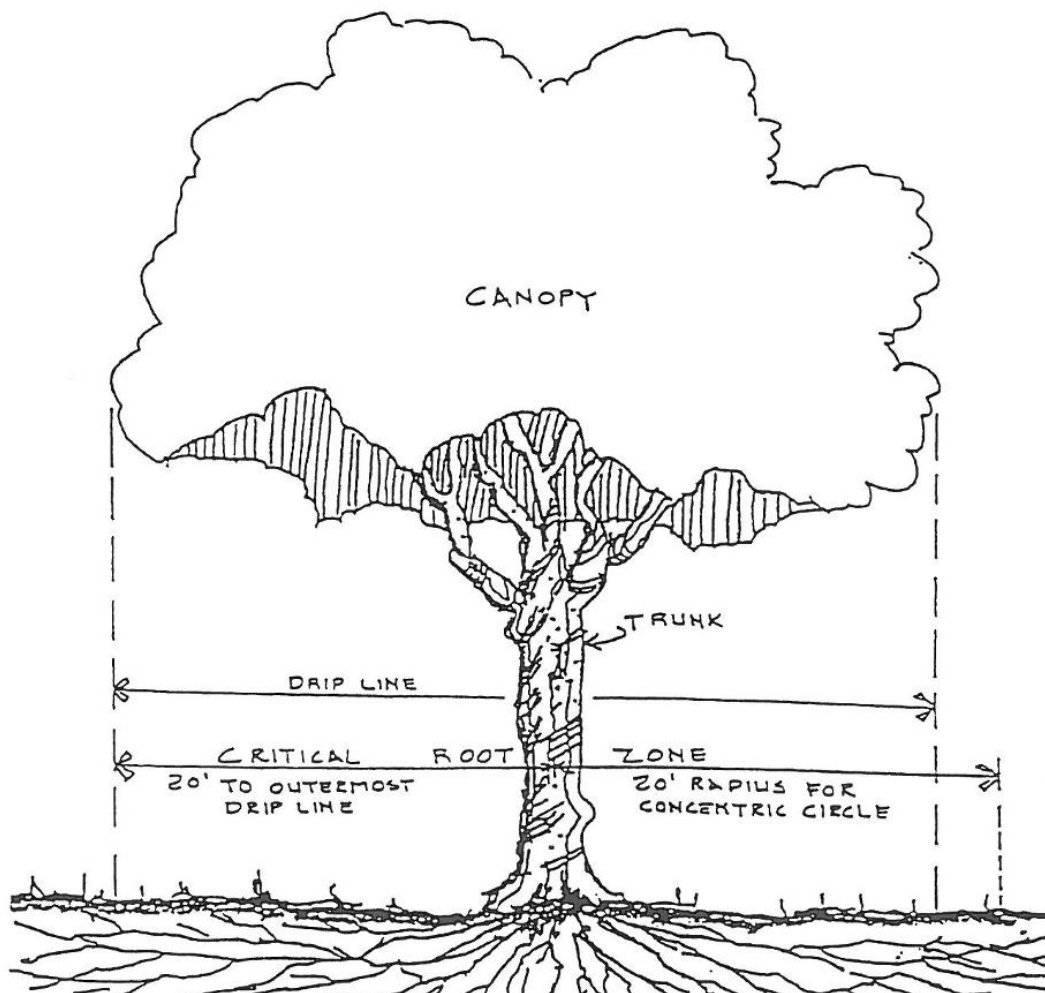
Chilopsis linearis can survive in dry soil conditions and withstand the full Texas sun and heat.

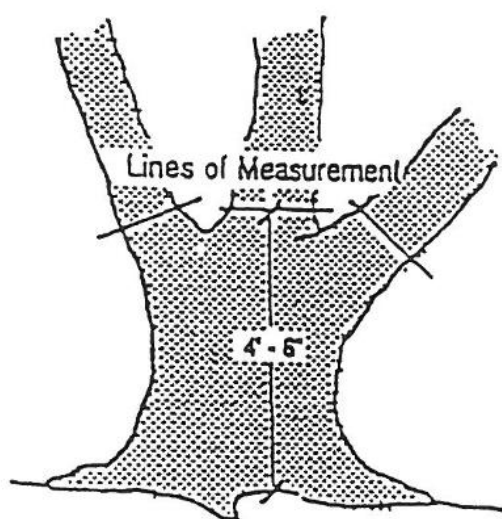
ANACACHO ORCHID

Bauhinia lunarioides, grows to be anywhere between 6 to 12 feet tall.

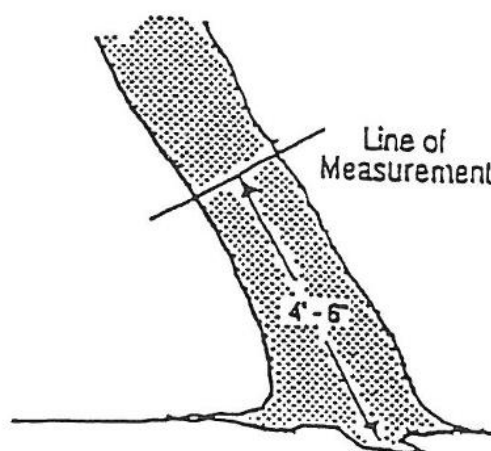
MAGNOLIA

Magnolia grandiflora can grow up to 70 feet tall.

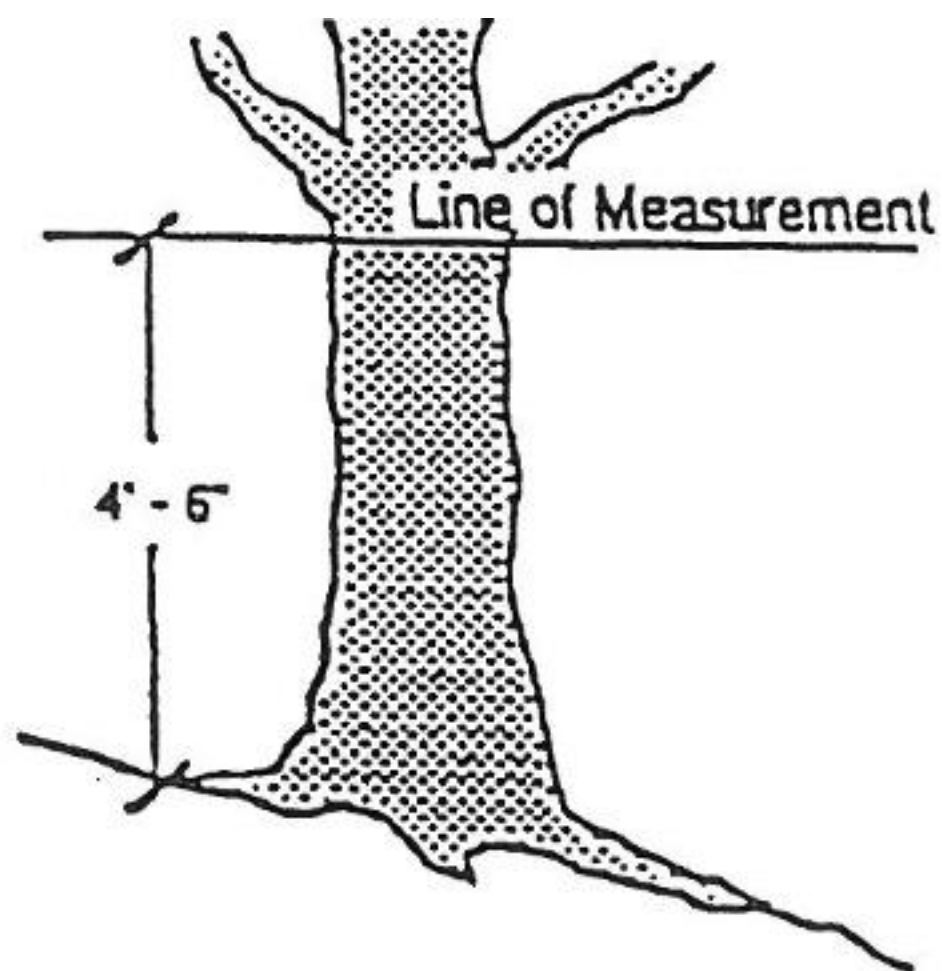




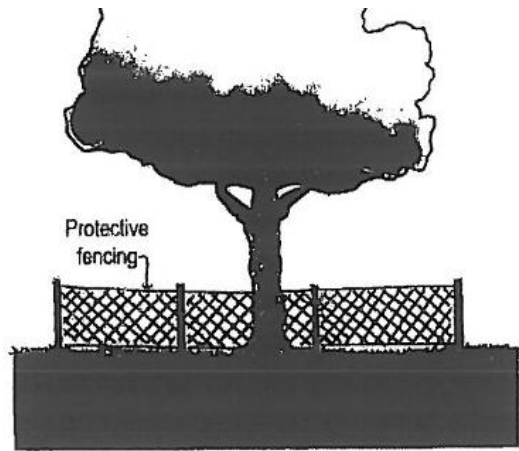
MULTI-TRUNK TREE



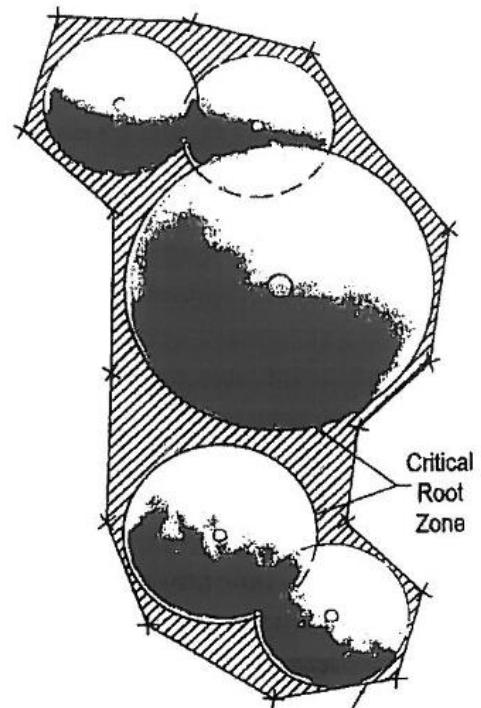
LEANING TREE

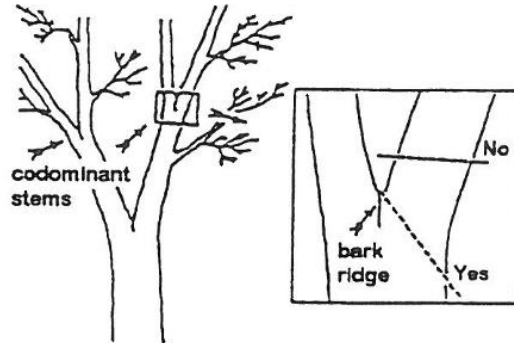


ON A SLOPE

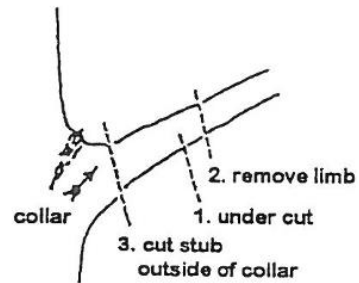


Protection Detail for a single tree



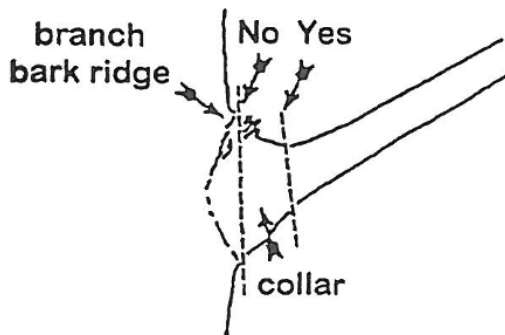


Trees may have codominant stems, as shown on the left. If a codominant stem must be removed, cut at an angle outside of the bark ridge as shown in the insert at right. Avoid leaving any stub.

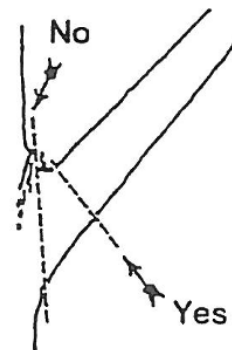


When removing heavy limbs, first make an undercut several inches outside of the collar. Then remove limb by a second cut an inch or so outside of the first cut. Remove stub with a third cut just outside of the collar. (Feucht, 1985)

TREE PRUNING RECOMMENDATIONS



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



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