

CITY OF  
ABILENE, KANSAS

CITY FORESTRY  
STANDARDS AND SPECIFICATIONS

Approved by the City Tree Board of the city of Abilene, Kansas,  
on the 10<sup>th</sup> day of January, 1996.

Adopted by the City Commission of the city of Abilene, Kansas,  
on the 29<sup>th</sup> day of April, 1996.

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## I. GENERAL SPECIFICATIONS

1. These urban forestry specifications are to serve as a standard for planting and maintenance of all public trees. They do not apply to trees planted or to be planted on privately owned property. They will apply whether work is performed contractually, by City forces or by private individuals. Exceptions to City Forestry Standards and Specifications must be by written approval of the City Commission.
2. All hired personnel utilized for work on or with trees or shrubs shall be trained to perform the work properly and safely.
3. A qualified supervisor shall be present at all times when work is being performed by a commercial arborist registered by the City except that he/she may be absent for short periods during the day when necessary because of emergencies or other urgent matters.
4. Any injury to persons or damages to any improvement, vehicle, tree, shrub or structure while working with trees or shrubs shall be promptly reported to the City Inspector.
5. Any use of tools or equipment in an unsafe condition or any application of techniques or methods deemed unsafe to

## GENERAL SPECIFICATIONS

life, limb or property is forbidden.

6. Pedestrian and vehicular traffic shall be allowed to pass through the work areas only under conditions of safety and with as little inconvenience and delay as possible.
7. Adequate barricades and warning devices shall be placed and flagmen shall be stationed as necessary for the safety of persons and vehicles.
8. Qualified street and sidewalk warning devices shall be in position as required at all times while work on public trees or shrubs is being performed.
9. Whenever electric or telephone lines, gas lines, water lines or other improvements, public or private, upon a public area will be implicated or jeopardized by any authorized tree or shrub activity, the proper authorities of the utilities involved or property owner involved shall be consulted prior to performing any work activity and all requested precautions by any such authority shall be complied with.

## II. PLANTING AND MAINTENANCE STANDARDS

### A. DEFINITIONS

1. Street Trees: "Street Trees" are herein defined as trees on public right-of-way between the curb and property line along the side of streets or in medians of all streets, avenues, or ways within the City.
2. Park Trees: "Park Trees" are herein defined as trees in public parks, cemeteries, and all other areas owned by the City, or any area to which the public has free access as a park.
3. Public Trees: "Public Trees" are herein defined as Street Trees and Park Trees.

### B. AREAS OF RESPONSIBILITY

1. Street Trees: Street trees are the responsibility of the owners of the abutting property for planting and management, except that in connection with certain street improvement projects the City may by Ordinance assume responsibility for the planting and management of street trees.
2. Park Trees: Park trees are the responsibility of the Parks and Recreation Department for planting and management. This includes trees in parks, cemeteries, and all other areas owned by the City.

## PLANTING AND MAINTENANCE STANDARDS

### C. MAINTENANCE STANDARDS

1. Public trees shall be maintained in such a manner as not to endanger, interfere, or otherwise conflict with requirements of safe public use of an area.
2. Any public tree which because of habit of growth, age, condition or disease becomes a hazard to public safety or obstructs a clear view of streets, signs, signals or intersection, thus creating a hazard, shall be maintained to correct the problem. Hanging limb and branch growth shall be maintained 14 feet above streets and eight (8) feet above sidewalks.
3. Every owner of any tree or shrub overhanging any street or right-of-way within the City shall prune the branches so that such branches shall not interfere with the safe use of the street or sidewalk or obstruct the view of any street intersection. The City shall have the right to prune any tree or shrub on private property when it interferes with the safe use of the street or sidewalk or when it interferes with the visibility of any traffic control device or sign.
4. Any tree which, because of an epidemic disease or

## PLANTING AND MAINTENANCE STANDARDS

insect infestation, poses a threat to other trees or plants in the community shall be treated so as to control the spread of the problem organism. This may include the removal of any infested tree, alive or dead, which acts as a vector harborage for the spread of a mortal tree disease. This includes elm trees which are infected with Dutch Elm Disease or infected with Elm Bark Beetles.

### D. PLANTING STANDARDS

1. Public projects, i.e. parks, streets, medians, substations, treatment plants, plazas, and public buildings, shall provide for street and park tree planting as a part of the development process. The landscape plan for such projects shall be approved by the Tree Board and adhere to these standards and specifications.
2. Public tree planting can be by the balled and burlapped, tree spade, or container method. Bare root plantings are not permitted without written permission of the City Inspector.
3. The following are the minimum sizes for plant material for street trees. Larger sizes may be

## PLANTING AND MAINTENANCE STANDARDS

required to ensure survival or provide a landscape effect.

- a. Shade trees - 6 feet in height
  - b. Ornamental trees - 4 feet in height
4. The lists on page 13 constitutes the official street tree species for Abilene, Kansas. No species other than those included in this list may be planted as street trees without written permission of the Tree Board.

### E. STREET TREE SPACING AND LOCATION REQUIREMENTS (see pages 14 and 15)

1. At the intersection of roadways or vehicular access points, no plant material with a mature height greater than 30 inches shall be planted within the sight triangle measuring 45 feet along the boundary of each of the intersecting roadways, measured from the point of intersecting curblines, except where engineering standards indicate otherwise.
2. No tree planting is permitted where the distance between a curb and a detached sidewalk is less than 6 feet except in City parking lots. In addition, a planting area defined by two curbs, curb and fence,

## PLANTING AND MAINTENANCE STANDARDS

or sidewalk and fence must be 4 feet wide if street trees are to be planted, except in City owned parking lots.

3. Where the sidewalk is attached to the curb as a continuous element, the street tree planting must be not less than 3 feet nor more than 7 feet in back of the walk. The tree must be located on the public right-of-way.
4. No street tree planting is to be made closer to the street than 36 inches back from the back of the curb and no closer than 36 inches from the sidewalk.
5. Larger maturing trees should be spaced 35 feet apart and smaller maturing trees 25 feet apart. The City Inspector may require wider spacings if it is necessary for development of the tree or for safe use of the street or sidewalk.
6. No tree shall be planted closer than 5 feet from any driveway or alley nor shall a tree or shrub be planted in such a manner that its eventual growth cannot be reasonably controlled so as to avert interference with or obstruction to any improvements installed for public benefit.

## PLANTING AND MAINTENANCE STANDARDS

7. Tree plantings made in a sidewalk must have a minimum of 16 square feet cutout area. The tree must be set back from the street a minimum of 36 inches from the back of the curb.
8. No tree planting is to be made closer than 5 feet from any building or structure.

### F. TREE REMOVAL CRITERIA

It is the objective of the city of Abilene to provide a tree planting program on City property that insures the future existence of the City's tree resource by the planting of as many or more trees than must be removed due to infection, death, hazardous condition, nuisance or construction occurring in the area. In addition a set of tree removal criteria is used to prevent indiscriminate removal. City trees may be removed only when one or more of the following criteria is met:

1. The tree is infected with an epidemic insect or disease where the recommended control is not possible and removal is the recommended practice to prevent transmission.
2. The tree poses an extreme public nuisance because of its species, size, location or condition. The

## PLANTING AND MAINTENANCE STANDARDS

nuisance could be caused by fruit or seed drop, harboring of insects or excessive twig or limb breakage.

3. The tree poses a severe safety hazard that cannot be corrected by pruning, transplanting or other treatments.
4. The tree severely interferes with the growth and development of a more desirable tree.
5. The aesthetic values of the tree are so low or negative that the site is visually enhanced by the tree's removal.
6. Work improvements required to be made around the tree will kill or render it a hazard.
7. Preservation of the tree, when adjacent property is developed is not cost effective. The monetary value of the tree shall be compared to construction costs necessary to preserve the tree.

### G. REGULATIONS PERTAINING TO HEDGES AND SHRUBS

1. Before planting any shrub or hedge on the public right-of-way, the property owner must first obtain a free permit to do so from the City Inspector.

## PLANTING AND MAINTENANCE STANDARDS

2. At the intersection of roadways within a sight triangle measuring 45 feet along the boundary of each intersecting roadway, no solid hedge greater than 30 inches in height is permitted and individual shrubs shall not exceed 30 inches in height. Pruning to maintain a height not to exceed 30 inches is mandatory upon the property owner.
3. No hedge planting is permitted in the parkway between the sidewalk and the curb. (Shade trees of acceptable species may be planted in this area.)
4. Where the combination sidewalk-curb and gutter have been installed, hedges may be planted no closer than 5 feet from such sidewalk.
5. Where curb and gutter have been installed but no sidewalk exists, no hedge shall be planted closer than 9 feet from such curb.
6. No hedge shall be planted closer than 5 feet from an existing or designated alley.
7. Rank growing or spreading species which ultimately grow out over designated pedestrian or vehicular rights-of-way and obstruct such passageways are not permitted.

PLANTING AND MAINTENANCE STANDARDS

H. OFFICIAL STREET TREE SPECIES

Trees of mature height more than 40 feet

Ash  
Black Walnut  
Buckeye, Yellow and Ohio  
Gingko (male specimens only)  
Honeylocust, Thornless  
Horsechestnut  
Kentucky Coffeetree  
Linden, American and Littleleaf  
London Plane Tree  
Maple, Sugar, Red, and Norway  
Mulberry (fruitless)  
Oak, Bur, Chinkapin, Swamp White, Shingle, Sawtooth,  
White, Northern Red, and Shumard  
Osage-Orange (fruitless and thornless)

Trees of mature height less than 40 feet

Cherry, Canada Red and Japanese  
Crabapple, Flowering  
Goldenraintree  
Hawthorn, Winter King, Washington, and Thornless  
Cockspur  
Lilac, Japanese Tree  
Maple, Amur  
Pear, Callery (except Bradford)  
Redbud  
Western Soapberry

FIGURE 1

STREET TREE SPACING AND LOCATION REQUIREMENTS



The distance between a detached sidewalk and curb must be at least 6 feet if street trees are to be planted. No tree planting is to be made closer to the street than 36 inches back from the back of the curb.



Where the sidewalk is attached to the curb, the tree should be at least 3 feet in the back of the walk and no more than 7 feet from the walk.



Trees planted in sidewalks must have at least 16 square feet of cut out area and should not be planted closer than 5 feet from a building.

FIGURE 2

STREET TREE SPACING AND LOCATION REQUIREMENTS

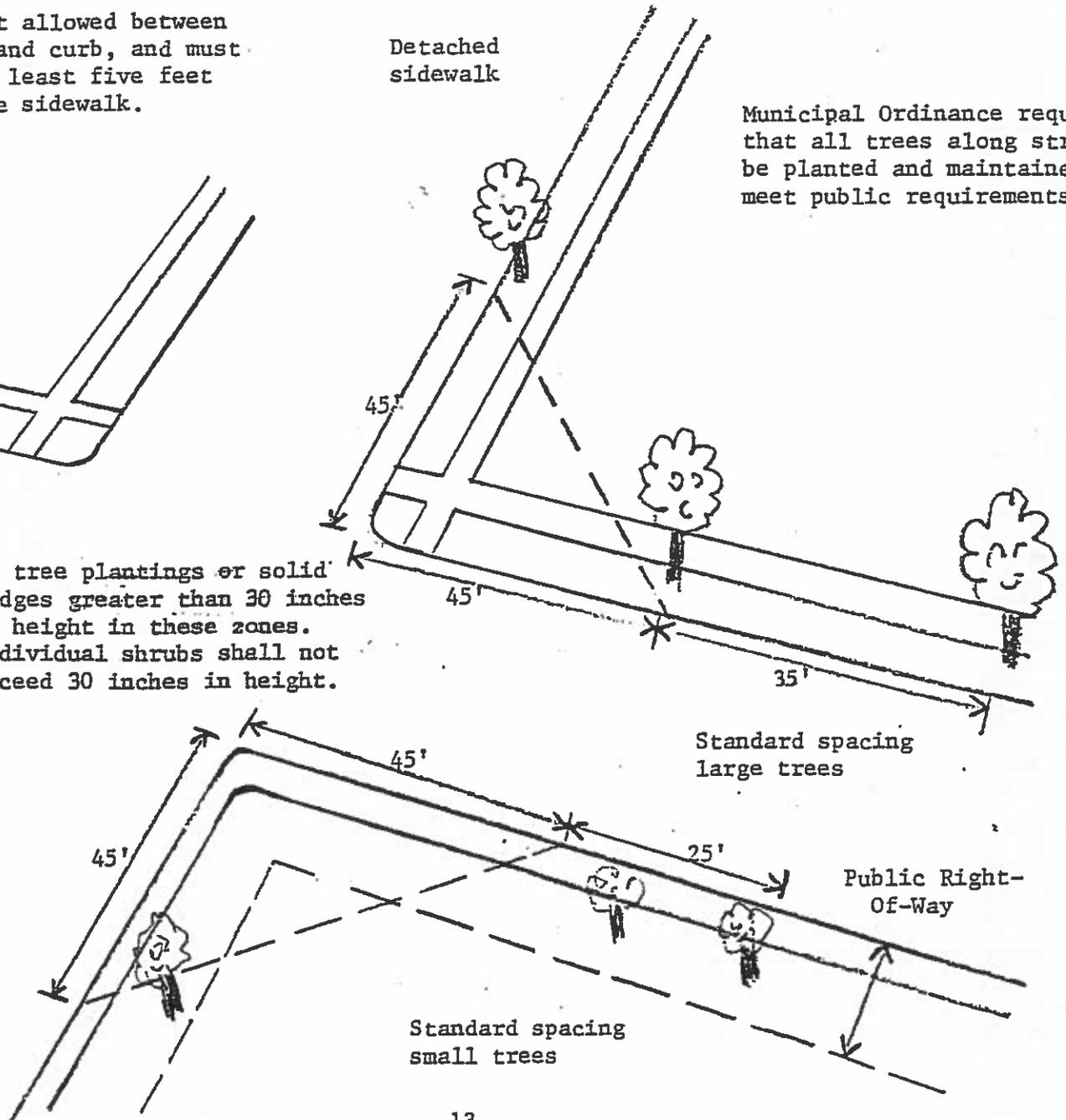
Almost all streets within the city have rights-of-way that extend back of the curb line. This area is public property and is generally used for utilities, walks and landscaping. The width of this right-of-way area varies considerably in different sections of town. A free written permit from the City Inspector is required prior to planting, trimming, removal or otherwise treating trees or shrubs upon public areas.

Hedges are not allowed between the sidewalk and curb, and must be planted at least five feet in back of the sidewalk.

Detached sidewalk

Municipal Ordinance requires that all trees along streets be planted and maintained to meet public requirements.

No tree plantings or solid hedges greater than 30 inches in height in these zones. Individual shrubs shall not exceed 30 inches in height.



Standard spacing large trees

Public Right-Of-Way

Standard spacing small trees

Attached sidewalk

### III. STREET TREE AND PARKWAY DESIGN

Design concepts and objectives discussed in this Chapter represent the standard of the City of Abilene and shall be adhered to in designing street tree plantings for both public and private projects.

#### A. PARKWAY DESIGN

The zone along the sides of streets where trees, landscaping and sidewalks can be located is referred to as the Parkway. Design of the Parkway (planting area) where trees can be located is just as important as the street tree design. Space where street trees can be planted must provide adequate space for growth and development. Parkways can be designed in four basic styles (see page 18).

1. Curbside Parkway: Located between a detached sidewalk and curb. At least 6 feet is required if trees are to be planted. Wider spaces are preferred and should be provided wherever possible.
2. Boundary Parkway: Located in back of a sidewalk between the property line and sidewalk. Street trees should be planted 3-7 feet in back of sidewalk.
3. Sidewalk Parkway: Located as part of the sidewalk where the walk extends from the curb to the building.

## STREET TREE AND PARKWAY DESIGN

The walk must be wide enough to allow the tree to be set back at least 36 inches from the face of the curb and 5 feet from the building.

4. Undefined Parkway: Located in areas that do not have a sidewalk. The location of trees should consider the future installation of a sidewalk. Street trees planted in undefined parkways should be located 4-5 feet in back of the curb.

FIGURE 3  
PARKWAY DESIGN



Curbside Parkway: Located between a detached sidewalk and curb.



Boundary Parkway: Located in back of the sidewalk between the property line and sidewalk.



Sidewalk Parkway: Located as part of the sidewalk where the walk extends from the curb to the building.



Undefined Parkway: Located in areas that do not have a sidewalk.

#### IV. PRUNING AND REMOVAL SPECIFICATIONS

##### A. SPECIFIC REQUIREMENTS PERTAINING TO THE PRUNING OF TREES

1. No tree shall be cut back in such a manner that its health or eventual safety will be impaired. An exception to this may occur in tree removal or emergency relief of an immediate danger to persons or property. Any such emergency procedures must be reported promptly to the City Inspector (or other authority) with plans for completion or follow-up work submitted for approval.
2. Authority to prune street trees does not include the cutting back of sound, healthy tree branches in excess of 6 inches in diameter (outside bark) unless specifically described and written into the permit form by the City Inspector (or other authority).
3. When tree pruning cuts are made to a side branch, such remaining branch must possess a basal thickness of at least 1/3 of the diameter of the wound so affected. Such cuts shall be considered proper only when such remaining branch is vigorous enough to maintain adequate foliage to produce woody growth capable of healing the cut within a reasonable period of time.
4. All final tree pruning cuts shall be made in such a

## PRUNING AND REMOVAL SPECIFICATIONS

manner as to favor the earliest possible covering of the wound by natural callus growth. Excessively deep flush cuts which produce large wounds or weaken the tree at the cut shall not be made. Tree pruning cuts should be made just outside the branch collar. (see page 30)

5. Tree branches shall be removed and controlled in such a manner as to not cause damage to other parts of the tree or to other plants or property.
6. All tools used on a tree known to contain an infectious tree disease shall be properly disinfected immediately after completing work in such a tree.
7. Maples, birches and walnut trees shall be pruned only when in leaf except where conditions hazardous to the public or property are involved.
8. All cutting tools and saws used in making tree pruning cuts shall be kept sharpened adequately to result in final cuts with an unabraded wood surface and secure bark remaining adjacent thereto.
9. Whenever pruning cuts are to be made while removing branches too large to hold securely in one hand during the cutting operation, the branches shall be cut

## PRUNING AND REMOVAL SPECIFICATIONS

off first one to two feet beyond the intended final cut. Then the final cut shall be made in a manner to prevent unnecessary tearing back of the bark and wood.  
(see page 30)

10. Any cutting of tree roots, other than when in the process of tree removal, shall give due consideration to the future welfare and safety of the tree. Proper action shall be taken to treat resulting root wounds to prevent entry of decay organisms. That action shall include the pruning of jagged cuts and tears in roots.

### B. STANDARDS OF WORKMANSHIP FOR PRUNING AND REMOVAL

1. Cleanup of branches, logs or any other debris resulting from any tree pruning or removing shall be promptly and properly accomplished. The work area shall be kept safe at all times until the cleanup operation is completed. Under no condition shall the accumulation of brush, branches, logs or other debris be allowed upon a public property in such a manner as to result in a public hazard.
2. The use of climbing spurs or spike shoes in the act of pruning trees is prohibited.

## PRUNING AND REMOVAL SPECIFICATIONS

3. Under no condition shall it be considered proper to leave any severed or partially cut branches in the upper portion of any tree being worked on after the tree workers leave the scene of the operation.
4. Whenever large tree sections are being cut in a treetop which may endanger the public or property, such materials shall be secured by ropes and lowered safely in a controlled manner.
5. Unless the tree work area is totally barricaded or otherwise kept safe while pruning or removing trees, at least one responsible tree worker shall serve to coordinate safe operations on the ground at all times when work operations are in progress.
6. All removal of public trees shall be done in a manner so that the remaining stumps will be at least 8 inches below ground level unless special exception is granted by the City Inspector.
7. Excavations resulting from tree or shrub removal must be promptly filled in to normal ground level with a clean earth fill properly compacted and free of debris.
8. Public trees or utility poles shall not be used as an

## PRUNING AND REMOVAL SPECIFICATIONS

anchor for winch trucks in the process of removing other trees.

9. When removing a tree, the act of cutting tree roots and then leaving the work scene with a standing tree having little or no support is prohibited.

### C. AUTHORIZED TYPES OF TREE PRUNING

#### 1. "Medium Prune:"

- a. Description of "Medium Pruning:" This operation of tree pruning shall consist of the total removal of those dead or living branches as may menace the future health, strength and attractiveness of the tree.
- b. Specifications for "Medium Prune:"
  - (1) Properly remove all dead and dying branches of 1/2 inch and over in diameter.
  - (2) Remove all broken branches or any loose branches lodged in the tree.
  - (3) Remove all dead and live stubs of previously broken or poorly cut branches.
  - (4) Remove any live branches which interfere with the tree's structural strength and healthful development, which will include

## PRUNING AND REMOVAL SPECIFICATIONS

the following:

- (a) Branches which rub and abrade a more important branch
- (b) Branches of weak structure which are not important to the framework of the tree
- (c) Branches which, if allowed to grow, would wedge apart the junction of more important branches
- (d) Branches with twigs and foliage obstructing the development of more important branches
- (e) Branches forming multiple leaders in a single leader type tree
- (f) Branches near the end of a limb which will produce more weight or offer more resistance to wind than the limb is likely to support
- (g) Undesirable sucker and sprout growths
- (h) Selective removal to one or more developing leaders where multiple branch growth exists near the end of broken or stubbed limbs

## PRUNING AND REMOVAL SPECIFICATIONS

- (i) Removal of branches which project too far outward beyond an otherwise symmetrical form
  - (j) Removal or severance of any exposed roots which serve to restrict or act in a girdling manner and prevent proper expansion and growth of other major roots, or restrict the base of the tree trunk
- c. All final cuts shall be made just outside the branch collar. Extremely deep cuts which produce excessively wide wounds or weaken the tree shall not be made.

### 2. "Minimum or Safety Prune:"

#### a. Description of "Minimum" or "Safety Prune:"

This operation of tree trimming shall consist of the minimum performance necessary to correct one or more extreme and undesirable conditions existing within a tree which may be hazardous to persons or property.

#### b. Specifications for "Minimum" or Safety Prune:"

- (1) Remove all dead and dying branches of 2

## PRUNING AND REMOVAL SPECIFICATIONS

inches or more in diameter

- (2) Remove all broken or loose branches 2 inches or more in diameter
- (3) Reduce the length of branches which extend extremely beyond the perimeter of an otherwise symmetrical form
- (4) Cut back ends of branches and reduce weight where excessive overburden appears likely to result in breakage of supporting limbs. Such cutting back shall not include the removal of any live, healthy branches in excess of 6 inches in diameter unless a specific consent is given by the City Inspector.

### 3. "Head Back Prune:"

- a. Description of "Head Back" Prune: This operation shall consist of reducing the height and/or spread of a tree by not more than 1/3 and shall only be applied to trees when such work is necessary to control extended growth which may endanger overhead utility lines or interfere with adjacent structures.

## PRUNING AND REMOVAL SPECIFICATIONS

### b. Specifications of "Head Back Prune:"

- (1) This form of pruning trees shall be done by means of a method called "drop crotching" which serves to shorten branch structure and thereby limit the extent of the foliage canopy to a natural appearing margin. This action consists of removing perimeter branches at their lower junction with shorter side branches.
- (2) No cuts on living branches shall be made in excess of 6 inches in diameter without first securing specific consent of the City Inspector (or his appointed authority)
- (3) Extended perimeter branches shall be properly cut at their junction with lower branches having a basal diameter of at least  $\frac{1}{3}$  of the diameter of the cut so affected.
- (4) The remaining lower branches so cut back to shall be retained intact to form a reduced foliage perimeter at a specific height and/or spread
- (5) This technique of tree pruning shall only be

## PRUNING AND REMOVAL SPECIFICATIONS

applied when larger growing trees endanger overhead utility lines or where excessive growth of trees interferes with adjacent structures or otherwise creates a specific hazard to persons or property

- (6) "Head Back" prune should not be attempted or used if the metabolism of a tree would be seriously unbalanced by the use of this technique or where the structure of the tree would be weakened by such action.

Irreparable trees shall be removed rather than be worked on with this mode of tree pruning.

### 4. "Spot Prune:"

- a. Description of "Spot Prune:" This operation of tree pruning shall consist of the removal of one or more branches localized in a particular area of the crown of a tree.

### b. Specifications for "Spot Prune:"

- (1) Trees shall be pruned in such a manner as to prevent branch and foliage interference with requirements of safe public passage. Over

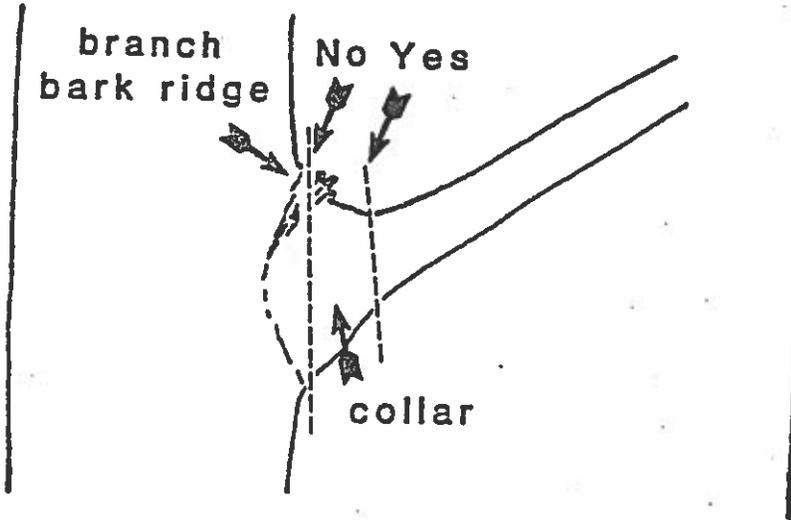
## PRUNING AND REMOVAL SPECIFICATIONS

street clearance shall be kept to a minimum of 14 feet above the paved surface of the street and 8 feet over the surface of the public sidewalk or pedestrian way.

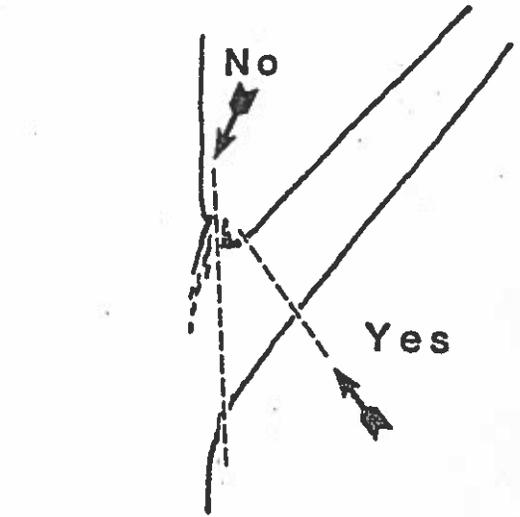
- (2) Sprout or sucker growth shall be removed to a minimum height of 8 feet above the ground level. Exceptions are allowed for young trees which would be irreparably damaged by such trimming action
- (3) Individual or scattered dead or broken limbs shall be properly removed without the necessity of performing other work not immediately urgent for protection of the public or property, or the health of the tree

FIGURE 4

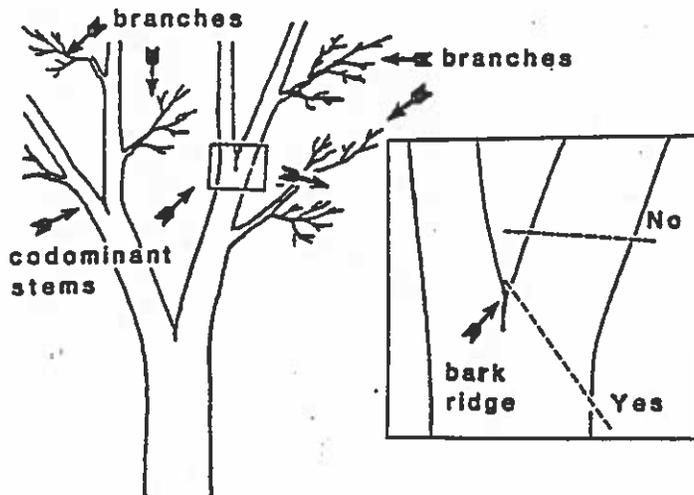
PRUNING DECIDUOUS TREES



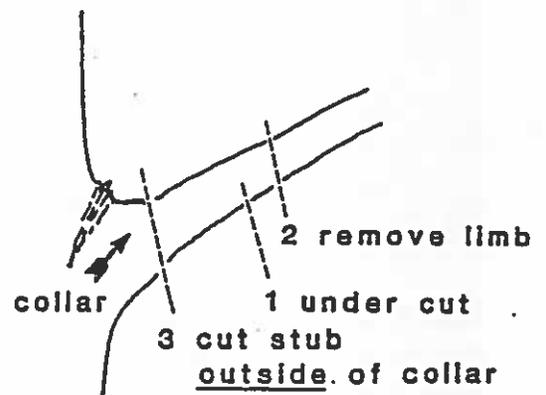
When removing a branch, always cut outside the branch bark ridge and collar. Do not make a flush cut.



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



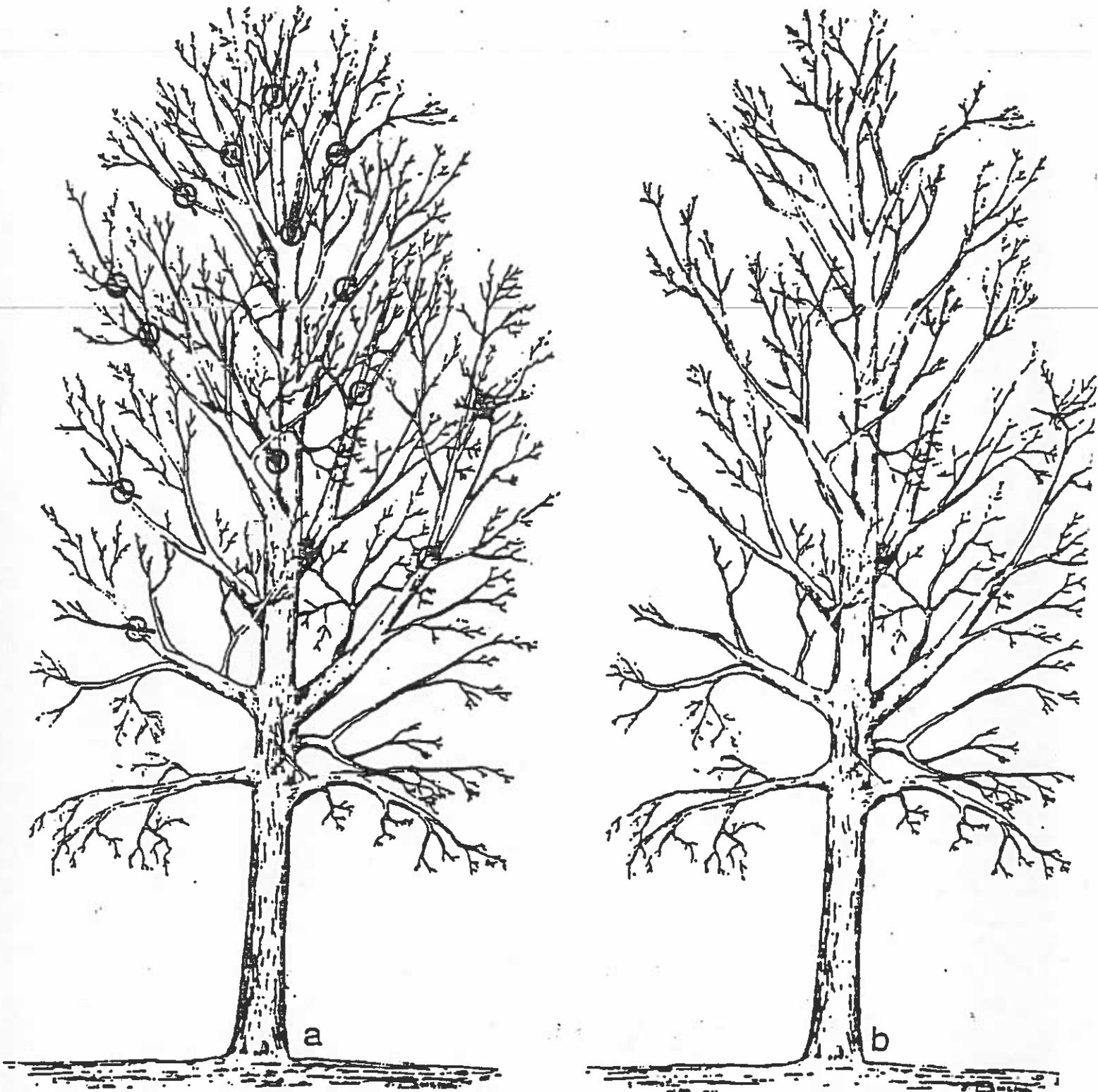
Trees have both branches and stems that look like branches called codominant stems, as shown on the left. If a codominant stem must be removed, cut at an angle outside of the bark ridge as shown in the insert at right. Avoid leaving any stub.



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)

FIGURE 5

DROP CROTCH PRUNING



Proper drop-crotching of a tree. a - Tree showing where cuts are to be made (circles). In each case a leader is allowed to remain. This prevents or reduces latent-bud growth, thus reducing unwanted suckers. b - Tree after drop-crotching. Note, tree is thinned and somewhat cut back but without the pruned or sheared look.

## V. PLANTING SPECIFICATIONS

### A. PLANT MATERIAL

1. Plant material shall conform to American Standard for Nursery stock. Plant material shall be of standard quality, true to name and type and first class representative of their species or variety.
2. Plants shall have normal, well developed branches and vigorous root systems. They shall be healthy, vigorous plants free from defects, decay, sunscald injuries, abrasions of the bark, insect pests and all forms of infestations or objectionable disfigurements.
3. Balled and burlapped plants shall be dug with solid balls of adequate size, the balls securely wrapped with burlap or canvas, tightly bound with rope or twine.
4. The minimum sizes of plants are specified on a planting permit or approved landscape plan. Variances must be authorized by the City Inspector.
5. The City Inspector may request to inspect any trees or shrubs before they are planted.

### B. PLANTING METHODS AND TECHNIQUES

1. No plant pits shall be dug or prepared until their location is approved by the City Inspector.

## PLANTING SPECIFICATIONS

2. Circular pits with sloping sides shall be excavated for all balled and burlapped and container plants. All pits should be 50% wider and at least the depth of the soil ball.
3. For all balled and burlapped, bare root and container plantings, the backfill should be 25% peat and 75% soil of a desirable structure, texture and ph for plant growth. The City Inspector will decide if the existing soil at each location is adequate to use in the backfill or if soil will have to be brought in. The backfill shall be added and lightly tamped around the ball or root system at 6 inch increments until the pit is 2/3 full. The remaining open space in the pit should be filled with water and allowed to soak into the soil. This watering process shall occur twice before final backfilling. The top layer of soil should then be thoroughly soaked with water.
4. For all plants moved with a tree spade, all holes and cavities between the ball and the surrounding soil shall be filled. The ball should be thoroughly soaked with water after planting.
5. All plants should be centered in the pit and set at

## PLANTING SPECIFICATIONS

- the depth they were when growing at the nursery.
6. All evergreen trees in excess of 6 feet in height and any tree loose in the ball or ground should be guyed securely. The method should be approved by the City Inspector. Trees with broken rootballs shall be rejected for planting.
  7. All underground electric or telephone lines, gas lines, water lines or any other improvements, public or private, shall be checked before planting is done. The presence of underground utilities within the planting area shall be determined prior to any excavation.
  8. All tree and shrub plantings should be mulched over the root system with 4 inches of wood chips or equivalent.
  9. An 8 inch watering dike will be constructed around all new tree and shrub planting when determined by the City Inspector to be necessary to insure adequate irrigation.
  10. When planting a tree that will be surrounded by a hard surface, there should be a minimum of 16 square feet of porous surface around the tree.

## PLANTING SPECIFICATIONS

### C. PLANTING STANDARDS OF WORKMANSHIP

1. Plant material shall be handled in a manner so as to cause the least amount of damage during the planting process.
2. Balled and burlapped and container plants shall always be handled by the soil ball. Under no circumstances should they be dragged, lifted or pulled by the trunk or foliage parts in a manner that will loosen the roots in the ball.
3. In cases where trees or shrubs are loose in a soil ball, the tree or shrub shall be rejected for planting. Container grown plants shall be checked for rootbound conditions. Rootbound plants shall be rejected for planting.
4. In transporting plants to the job site, they should be handled, secured or covered so as to prevent any damage from wind or vibration. Plants should never be thrown or bounced off a truck or loader to the ground.
5. Plant material shall be planted the day it is taken to the planting site or it should be watered or covered and placed in a shady area to prevent dehydration.

## PLANTING SPECIFICATIONS

6. In cases where trees are apt to have their trunks scarred during the planting operation, the trunks should be protected with wrap or padding.
7. Bare root plants shall, not be placed in public areas.
8. Trees and shrubs should not be dug, balled and burlapped or moved with a tree spade during the active growth period unless the ball is large enough to insure survival.
9. All twine or rope and plant labels secured around the trunk shall be removed after planting is completed.
10. Evergreen trees with an excessively bushy form of growth shall have the boughs tied up with rope or twine during transporting and planting to avoid damage to the foliage and branches. After planting, the boughs should be released.
11. Any abrasions of the bark or broken limbs or branches caused in the planting operation should be treated or corrected immediately.
12. Cleanup of any soil, branches or other debris resulting from any tree or shrub planting shall be promptly accomplished. The work area shall be kept safe at

## PLANTING SPECIFICATIONS

all times until the cleanup operation is completed. Under no condition shall the accumulation of soil, branches or other debris be allowed upon a public property in such a manner as to result in a public hazard.

13. Excavated plant pits that will be left open when work is not in progress or pose an immediate and considerable hazard to traffic shall be adequately barricaded with qualified warning devices.

## VI. PROTECTION AND PRESERVATION SPECIFICATIONS

The following specifications are intended to prevent unnecessary damage and destruction to public trees.

1. Authorization must be given by the City Inspector before any of the following is performed:
  - a. Attaches or installs any metal materials, signs, cables, wires or other things foreign to the natural structure of the tree.
  - b. Excavates over 12" deep into the root zone within the drip line of a tree.
  - c. Treats the soil within a 50 foot radius of the crown dripline zone with a soil sterilant.
2. All site or landscape plans involving public property should show all existing trees. Trees to be saved and removed should be indicated. Every possible effort should be made to preserve desirable trees.
3. Existing trees to be saved should be marked with prominent identification. Where tree trunks are apt to be damaged, they should be protected with metal posts and snow fence.
4. Heavy equipment should not be allowed to compact the soil over the root zone of existing trees. Restricted equipment access routes should be established.

## PROTECTION AND PRESERVATION SPECIFICATIONS

5. Curb cuts should not be closer than 5 feet from the trunk of the tree. No paving or asphaltting should be done closer than 2-1/2 feet from the tree trunk.
6. New sidewalks, paving or asphaltting must allow breathing space for tree roots. The following should be used as a guideline. For trees up to 4 inches in trunk caliper, 25 square feet of porous area is needed. For each additional 2 inches of tree caliper, 10 more square feet are needed.
7. Where grade change is required, the same area must be provided either by construction of a dry well where the level is to be raised or by building a retaining wall where the level is to be lowered.
8. Avoid cutting surface roots wherever possible. Sidewalks and paving levels should be contoured sufficiently to avoid such cutting.
9. Root cuts from excavation should be done rapidly. Smooth flush cuts should be made. Backfill before the roots have a chance to dry out and water the tree immediately.
10. Where many roots have to be removed, it may be necessary to prune branches out of the top of the tree to

## PROTECTION AND PRESERVATION SPECIFICATIONS

restore a proper top to root balance.

11. If trees are in full leaf during the construction phase, it may be necessary to supply supplemental irrigation.

## VII. SPRAY APPLICATION SPECIFICATIONS

The following specifications pertain to the spray application of fertilizers or pesticides to the above ground portions of trees.

1. The pesticide applicator should know and understand the capacities of those spray materials used by either himself or his employees and be aware of those recommendations stipulated by the manufacturer.
2. Ineffectual control, damage, injury or death to plants, animals or persons resulting from the use of spray materials beyond the limitation of the manufacturer's guarantee shall be considered with the responsibility of the licensed operator.
3. Spray machines should give a proper spray coverage to all portions of the infested or infected tree being treated or it shall be considered inadequate to perform such operation. Spray machines shall be calibrated to deliver a known quantity of coverage per designated time.
4. Spray equipment shall be kept clean and in good working order. The City Inspector or his representative may inspect same at any time and take samples of spray materials being applied.
5. Operation with dirty tanks or equipment or unsanitary,

## SPRAY APPLICATION SPECIFICATIONS

- unsafe methods of washing out of draining of same in public sewers and gutters is prohibited.
6. No spray application shall be carried out when there is sufficient wind to make pesticide control ineffectual or create a hazard to persons, plants or property. Spray operations must be terminated when wind speeds exceed ten miles per hour.
  7. No spraying of pesticides shall be done when air temperature is less than 40° Fahrenheit.
  8. All spray machines other than pump up hand sprayers must have agitators capable of maintaining a uniform spray solution at all times when spray application is in progress.
  9. Adequate precautions shall be taken in all phases of spray application concerning any factors of toxicity, phytotoxicity, chemical reaction or residual action pertaining to any spray materials used.
  10. Applicators applying chemical pesticides to public trees shall adhere to all federal and state laws and regulations pertaining to pesticides and their application.