The City of Newman Street Tree Plan

And Urban Forest Resource Guide

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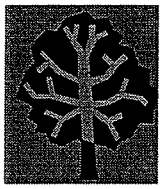


Section 1
Introduction

A. Background and Purpose-Newman's Urban Forest

San Joaquin Valley Communities will be among the fastest growing communities in the state during the next decade. The role of urban forests — trees in parks, yards, public spaces, and along streets — to improve environmental quality, increase the economic, physical and social health of communities, and foster civic pride will take on greater significance as communities strive to preserve and improve their quality of life in the face of this growth.

Urban and community forestry has been recognized as a cost effective means to address a variety of important community and national issues from improving air quality to combating global warming.

The City of Newman has a long rich tree heritage. A dominant feature in our community is our tree lined streets, shaded yards, and canopied parks. The City is responsible for the care of trees that lie within the City's Incorporated Boundaries and has an interest in trees located outside its City Limits but within its Sphere of Influence. This includes trees located on the rights of way, easements, median strips, parks, and other City maintained areas.

In 1974, the City of Newman adopted a Street Tree Ordinance (Municipal Code Section 11-4) that requires preparation and adoption of a Street Tree Plan for the City. The Plan is to contain:

- A List of Approved Street Trees,
- A Uniform Method of Street Tree Planting, and
- A Designation of Certain Streets or Blocks of Certain Specimens of Tree or Trees.

The Street Tree Plan is to be prepared under the authority of the Planning Commission and adopted by the City Council of the City of Newman.

In order to identify the different activities that are necessary to carry out the functions of the City's Tree Program, a Street Tree Plan is required by Municipal Code Section 11-4 (See Appendix "D"). It is the intent of this document to establish a more detailed plan than previously existed and to supplement policy contained in Municipal Code Section 11-4. The City Council will have the final determination on resolving tree issues covered or not covered in this document.

The purpose of having a tree program is to insure that our community will continue to realize and appreciate the benefits from trees through proper management of the City's urban forest. It will be the goal of the Street Tree Plan to state what is necessary for the management of our urban forest and describe the measures required to fulfill the responsibilities of the City.

According to City ordinance, the general responsibility for public trees in Newman lies within the City. This responsibility includes planting, pruning, preserving and otherwise maintaining the trees in a reasonably safe condition. This is necessary to protect the safety of the public and to reduce the City's liability exposure.

B. Expectation of Trees

Street trees serve many purposes in an urban area. The most obvious contribution trees make is the general improvement in a city's appearance and quality of living. Tree lined streets are attractive to existing and prospective residents. Tourists are also attracted to a well-landscaped city. Visitors form first impressions of a city primarily on its outward appearance. A city's outward visible aspect expresses the caliber and pride of its residents. One of the least expensive ways to improve a community's appearance is through a conscientious street tree planting and maintenance program.

Trees not only beautify the urban landscape but are also functional. Originally, the primary reason trees were planted in Newman was to provide shade and cooling of the living areas. This benefit has been a major consideration in tree selection for practical and energy conservation reasons trough the years. In addition, trees improve the environment by screening undesirable views, reducing noise and wind, and providing food and shelter for wildlife. Above all, trees convert carbon dioxide into life-giving oxygen, while filtering dust and other harmful pollutants from the air. Trees give a community a feeling of permanence and dignity. They also play an important role in enhancing buildings and other structures by softening architectural lines and features.

Trees can add a monetary value to real property. Homes and building sites with trees usually sell more quickly and at higher prices than properties with no trees. Realty authorities have attributed increased valuation per home to neighborhoods beautified by a sound street tree program.

Street trees are an asset to any community, even though they require allocations for replacement, care, and maintenance. It should be noted that while many public expenditures involve capital investments in projects which deteriorate in value, investment in tree planting and maintenance an investment in the community which increases in value.

Along with the benefits trees provide, some negative aspects are to be expected. Certain qualities of trees can lead to conflicts with people. Tree roots, leaves, insects, and low limbs can all impact residents and can sometimes cause a situation wherein the benefits of the trees are overlooked.

Realistically, conflicts will always be present to some degree. Toleration of conflicts is necessary to some degree if trees are to co-exist with us. Resolution of conflicts is a major purpose of our tree program. Corrective measures cannot be taken in every situation. This necessitates the establishment of some criteria which can be generally applied to our tree population to determine when conflicts overshadow the benefits and toleration may not be expected.

The Economics of an Urban Forest

This section of the Newman Street Tree Plan analyzes the multitude of benefits that trees can provide to communities and residents. By determining the community and home-owner savings from planting trees and subtracting the cost, this study found that trees more than pay for themselves. Over a 40-year period, after subtracting costs, every large tree produces savings of approximately $2,000. This amount decreases with the tree's size with medium trees saving $1,000 and small trees breaking even. Trees can have far reaching affects on the quality of air and water in our communities, on the amount of money we spend to cool and heat our houses, on the value of our property, and on the attractiveness of our neighborhoods and public spaces. They affect our moods and our health, as well as the health of our children. This guidebook addresses the benefits of urban and community forests and how you can reap these benefits for your community, your neighborhood, and your family including:

- Improving environmental quality by planting trees.
- Planting trees to reduce energy consumption and save money.
- Choosing tree species that reduce conflicts with power lines, sidewalks and buildings.
- Developing and promoting tree planting and maintenance programs in your community.
- Finding sources of funding and technical assistance for planting trees in your community.

San Joaquin Valley communities can promote energy efficiency through tree planting and stewardship programs that strategically locate trees to shade buildings, cool urban heat islands, and minimize conflicts with power lines and other aspects of the urban infrastructure. Also, these same trees can provide additional benefits by reducing atmospheric carbon dioxide (CO_2), improving air quality, reducing stormwater runoff, increasing property values, enhancing community attractiveness, and promoting human health and well-being. The simple act of planting trees provides opportunities to connect residents with nature and with each other. Neighborhood tree plantings and stewardship projects stimulate investment by local citizens, business, and government in the betterment of their communities.

Energy Impacts

Rapid urbanization of cities during the past 50 years has been associated with a steady increase in downtown temperatures of about 1° F per decade. As temperature increases, energy demand for cooling increases as do carbon dioxide emissions from fossil fuel

power plants, municipal water demand, unhealthy ozone levels, and human discomfort and disease.

Trees and other greenspace may lower air temperatures 5-10° F. Because of the San Joaquin Valley's hot, dry summer weather, potential cooling savings from trees are among the highest in the nation. Computer simulations for an energy-efficient home in Fresno indicate that shade from two 25-foot tall trees on the west side and one on the east side are estimated to save $75 each year. Evapo-transpirational cooling from these three trees is estimated to increase savings by another $28.

Air Quality Impacts

Urban forests can reduce atmospheric carbon dioxide (CO_2) in two ways. Trees directly store CO_2 as woody and leafy biomass while they grow. Trees around buildings can also reduce the demand for heating and air conditioning, thereby reducing emissions associated with electric power production.

- Urban trees provide direct air quality benefits by:
- Absorbing gaseous pollutants (ozone, nitrogen oxides) through leaf surfaces,
- Intercepting particulate matter (e.g., dust, ash, pollen, smoke),
- Releasing oxygen through photosynthesis, and
- Transpiring water and shading surfaces, which lowers local air temperatures, thereby reducing ozone levels.

Trees can emit various biogenic volatile organic compounds that can con-tribute to ozone formation.

By shading asphalt surfaces and parked vehicles trees reduce emission of hydrocarbons that come from leaky fuel tanks and worn hoses as gasoline evaporates. These evaporative emissions are a principal component of smog and parked vehicles are a primary source

Water Quality Impacts

Urban stormwater runoff is a major source of pollution entering San Joaquin Valley rivers and lakes. Trees improve water quality by:

- Intercepting and storing rainfall on leaves and branch surfaces, thereby reducing runoff volumes and delaying the onset of peak flows,
- Increasing the capacity of soils to infiltrate rainfall and reduce overland flow, and
- Reducing soil erosion by diminishing the impact of raindrops on barren surfaces.

Urban forests improve climate and conserve building energy use by:

- Shading, which reduces the amount of radiant energy absorbed and stored by built surfaces,
- Evapo-transpiration, which converts liquid water in leaves to vapor, thereby cooling the air, and
- Wind speed reduction, which reduces the infiltration of outside air into interior spaces.

Urban forests can provide other water benefits. Irrigated tree plantations can be a safe and productive means of wastewater disposal. Reused wastewater can recharge aquifers, reduce stormwater treatment loads, and create income through sales of wood products.

Social Impacts from Trees

- Abate noise, by absorbing high frequency noise which are most distressing to people,
- Create wildlife habitat, by providing homes for many types of wildlife,
- Reduce exposure to ultraviolet light, thereby lowering the risk of harmful health effects from skin cancer and cataracts,
- Provide pleasure, whether it be feelings of relaxation, or connection to nature,
- Provide important settings for recreation,
- Improve individual health by creating spaces that encourage walking,
- Create new bonds between people involved in tree planting activities,
- Provide jobs for both skilled and unskilled labor for planting and maintaining community trees,
- Provide educational opportunities for residents who want to learn about nature through first-hand experience, and
- Increase residential property values (studies indicate people are willing to pay 3-7% more for a house in a well-treed neighborhood versus in an area with few or no trees).

Urban Forest Costs

Costs for planting and maintaining trees vary depending on the nature of tree programs and their participants. Generally, the single largest expenditure is for tree trimming, followed by tree removal/disposal, and tree planting. An initial analysis of data for Sacramento and other cities suggests that households typically spend about $5-10 annually per tree for pruning, removal, pest/disease control, irrigation, and other tree care costs.

Other costs associated with urban trees include:

- Pavement damage caused by roots,
- Flooding caused by leaf litter clogging storm sewers,
- Green waste disposal and recycling (can be offset by avoiding dumping fees and purchases of mulch), and
- Irrigation costs.

Cost effective strategies to retain benefits from large street trees while reducing costs associated with root-sidewalk conflicts are needed. The City's Master Tree Description List in Appendix "B" contains information on the rooting characteristics of recommended trees.

Street Tree Ordinance

In accordance with Municipal Code Section 11-4, the Director of Public Works is responsible for the administration, control and regulation of the City's Street Tree program. The ordinance places responsibility for planting, maintenance, removals and protection of public trees on the Public Works Department. The Public Works Department carries out these responsibilities under the directive of the Director of Public Works. The ordinance also clarifies the limitations and responsibilities of property owners, utility companies, and other divisions of the City regarding public trees.

Estimated Value Of Net Annual Benefits From A Small-, Medium- And Large-Sized Residential Yard Tree Opposite The West-Facing Wall 20-Years After Planting In The San Joaquin Valley.

	SMALL TREE 13 ft tall, 12 ft spread LSA = 210 sq. ft.		MEDIUM TREE 32 ft tall, 31 ft spread LSA = 1,840 sq. ft.		LARGE TREE 48 ft tall, 40 ft spread LSA = 4,010 sq. ft.	
BENEFIT CATEGORY						
Electricity ($0.12/kWh)	*35 kWh*	*$4.16*	*76 kWh*	*$9.15*	*131 kWh*	*$15.73*
Natural gas ($0.81/therm)	*–49 kBtu*	*–$0.40*	*–52 kBtu*	*–$0.42*	*–45 kBtu*	*–$0.37*
Carbon dioxide ($0.015/lb)	*44 lb*	*$0.67*	*164 lb*	*$2.46*	*320 lb*	*$4.81*
Ozone ($5.00/lb)	*0.14 lb*	*$0.70*	*1.21 lb*	*$6.06*	*2.83 lb*	*$14.17*
NO 2 ($5.00/lb)	*0.14 lb*	*$0.72*	*0.69 lb*	*$3.43*	*1.55 lb*	*$7.75*
PM 10 ($3.17/lb)	*0.12 lb*	*$0.38*	*1.02 lb*	*$3.22*	*2.38 lb*	*$7.52*
VOC's ($2.78/lb)	*0.003 lb*	*$0.01*	*0.009 lb*	*$0.02*	*0.019 lb*	*$0.05*
Rain Intercept. ($0.008/gal)	*47gal*	*$0.38*	*357 gal*	*$2.85*	*612 gal*	*$4.90*
ENVIRONMENTAL SUBTOTAL		*$6.62*		*$26.77*		*$54.56*
Property Value & Other Benefits		*$6.03*		*$18.08*		*$20.24*
Total Benefits		*$12.65*		*$44.86*		*$74.80*
Total Costs		*$2.61*		*$6.22*		*$9.82*
NET BENEFITS		*$10.04*		*$38.64*		*$64.98*

- This analysis assumes that the tree is strategically located to shade the West Side of a typical building.
- Property value and other benefits include benefits and costs not accounted for such as increased sales price of
- Property, scenic beauty, impacts on human health and well-being, wildlife habitat, and recreation opportunities.
- LSA=leaf surface area

Source: Local Government Commission *Tree Guidelines for San Joaquin Valley Communities-.*

Section 2
Planting Guidelines

A. General Qualities Desired for Trees

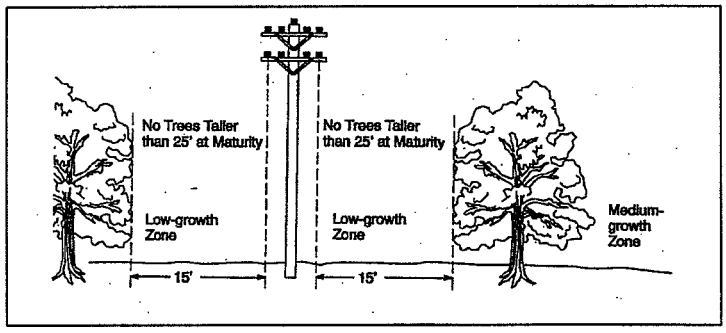
How an urban forest prospers, and the impact it has on a community, depends on the types and location of the trees being planted. Over the years a variety of trees have been planted in Newman. Most of the trees present have done as well as can be expected in an urban setting. Certain trees have undesirable traits in an urban setting, which can overshadow their benefits. While each tree has limitations and there is no completely ideal tree, certain characteristics are important in the selection of trees, particularly trees to be planted in public spaces. Trees with the following characteristics are preferred:

- Trees that are adapted to this area.
- Trees that have a longer life span than 25 years.
- Trees that do not have a history of brittleness or anchorage problems.
- Trees that are not known to have serious pest, disease, or fruiting problems.
- Trees that will not require a high level of maintenance.
- Trees that have an attractive appearance, especially with some fall color.
- Trees with root systems that are not overly aggressive.

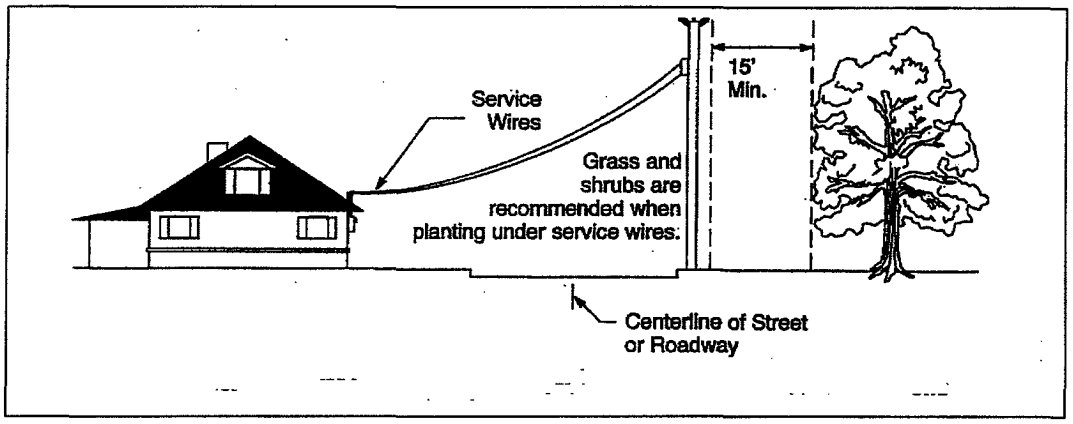
While efforts are made to find trees with these characteristics, at times unknown problems later develop. Therefore, it is important to anticipate any possible problems that may occur later when determining the selection and placement of trees and all other issues related to planting. A list of trees found to be most compatible in the urban environment of Newman is found in the City's Master Tree List found in Appendix "A". Other trees may be added to this list from time to tome as they are found to meet the objectives of the City's Urban Forest Program.

B. General Placement of Trees

The local utility company should contacted, before planting, to locate underground water, sewer, gas, and telecommunication lines. Note the location of power lines, streetlights, and traffic signs, and select tree species that will not conflict with these aspects of the city's infrastructure. Keep trees at least 30 feet (10 m) away from street intersections to



ensure visibility. Avoid planting shallow rooting species near sidewalks, curbs, and



paving.

General guidelines for placement of tree in and around overhead utility lines, particularly with respect to overhead power lines, are as follows:

- Establish a 15-foot "low-growth" zone on both sides of all electric lines. The zone under the electric power lines should be a low-growth tree planting zone as well as a shrub and flower-planting zone on public and private landscape plans.

- Keep in mind that when planting under power service drops; a flower and shrub-planting zone is best.

- Do not plant tall trees (trees that are or will exceed 25-feet at maturity) under or within 15-feet of the side of overhead electric lines. In general, do not plant threes near power poles.

- Do not plant trees and shrubs near power poles. Consider safety and access for repairs.

Tree roots can heave pavement if planted too close to sidewalks and patios. Generally, avoid planting within 3 feet (1 m) of pavement, and remember that trunk flare at the base of large trees can displace soil and paving for a considerable distance. Select only small growing trees (<25 feet tall) for locations under overhead power lines, and do not plant directly above underground water and sewer lines. Avoid locating trees where they will block illumination from streetlights or views of street signs in parking lots, commercial areas, and along streets.

Maintenance requirements and public safety issues influence the type of trees selected for public places. The ideal public tree is not susceptible to wind damage and branch drop, does not require frequent pruning, produces little litter, is deep-rooted, has few serious pest and disease problems, and tolerates a wide range of soil conditions, irrigation

regimes, and air pollutants. Because relatively few trees have all these traits, it is important to match the tree species to planting site by determining what issues are most important on a case-by-case basis. For example, parking lot trees should be tolerant of hot, dry conditions, have strong branch attachments, and be resistant to attacks by pests that leave vehicles covered with sticky exudate. Consult the City's Master Tree List in Appendix "A", the Descriptions and Management information in Appendixes "B" and "C" and a local landscape professional for horticultural more information on tree traits.

C. Locating and Selecting Trees to Maximize Climate Benefits

Locate trees in common areas, along streets, in parking lots, and commercial areas to maximize shade on paving and parked vehicles. Shade trees reduce heat that is stored or reflected by paved surfaces. By cooling streets and parking areas, they reduce emissions of evaporative hydrocarbons from parked cars that are involved in smog formation. Large trees can shade more area than smaller trees, but should be used only where space permits.

Because trees in common areas and other public places may not shelter buildings from sun and wind, CO_2 reductions are primarily due to sequestration. Fast-growing trees sequester more CO_2 initially than slow-growing trees, but this advantage can be lost if the fast-growing trees die at younger ages. Large growing trees have the capacity to store more CO 2 than do smaller growing trees. To maximize CO_2 sequestration, select tree species that are well suited to the site where they will be planted. Use information in Appendix "B" and "C" and consult with your local landscape professional to select the right tree for your site. Trees that are not well adapted will grow slowly, show symptoms of stress, or die at an early age. Unhealthy trees do little to reduce atmospheric CO_2, and can be unsightly liabilities in the landscape.

Some of the following guidelines may help you maximize their ability to serve as CO_2 sinks:

- Provide as much pervious surface as possible because soil and woody plants store CO_2.
- Maximize use of woody plants, especially trees, as they store more CO_2 than do herbaceous plants and grass.
- Increase tree-stocking levels where feasible, and immediately replace dead trees to compensate for CO_2 lost through tree and stump removal.
- Create a diverse assemblage of habitats, with trees of different ages and species, to promote a continuous canopy cover.
- Select species that are adapted to local climate, soils, and other growing conditions. Adapted plants should thrive in the long
- Group species with similar landscape maintenance requirements together and consider how irrigation, pruning, fertilization, weed, pest, and disease control can be minimized.
- Compost litter fall, and apply it as mulch to reduce CO_2 release associated with irrigation and fertilization.

- Where feasible, reduce CO_2 released through landscape management by using push mowers (not gas or electric), hand saws (not chain saws), pruners (not gas/electric shears), rakes (not leaf blowers), and employing local landscape professionals who do not have to travel far to your site.
- Consider the project's life span when making species selection. Fast-growing species will sequester more CO_2 initially than slow-growing species, but may not live as long.
- Provide a suitable soil environment for the trees in plazas, parking lots, and other difficult sites to maximize initial CO_2 sequestration and longevity.

D. Street Trees

Street trees are planted on public rights of way or easements. This portion of the property extends inward from the street curb. Except in locations where cut outs in the concrete are present, or where planter strips exist, trees have historically been planted to within 10'' to 12'' of the edge of the right of way and/or easement that extends into the property. Today a more practical approach to planting trees is practiced. The following are standards for tree placement.

1. Planting Patterns for Street Trees.

There are several ways to arrange trees in an urban area. Trees can be planted in:

1. Diverse species plantings.
2. Uniform species plantings (mono-culture).
3. Semi uniform plantings.

All of the methods have been used within the city. However, this plan goal is to eliminate the uniform species plantings (mono-culture).

Diverse

Planting a variety of species in an urban area is very beneficial from a disease prevention standpoint. Having many different kinds of trees assures that if a disease is introduced, only portions of the urban forest will be affected. Diverse species planting also prevents the problem of a general decline of all trees if only a single species is used. It is generally agreed that a city should not have more than 10% of its tree population planted to a single species. A shortcoming of this type of planting is that additional maintenance is required compared to uniform grouping because each tree species can differ greatly. In addition, diverse population does not provide the harmony that uniform planting does. However, there is some assurance that no single disease will wipe out your urban forest, and this is the recommended strategy for planting street trees in Newman.

Uniform

At the other extreme, a uniform or mono-culture planting allows for easier maintenance, unifies the neighborhood with a common species, and provides

consistency to a planting program. For example, in older portions of the City, mono-culture plantings have resulted in trees reaching maturity at the same time and may need to be replaced all at once or over a short period of time. As an another example, the Modesto Ash is susceptible to a disease called Anthracnose, which can kill the tree. In a mono-culture one disease species can kill all of the street trees in a neighborhood.

Semi-Uniform
The Semi-uniform planting programs are a viable option for larger cities. The City of Newman has implemented a small version of this type of planting program by establishing uniform standards within blocks, streets and some neighborhoods.

2. In residential areas.

a. One tree per lot or two trees per corner lot, unless an extremely large lot exists.
b. Trees are to be placed where they will have the most energy benefit to residents. This usually means centering them according to the living portions of the structure.
c. Trees are not planted within 6' of driveways or sewer lines.
d. Trees are not planted within the clear vision triangle on corner lots (usually 25' to 30' from corners).
e. Trees are planted no closer than 35', nor further than 90', to one another.
f. In some situations, such as streets that end in cul-de-sac (court), trees may not be planted at every residence due to the lack of space. Trees may not be placed at each residence in subdivisions with small lots where two lots jointly have a landscaped area of less than 60'. At these locations only one tree may be planted in a location which will provide the greatest benefit for both residents.
g. Trees are not normally planted within 12' of street light poles. In some cases this will not allow the planting of trees at a residence.
h. Trees should not be planted within 6' of a fire hydrant.

3. In commercial/industrial areas and along walls, the planting standards are:

a. Trees are spread 35' to 40' on center unless obstacles exist, such as power poles.
b. Trees are kept out of clear vision zone at corner intersections and near driveways.
c. Watering systems must be provided to the area by the developer.
d. Trees should not be located within 5' of business signs or within 6' of sewer lines.
e. Trees should not be planted within 6' of a fire hydrant.

E. Trees for Parks and Other Public Places

Trees are used in parks as design elements. These elements are complex, living, growing things, changing with each season. They're used for their esthetic and functional

qualities. Trees used in parks fall into five general categories. The categories are perimeter, accent, transitional, specimen, and screen trees.

Perimeter trees match the physical characteristics of the city street trees adjacent to the park site. These characteristics would include size, texture, density, form, and color. Perimeter trees signal the user that he/she is entering a new environment. Accent trees are those which have an outstanding showy feature. Accent trees will typically have a seasonal show, be it flowers or a bright fall leaf color. This tree will draw the user's attention to entry points or a special park feature.

Transitional trees are larger in scale than both perimeter or accent trees. Transitional trees are used to define the park as a large public open space. They are literally and physically the ceiling of the park space.

Specimen trees are unique or unusual trees not commonly seen in residential landscapes. Specimen trees introduce the park user to a broader spectrum of trees that grow in our climate zone.

Screen trees are evergreen, fine textured, and medium in size. Screen trees are used to conceal objectionable views, block nuisance lighting from playing fields and game courts, and at times, focus a park users eyes on a particular vista or park feature. While the transitional trees are the ceiling of the park, screen trees represent the wall of a park.

Tree placement in a park doesn't always fit into one of the five categories defined. Sometimes overlap occurs because of existing physical conditions that exist at the park site. These conditions would include wind direction, sun angles, soil conditions, topography, adjacent property uses, building types, and types of parks (active or passive).

F. General Guidelines for Siting and Selecting Trees Residential Yard Trees

Maximizing Energy Savings from Shading The right tree in the right spot saves energy. In midsummer, the sun shines on the northeast and east sides of buildings in the morning, passes over the roof near midday, then shines on the west and northwest sides in the after-noon. Air conditioners work hardest during the afternoon when temperatures are highest and incoming sunshine is greatest. Therefore, the west and northwest sides of a home are the most important sides to shade. Sun shining through windows heats the home quickly. Locate trees to shade windows so that they block incoming solar radiation, but do not block views. In San Joaquin Valley communities, the East Side is the second most important side to shade.

Trees located to shade south walls can block winter sunshine and increase heating costs, because during winter the sun is lower in the sky and shines on the south side of homes. The warmth the sun provides is an asset, so do not plant evergreen trees that will block southern exposures and solar collectors.

Use solar friendly trees to the south because the bare branches of these deciduous trees allow most sunlight to strike the building (some solar unfriendly deciduous trees can reduce sunlight striking the south side of buildings by 50%). To maximize summer shade and minimize winter shade, locate trees about 10-20 feet (3-6 m) south of the home. As trees grow taller, prune lower branches to allow more sun to reach the building if this will not weaken the tree's structure.

Although the closer a tree is to the home the more shade it provides, the roots of trees that are too close can damage the foundation. Branches that impinge on the building can make it difficult to maintain exterior walls and windows. Keep trees at least 5-10 feet (1.5-3 m) from the home to avoid these conflicts but within 30-50 feet (9-15 m) to effectively shade windows and walls. Paved patios and driveways can become heat sinks that warm the home during the day. Shade trees can make them cooler and more comfortable spaces.

Shading your air conditioner can reduce its energy use, but do not plant vegetation so close that it will obstruct the flow of air around the unit. Keep trees away from overhead power lines and do not plant directly above underground water and sewer lines. Contact your local utility company before planting to determine where underground lines are located and which tree species will not grow into power lines.

Locating Windbreaks for Heating Savings The winter heating season is not too long in the San Joaquin Valley, but heating costs can still be several hundred dollars per year. Because of their size and porosity, trees are ideal wind filters. Even leafless trees in the city can reduce wind speeds and heating costs. In situations where lot sizes are large enough to plant windbreaks, additional savings can be obtained. Locate rows of trees perpendicular to the primary wind direction — usually along the north and west sides of the property in the San Joaquin Valley. Design the windbreak row to be longer than the building being sheltered because the wind speed increases at the edge of the windbreak. Ideally, the windbreak is planted upwind about 25-50 feet (7-15 m) from the building and consists of dense evergreens that will grow to twice the height of the building they shelter (Heisler 1986, Sand 1991).

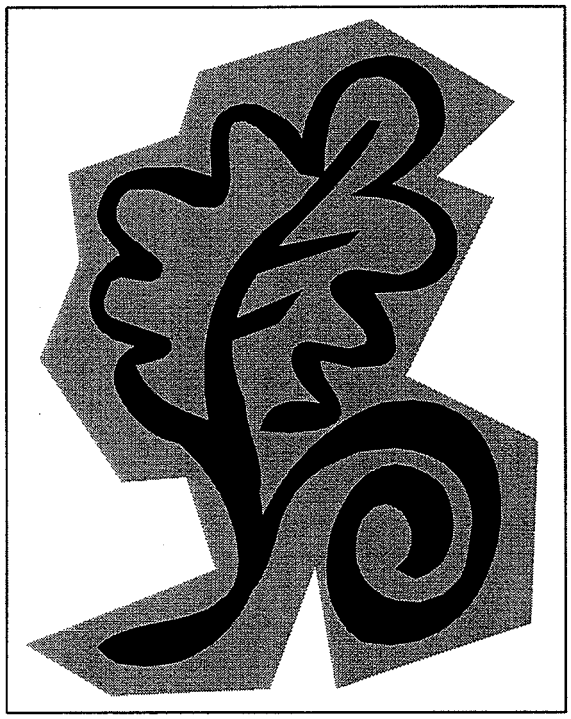
Avoid locating windbreaks that will block sunlight to south and east walls. Trees should be spaced close enough to form a dense screen, but not so close that they will block sunlight to each other, causing lower branches to self-prune. Most conifers can be spaced about 6 feet (2 m) on center. If there is room for two or more rows, then space rows 10-12 feet (3-4 m) apart.

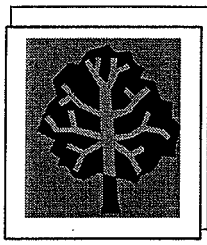
Selecting Yard Trees The ideal shade tree has a fairly dense, round crown with limbs broad enough to partially shade the roof. Given the same placement, a large tree will provide more building shade than a small tree. Deciduous trees allow sun to shine through leafless branches in winter. Plant small trees where nearby buildings or power lines limit aboveground space. Columnar or upright trees are appropriate in narrow side yards. Because the best location for shade trees is relatively close to the west and east sides of buildings, the most suitable trees will be strong, resisting storm damage, disease, and pests (Sand 1994). Examples of trees not to select for placement near buildings

include cottonwood (Populus fremontii) because of their invasive roots, weak wood, and large size, ginkgo (Ginkgo biloba) because of their narrow form, sparse shade, and slow growth, and pine trees (Pinus spp.) because of their evergreen foliage.

When selecting trees, match the tree's water requirements with those of surrounding plants. For instance, select low water-use species for planting in areas that receive little irrigation. Also, match the tree's maintenance requirements with the amount of care different areas in the landscape receive. Tree species that drop leaves and fruit may be more easily maintained in areas where litter disappears in coarse groundcovers or in a lawn where it can be easily raked up than in areas that are more difficult to clean. Check with your local landscape professional before selecting trees, to make sure that they are well suited to the site's soil and climatic conditions.

Conifers are preferred over deciduous trees for windbreaks because they provide better wind protection. The ideal windbreak tree is fast growing, visually dense, and has stiff branches that do not self-prune. Species in the pine (Pinus spp.), cypress (Cupressus spp.) genera, and evergreen oak species (Quercus spp.) are among the best windbreak trees for San Joaquin Valley communities.





Section 3
Street Trees

A. Street Tree Fee

All new development is required to have a landscape and street tree plan as part of the site plan review application. Generally, a fee will be charged for all new street tree plantings required as a condition of approval of all new development proposed in the City and may be required where plantings are deferred until after lot construction has occurred. The fee will very, depending on tree species, and circumstances but will typically be around $150 per tree.

Upon payment of fees, the City shall be responsible for planting and maintaining such street trees. As an alternative to payment of such fees, the developer may purchase and plant required trees provided they are on the City Tree List and the planing is accomplished to City Standards.

B. Designation of Street Tree Species

Tree selection is based upon soil types, available space, and other characteristics outlined in part A of this section. The type of tree to be planted is usually determined by the amount of space available at each site. Certain factors can influence the final planting such as species availability, hardpan, solar access, or soil-borne disease. The final species determination is to be made by the Newman City Council, upon approval of the Planning Commission with recommendations by both the Public Works Department and the Planning Department.

C. Street Tree Plan

The following streets and street segments are to be planted in a uniform species planting to create a uniform appearance for the roadway.

North-South Arterial/Collector Roadways

Name	*Segment*	*Street Tree*
Draper Road	From Stuhr Rd. to Shiells-Brazo Rd.	**London Plane Tree**
Harvey Road	From Stuhr Rd. to Shiells-Brazo Rd.	**London Plane Tree**
Upper Road	From Hoyer Rd.-Inyo Ave. to Hollowell Rd.	**Chinese Pistache**
Prince Street	From Inyo Ave. to Shiells-Brazo Rd.	**Bradford Pear**
Main ("O") Street	From Yolo Ave. to Inyo Ave.	**Bradford Pear**
Highway 33 ("N" Street)	From Stuhr Rd. to Shiells-Brazo Rd.	**Chinese Pistache**
Balsam Drive	From Driskell Ave. to Stuhr Rd.	**American Linden**
Eucalyptus Street	From Merced St. to Stuhr Rd.	**American Linden**
Barrington Ave.	From Merced St. to Stuhr Rd.	**Raywood Ash**
Canal School Road	From Merced St. to Shiells-Brazo Rd.	**London Plane Tree**

East-West Arterial/Collector Roadways

Name	*Segment*	*Street Tree*
Hollowell-Sanches Road	From Draper Rd. to Merced County Line	**Chinese Elm**
Shiells-Brazo Road	From CCID Canal to Canal-School Rd.	**London Plane Tree**
Canyon Creek Street	From Harvey Rd. to Prince St.	**Chinese Pistache**
Hoyer Road	From Draper Rd. to Upper Rd.	**Chinese Pistache**
Inyo Avenue	From Upper Rd. to Highway 33 ("N" St.)	**Chinese Pistache**
Inyo Avenue	From Highway 33 ("N" St.) to Canal School Rd.	**Raywood Ash**
Merced Street	From Upper Rd. to Highway 33 ("N" St.)	**Chinese Tallow**
Merced Street	From Highway 33 ("N" St.) to Canal School Rd.	**Chinese Pistache**
Hills Ferry Road	From Canal School Rd. to City Limits	**Chinese Pistache**
Kern Street	From "T" St. to Highway 33 ("N" St.)	**Chinese Tallow**
Kern-Driskell Street	From Highway 33 ("N" St.) to Hills Ferry Rd.	**Raywood Ash**
Orestimba Road	From "T" St. to CCID Canal	**Green Vase Zelkova**
Yolo Street	From "T" St. to Highway 33 ("N" St.)	**Raywood Ash**
Sherman Parkway	From Highway 33 ("N" St.) To Hills Ferry Rd.	**London Plane Tree**
Jensen Parkway	From Highway 33 to CCID Canal	**London Plane Tree**
Stuhr Road	From CCID Canal to Hills Ferry Rd.	**Chinese Pistache**

All other Streets can be planted in accordance with desires of the property owner, upon approval of the Public works Director.

D. Master Street Tree List

The following shall be the Master Street Tree List that shall be used to select street tree species. These species have been placed on this Master List based upon the criteria discussed elsewhere in this Plan.

All Purpose Street Trees Not-Recommended Under Utility Lines

Common Name	*Botanical Name*	*Height Characteristics*
Chinese Pistache	*Pistacia chinensi*	60-feet high, fall color
Bradford Pear	*Pyrus calleryana*	25-50 feet, fall color, flowers
Green Vase Zelkova (replace Japanese zelkova)	*Zelkova serrata*	60-feet, fall color
London Plane Tree	*Platanus acerifolia*	40-80-feet, seed clusters
Chinese Elm	*Ulmus ulmaceae*	40-60- feet, evergreen-winter shade
American Linden	*Tilia americana*	40-60-feet, flowers

Low Height Street Trees Recommended Under Utility Lines

Common Name	*Botanical Name*	*Characteristics*
Trident Maple	*Acer Buergeranum*	20-25-feet; year-round interest.
Japanese Maple	Acer palmatum	20-feet; year-round interest
Eastern Redbud	*Cercis canadensis*	25-35-feet, spring flowers
Crape Myrtle	Lagerstroemia x . faueri	6-30-feet; attracts birds.
Japanese Tree Lilac	Syringa reticulata	To 30-feet; flowers in spring.
Raywood Ash	*Fraxinus oxycarpa*	25-35 feet, fall color
Chinese Tallow	*Sapium sebiferum*	35-feet, fall color

Section 4
Street and Public Place Tree Maintenance

The objectives of maintaining public trees are:

- To keep trees in a safe condition.
- To care for the horticultural needs of the trees.
- To preserve the trees so that maximum benefits can be realized during their life cycle.

The City of Newman has been responsible for routine and emergency public tree maintenance. Full-time City employees have performed such tree maintenance activities as pruning, spraying, staking and cabling. If the City can not meet these duties on routine or emergency tree maintenance, then private contractors can be utilized.

A. Responsibilities, Duties and Authority of the Public Works Director

The Public Works Director, under the general supervision of the City Manager, shall have the authority and responsibility to do the following in accordance with this Plan and Chapter 11-4 of Newman Municipal Code:

a. Carry out the provisions of this Plan and Chapter 11-4 of Newman Municipal Code.
b. Remove or replace any tree located within a planting right-of-way or easement, in accordance with the provisions of this Plan and Chapter 11-4 of Newman Municipal Code.
c. Enter in or upon any part of a right-of-way or easement or adjacent property as is reasonably necessary for the purpose of planting and maintaining street trees in accordance with the policies, standards and specification of this Plan and Chapter 11-4 of Newman Municipal Code.

B. Service Area Maintenance

Private citizens will call to report street trees needing service. If the request is compelling, needed, and approved either by the street tree service personnel, or from a member of the Public Works Department, then the tree shall be maintained to the best of the service personnel's ability. At times when requests are high due to storm damage, the public should be made aware of possible lengthy delays in storm damage repair to trees.

C. Mistletoe

Uncontrolled mistletoe can become a serious threat to many of our shade trees in Newman. Control of this parasite can be difficult due to the fact that primarily birds spread mistletoe. Birds eat the seeds of the mistletoe plant, whereupon the seed is passed

through the bird's digestive tract. The parasite is then spread by the bird's excrement onto other trees.

The only way to control mistletoe is to interrupt its life cycle and remove the plant before seeds are produced. Since seeds are produced three to four years after the mistletoe plants emerge, effective control through plant removal must occur more often than three years. Section 9.6 of Newman Municipal Code contains regulations for the City's Mistletoe Abatement program.

D. Inspections

To determine the conditions of public trees and their future needs, inspections are an ongoing part of tree maintenance. All personnel working on trees should be trained to look for potential or immediate problems. In addition, certain portions of the City are targeted for special inspections annually. These inspections are usually where older trees exist, where unusual problems have occurred, such as a particular disease, or at the request of individual residents. Based on these inspections, changes in schedule maintenance may be necessary.

E. Inventory

A program should be developed listing the City's street tree inventory. This program should allow accurate record keeping of what maintenance has been performed on street trees. The program should also provides the capability of monitoring the urban forest composition. This information allows the tracking of trees for liability and planning purposes. Maintaining current tree inventory records is critical in assessing the needs of the entire urban forest.

F. Pest and Disease

In an urban area, pest and disease have a more direct impact on trees than in a natural environment. Pests and disease cannot only harm or alter the appearance of trees, but can become a nuisance to nearby residents. This being said, in the search for new street trees the Public Works Department and the Planning Department took this factor into account. One of the characteristics of street trees chosen was the resistance, or pest free characteristics of the tree. While no tree is completely immune to pests, fungi or disease, none of the trees on our improved list is overly susceptible to pests or disease. In the event of an oversight on our part, we will address any pests or disease associated with the new trees when the problem arises.

G. Tree Roots

To have a healthy tree, a root system is necessary to provide support, water, and nutrients. While necessary, tree roots in an urban area are the source of many conflicts. This places roots in areas where lawns, sidewalks, curbs, sewers, and driveways are also present. As most of a tree's root system is not visible, prevention of conflicts and monitoring of root growth is not an easy task.

Citizens frequently contact the City about tree root conflicts. Under certain conditions, tree roots can be removed or severed without seriously damaging the tree. On a request

basis, a representative from the Public Works Department will respond to these situations. If tree roots can be safely severed or removed, some recommendations are given. In some cases, however, tree roots cannot be safely cut, and an explanation is given to the citizen.

If roots can be safely cut, several options exist. An authorization can be given for a private party to cut or hire someone to do the cutting. If the property owner is willing to sign a release form and can wait for their turn on the service area maintenance schedule, City crews can perform some cutting. Actual removal of tree roots is left up to the individual residents. A final alternative to severe root problems is tree removal. However, this alternative is not considered until all other alternatives mentioned above have been either tried or considered.

Upon a citizen's request, action may be taken to repair public walks or curbs damaged by tree roots. The action could include removal and replacement of the damaged walks or curbs, patching the sidewalks, or planing of the curbs. The Public Works Department coordinates these efforts; certain criteria for repair are used, and are available through the Public Works Department.

A common root problem that occurs often is between tree roots and sewer lines. While the City maintains the main lines, the lateral lines are the responsibility of the property owner. Tree roots can enter these lines through small cracks or openings caused by normal deterioration. Once inside, the line blockage can quickly occur. Some root cutting may be possible to minimize sewer problems; however, replacement of the damaged sections is often necessary by the property owner.

H. Overhead Wires

There are trees throughout the City that grow into electrical or communication lines. The City personnel can work low voltage lines such as house type and communication lines around when proper training is given. Trees will be pruned according to good horticultural practices. The City cannot perform work on City trees within 10-feet of high-voltage electrical wires unless approved by the City Manager, Director of Public Works or Deputy Director of Public Works. If approved, only employees who have been trained in the clearance of high-voltage overhead wires may do the necessary work.

I. Permits

At times property owners may want to prune, spray, or provide other maintenance to street trees as a supplement to, or in place, of City crews. Any work done to the aboveground portion of a public tree by a private party requires a permit. The permit must be approved by the Director of Public Works prior to carrying out such work. If approved, the work performed must be agreed upon in advance and all conditions of the permit, such as insurance, must be followed. All costs for works performed under permits are borne by the property owner or other party requesting the permit. There are no charges associated with the permit process itself.

J. Street and Public Space Tree Protection

The following provisions will be enforced with respect to the protection of trees located on public sites including street trees:

a. No person shall remove, trim, prune, spray, or cut any above or below ground portions of any street tree in right-of-way or easement without first obtaining permission from the Public Works Director.
b. No person shall interfere or cause any person to interfere with any work being done under the provisions of this Plan and Chapter 11-4 of Newman Municipal Code or by any employee of the City, or by any person or firm doing work for the City or under a permit granted by the City.
c. No person shall interfere or cause anyone to interfere with or damage any overhead wires or underground pipes or conduits while removing, trimming, pruning, spraying, or cutting any street trees in a right-of-way or easement. The owner of such facilities shall be notified when such work may interfere with or cause damage to the facilities. The cost of repair of the damage to overhead wires, underground pipes or conduits shall be the responsibility of the person, firm or corporation doing or causing the work to be done. The City of Newman and it officers and employees shall be exempt from the provisions of this subsection.
d. In accordance with this Plan and Chapter 11-4 of Newman Municipal Code it is unlawful for any person to injure or destroy by any means any tree planted or maintained by the City in rights-of-way or easements, including, but not limited to, the following:

    1. Constructing a concrete sidewalk or driveway or otherwise filling up the ground around any street tree so as to shut off air or water from its roots.
    2. Piling building materials, equipment, or other substances around any tree.
    3. Pouring any deleterious material on any tree or on the ground near any tree.
    4. Posting any sign, poster, notice, or other object on any tree, tree stake or guard, or fastening any guide wire, cable, rope, nails, screws, or other device to any tree, tree stake or guard, except as carried out or recommended by a registered arborist.
    5. Causing or encouraging any fire or burning near of around any tree.
    6. Using any mechanical weeding device against a tree.
    7. Constructing retaining walls, fences, or other similar improvements, which prohibit the planting or maintaining of street trees or otherwise affect their growth.
    8. Operating construction equipment in such a manner to cause it to contact the tree or the root system of any tree.
    9. Disrupt the anchorage of the tree or change the grade around the tree.

e. No person shall plant a tree or other plant material in a planting strip or easement other than lawn or other similar planting materials, unless approved by the Public Works Director.

K. Planting and Maintenance

a. Except as otherwise provided in this section, within the limits of funds provided by the City budget, the City will supply, replace or plant approximately one tree per lot, excepting corner lots, where 2-3 trees will be planted, and maintain street trees in all rights-of-way and planting easements within the city.
b. Fees shall be charged to provide the cost of furnishing, locating, planting and
c. The property owner or occupant, as the case may be, shall be responsible for watering street trees located in planting strips or easements abutting said property.
d. This section shall not prevent any person, firm or public utility from installing and maintaining any overhead wires or underground pipes or conduits lawfully on, over or under public streets or public rights-of-way subject to the provisions and requirements of this Plan and Chapter 11-4 of Newman Municipal Code. The Public Works Director, when reviewing plans for planting, maintenance or removal of street trees shall consider the effect upon existing overhead wires or underground pipes or conduits and shall avoid unnecessary disturbance to or relocation of said facilities.

L. Removal and Replacement

a. The Public Works Director shall be responsible for inspection, maintenance, removal and replacement of street trees planted within rights-of-ways or easements. The Public Works Director may cause street trees or other plant material planted in a right-of-way or easement to be removed by the City if they are deemed by the Public Works Director to be unhealthy, hazardous, undesirable or causing excessive damage to existing public improvements, or street trees.
b. The Public Works Director shall have the authority to require property owners to take such action as is necessary to control insects, scales, parasites, fungus, and other injurious pests or plant material that would cause serious injury to street trees and other plant material within the City. The City shall notify the property owner in writing, describing the conditions and stating the control necessary to correct the condition, and establishing a reasonable time within which the corrective steps shall be taken.
c. The Public Works Director shall have the authority to require property owners to remove or prune any privately planted tree, shrub, vine, or other plant material if it is determined by the Public Works Director to be seriously interfering with the growth and health of any street tree.
d. In the event a property owner desires to remove a tree from the right-of-way or easement abutting his/her property, his/her authorized agent shall make application to the Public Works Department. The Public Works Director shall determine whether or not such tree is required to be retained in order to

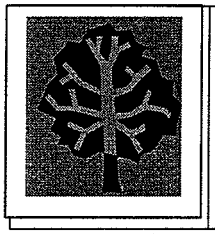
preserve the intent and purpose of the Street Tree Plan. In making his/her determination, the Public Works Director shall consider the inconvenience or hardship which retention of the tree would cause the property owner, and consider also the condition, age, and desirability of variety and location of the tree. If the Director finds that the tree may be moved without violating the intent and spirit of the Street Tree Plan, he/she may authorize the property owner to remove such tree at his/her own expense and liability. If a permit is granted for removal of a street tree, all removal work shall be completed within sixty (60) days from the date of issuance of the permit, and shall be under general supervision of, and in accordance with, rules established by the Public Works Director. All tree stumps shall be removed to a depth specified by the Public Works Director. All removal permits shall be void after the expiration of sixty (60) days from the date of issuance, unless extended by the Public Works Director.

M. Trees Trimming

Notwithstanding other provisions of this Plan, it is the duty of every person owning or occupying any land or lots of land within the City to keep all private trees extending over any street or alley trimmed up to a height of not less than twelve feet (12') except that a height or not less than eight feet (8') shall be permitted over the sidewalk area, and also to keep said space clear of debris.

N. Cooperation with other Departments and Agencies

a. The Public Works Department shall review and approve all applications for new curb, gutter, sidewalk or driveway installation, or other improvement which might require the removal of or cause injury to any street tree, or interfere with the fulfillment of the Street Tree Plan.
b. Any public utility maintaining any overhead wires or underground pipes or conduits shall obtain permission from the Public Works Director before performing any maintenance to said wires, pipes, or conduits, which would cause injury to street trees. Said public utility shall in no way injure, deface, prune, or scar any street tree until the Public Works Director has approved their plans and procedures.
c. The Public Works Director shall be permitted to inspect any and all maintenance or operational work performed by public utilities, which might affect a street tree or street trees. During the performance of said work, if in the opinion of the Director, it would cause excessive or unnecessary injury to any street tree, the Director shall have the authority to stop said maintenance and operational work and arrange with said public utility another method of maintenance or operational work satisfactory to the City.
d. The provisions of subsection (b) and (c) of this section shall not apply to emergency public utility maintenance work, which is performed during non-working hours for City personnel.



Section 5
Removals

Trees continually move through their life cycle in an urban area, just as they do in a natural forest. If the life cycle were allowed to go to completion in an urban area, ending in tree collapse and decomposition, numerous problems would arise. At some point in the life cycle, a decision must be made to remove a tree. A preservation approach exists in the City so those trees are not removed unnecessarily. When trees are removed, replacement generally occurs. Certain criteria are used to make the judgment of when a tree is removed. Five general categories are used:

A. Tree is dead, dying, or diseased
B. Tree poses a potential safety problem.
C. Tree is an undesirable species.
D. Tree is creating a hardship
E. Construction necessitates removal.

A. Tree is Dead, Dying, or Diseased

Being a living organism, trees at some point die or become diseased, unless their life cycle is interrupted at an earlier stage.

When this occurs, the trees must be removed before the final decay processes set in and a safety problem occurs. Inspections will usually identify these trees on an annual basis.

A. Tree Poses a Potential Safety Problem

Trees can pose a potential safety problem, even with a good maintenance program. Growth habits and strengths of limbs and trunks are variable. It is also difficult to know what is occurring below the ground. Certain signs of decay or weakening can be detected during inspections. These signs can be such things as fungal growth, included bark, split trunks, cavities, or a poor general appearance. Even though the tree may still be functioning and producing benefits, inspections could show that a potential problem is present which poses a high risk to public safety.

If corrective steps are not feasible, removal of the tree is necessary. At times certain work, which is necessary around the root system of trees, could leave the tree with poor anchorage. Assessments are made of whether the tree must be removed. For example, if a tree is located near a sewer line and the property owner must gain access to repair the line, the tree may have to be removed because of severe root loss necessary to clear the area of roots for repair. Some trees can produce a fruit that could cause slipping problems for pedestrians, or other traffic, near it. If the fruiting habits cannot be stopped, removal of the tree may be necessary.

B. Tree is an Undesirable Species

Certain trees which have undesirable traits are present on rights of way or easements. Thorns, brittleness, heavy fruiting and extremely invasive root systems are some of the reasons a tree may be undesirable. Birds or citizens plant most of these trees. Occasionally a major problem may occur with an established street tree, which would make it undesirable. Some examples of undesirable trees are Willows, Poplars, and Mulberry. When an undesirable species is found, its condition and value are reviewed and removal may be necessary.

C. Tree is Creating a Hardship

Conflicts of some type occur with every tree. What is considered by some to be a hardship may not be to most people. For example, certain people consider leaf raking a hardship; others may feel that insect damage creates a hardship. Certain criteria have been developed to allow for consistent interpretation of a hardship.

Hardship is interpreted to mean structural problems, such as cracking or raising of a garage floor, which could possibly be associated to tree roots. When alternatives have been attempted and the problem reappears or continues, removal may be considered.

Hardship is not extended to situations in the landscape, or with other non-structural improvements. Removal of trees due to hardship has been considered in the case of a handicapped person under special circumstances involving vehicle access.

D. Construction Necessitates Removal

Use of property can change, with the interest in new development. When existing trees are in conflict with improvements such as new building construction, removal is considered under permit procedures. However, if at all possible, the tree(s) will be preserved in new construction projects. If removal is the only alternative, the property owner is responsible for removal and replacement of trees. Replacement trees must be of a size as near to the size of the tree removed as possible, within practical limits, and in accordance to the Street Tree Plan.

Occasionally, in residential areas a property owner will want to widen a driveway where a tree exists. If the tree is less than six-inches (6") in diameter at a distance of four and a half feet (4 ½') above the ground, removal may be allowed under permit procedures. The property owner is again responsible for all costs and tasks necessary for removal and replacement of the tree. If a replacement is not possible, a charge equivalent to the current planting cost of a 24-inch boxed tree is assessed to the property owner.

Section 6
Reforestation

A visitor driving through Newman cannot help but noticing our beautiful tree lined streets. These trees did not spring up overnight. It was the vision of City officials many years ago to line our streets with a variety of trees and it is the aim of this document to continue that tradition well into the 21st century. To keep our streets lined with beautiful trees. This will promote unity and community, as well as attracting visitors and prospective residents.

A. Replacement

When a tree is removed, a gap in our forest occurs. To replace these trees, a plan consistent with the total affected area must be considered. To do this, a map indicating what trees will be planted in existing neighborhoods is maintained by the Planning Department. This map designates in general the species to be replanted on each street. Some deviation is necessary based on how the specific site fits into the standard categories.

It is the City's practice to replace trees when they are removed. However, in some cases the trees removed may not be replaced. This occurs when there is not adequate room for replacement due to poor site selection originally or because adjacent trees exist which will fill the void quickly.

B. Older Trees Reforestation Plans

The older areas of the city that were constructed in the 1950's or 1960's have a high number of trees that have reached maturity or are declining. These neighborhoods have become accustomed to tree lined streets. In most cases, these older trees are removed on a gradual basis so that a minimal impact in the neighborhood can be felt.

Occasionally, a high number of trees may be declining at the same time in a limited area. This could result from years of severe drought, pest/disease infestation, damage caused by storms, or failure of the tree due to age. When this occurs special attention is given to minimize the impact on the neighborhood. This generally occurs when more than 50% of the trees in a neighborhood have been, or will be, removed within a five-year period. In this situation, a reforestation plan is drawn up which indicates:

1. Which trees will be removed
2. Over what time period the removal will be necessary
3. What impact the removals will have on the neighborhood
4. What type of tree will be used as a replacement, what size tree will be planted, and when planting will occur

5. What type of citizen contact will be necessary
6. The objective of this special attention is to minimize the transition problems associated with converting a tree lined street to a street with a mixed age population.

Reforestation plans may also be developed when a certain tree species develops multiple or specific problems and no practical solution to the problems are available.

Section 7
Other Considerations

A. Determination of Public Trees

The care of all trees on City owned properties such as parks and recreational areas are the responsibility of the City. Trees along the street that have at least the centerline of the tree at ground level within the right of way or easements are also considered to be a City responsibility.

B. New Development or Subdivision Street Tree Plans

In accordance with the development regulations of the City of Newman, subdivision proposals and other types of new develop are, or may be, required to prepare a street tree plan. These plans are considered an amendment to the City of Newman's Street Tree Plan and must be submitted to the Public Works Department and the Planning Department for review and comment. Such plan, when approved by the City Manager, shall be submitted to the Planning Commission, which shall review said plan and submit its recommendations to the Council. After making any revisions thereto which it may deem advisable, the Council shall adopt such plan by resolution.

Other amendments to this plan shall be made in the same manner as the original adoption.

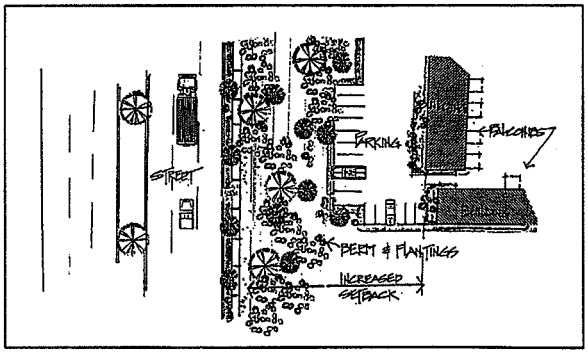
C. Damage to Trees by People

At times people damage trees intentionally or unintentionally. When the Public Works Department or Planning Department becomes aware of these situations, an evaluation is made and billing for damages is prepared if the responsible party can be located. Should damage be intentional, police action may be necessary.

The most common cause of tree damage is from vehicle accidents. Cars occasionally strike trees and other public property. Public trees are considered to have a value and an accurate assessment of tree value and/or damages to the trees can be determined.

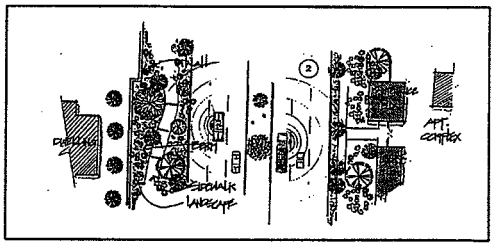
D. Business Signs

Trees can cause visibility conflicts with the business signs. It is our practice not to prune trees for better visibility of signs. Some pruning may be done when scheduled maintenance is required on the tree. However, special arrangements are not made to alter the normal growth habits of a tree.

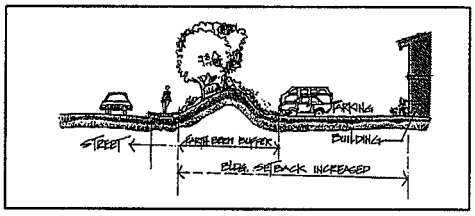


E. Landscaped Sound Barriers

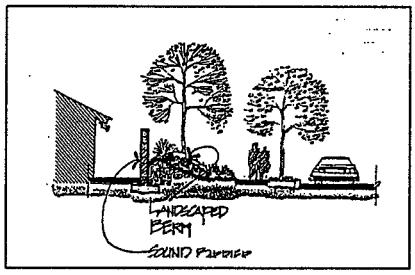
As part of the urban development process, large public and private landscape areas are typically set aside to buffer traffic and other noise sources from residential and commercial use areas. These buffer areas are ideal open areas for planting trees and adding other landscape elements.



Cars and trucks, and trains are the most pervasive outdoor noise sources. Several approaches can be taken to lower the impact of noise. Barriers are typically used to provide some noise attenuation. The amount of noise reduction depends upon the material and design of the barrier. Solid structures provide the most attenuation; vegetation will only abate noise a little, but psychologically can provide a more relaxed environment.



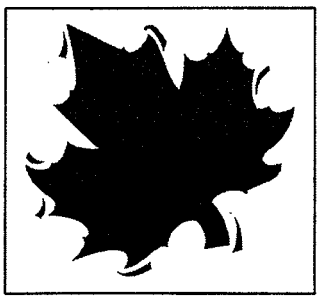
Site planning can also be used as a tool for noise reduction. Many site-planning techniques can be employed to protect sensitive uses from excessive noise. These are among others:



(1) Increasing the distance between the noise source and the receiver;
(2) Placing noise compatible land uses (parking, utility rooms, maintenance buildings, etc.) between the source and the receiver;
(3) Locating the barrier-type facility or building parallel to the noise source; and,
(4) Orienting the noise-sensitive use away from the source of noise.

All these techniques can be used to attenuate the actual noise reaching a noise-sensitive land use, without adding an excessive burden or cost to a specific proposal.

At the same time, landscape, landscaped berms, and sound walls have varying degrees of effectiveness with respect to noise attenuation. Landscaping, however, is an important element in any noise attenuation plan. Trees, vines and bushes add texture to sound walls and help reduce graffiti and other vandalism.



Section 8
References & Resources

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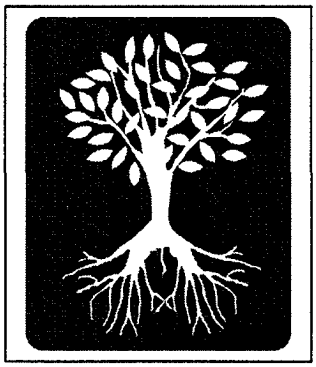
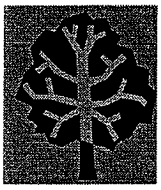


Appendix "A"
City of Newman Master Tree List

Chinese Pistache ***Pistacia chinensis (Budded Sterile Male Trees Only)***
Raywood Ash ***Fraxinus oxycarpa***
Moraine Ash ***Fraxinus moranous***
White Ash ***Fraxinus americana***
Green Ash ***Fraxinus pennsylvanica***
Tulip Tree ***Liriodenoron tulipifera***
Autumn Gold (Maidenhair Tree) ***Ginkgo biloba***
Red Oak ***Quercus rubra***
Live Oak ***Quercus agriflia***
Holly Oak ***Quercus ilex***
Bradford Pear ***Pyrus calleryana***
Chinese Tallow ***Sapium sebiferum***
Japanese Privet ***Ligustrum japonica***
Chinese Hackberry ***Celtis occidentalis, sineisis***
Australian Willow, Wilga ***Geijera parviflora. Rutaceae***
Greenshire Little Leaf Linden ***Tilia cordata***
American Linden ***Tilia Americana***
Japanese Zelkova ***Zelkova serrata***
Black or Sun Burst Locust ***Robinia pseudoacacia***
Eastern Redbud ***Cercis candensis***
Plane Tree, Sycamore. ***Platanus. platanaceae***
London Plane Tree ***Platanus acerifolia***
African Sumac ***Rhus*** **(Male Only)**
Chinese Elm, Chinese Evergreen Elm ***Ulmus Ulmaceae parvifolia*** **(often sold a** ***U. p.*** **'Sempervirens')**
Liquidambar ***Hamamelidiaceae***
Kentucky Coffee Tree ***Gymnocladus dioica.***
Japanese Tree Lilac. ***S. reticulata (s. japanica, S. amurensis japonica).***
Crape Myrtle ***Lagerstroemia indica Lythraceae.***
Tident Maple ***A. buergeranum***
Japanese Maple ***A. palmatum***



Appendix "B"
Tree Descriptions

Newman Urban Forest Tree Species Resource Guide
Sunset Western Garden Book
Climate Zone 8

Pistache ***Pistacia anacardianceae***
Deciduous or semi-evergreen trees. Divided leaves on all species. Flowers are now showy. Female trees bear fruit after several years if male trees are nearby. O species described, only P. *vera* bears edible fruit (nuts). Others are ornamental trees. Verticillium wilt may strike established trees. Minimize susceptibility by planting in well-drained soil, watering deeply and infrequently.

Chinese Pistache ***Pistacia chinensis***
Moderate growth to 60 feet tall, 50 feet wide. Young trees often gawky and lopsided, but older trees become dense and shapely with reasonable care. Leaves with 10-16 paired leaflets 2-4 inches long by ¾ inches wide. Foliage colors beautifully in fall-scarlet, crimson, orange, sometimes yellow tones. Fruit on female trees bright red, turning dark blue. Not fussy as to soil or water; accepts moderately alkaline conditions, lawn watering though verticillium wilt is a danger or no summer watering at all (this only in deep soils). Resistant to oak root fungus. Stake young trees and prune for first few years to develop head high enough to walk under. Reliable tree for street or lawn, patio or garden corner planting.

Ash ***Fraxinus oleaceae***
Deciduous trees, one almost evergreen. Trees grow fairly fast and most tolerate hot summers, cold winters and many kinds of soil (including alkaline soil). Chiefly used as street trees, shade trees, lawn trees, patio shelter trees. Fairly pest free.

In most cases leaves are divided into leaflets. Male and female flowers generally inconspicuous, in clusters) grow on separate trees in some species, on same tree in others. In latter case, flowers are often flowed by clusters of single-seeded, winged fruit, often in such abundance that they can be a litter problem. When flowers are on separate trees, you'll get fruit on female tree only if it grows near a male tree.

White Ash ***F. americana.*** Native to eastern U. S. and grows to 80-feet in height with straight trunk and oval-shaped crown. Leaves 8-15 inches long with 5-9 dark green, oval leaflets, paler beneath; turn purplish in fall. Needs some watering. Edges show burning in hot, windy areas. Male and female flowers on separate trees, but plants sold are generally seedlings, so you don't know what you're getting. With both male and female trees, you

will get a heavy crop of seed; letter and seedlings a problem. Seedless selections include "Autumn Applause" and Autumn Purple", both with exceptionally good, long-lasting purple fall color; Champaign County" a dense upright oval with brown and purple fall color.

Green Ash, Red Ash *F. Pennsylvania (F. lanceolata)*. Deciduous, native to eastern U.S. Moderate grower to 30-40 feet in height forming compact oval crown. Gray brown bark; dense twiggy structure. Leaves 10-12 inches long, divided into 5-9 bright green, rather narrow, 4-6 inch long leaflets. Male and female flowers on separate trees. Takes wet soil and severe cold but foliage burns in hot dry winds. Seedless varieties include; "Marshall", "Summit", "Bergeson", "Emerald" "Patmore" and "Urbanite".

***F. oxycarpa*.** Compact, small-leafed, fine-textured ash with delicate, lacy look. The species is not known in the West; the following selection from Australia is choice.

Raywood Ash, Claret Ash *Fraxinus oxycarpa*
Compact, round-headed, fast-growing tree to 25-35 feet. Produces no seeds. Purple red fall color.
F. holotricha.
Deciduous tree. Native of eastern Balkan Peninsula. Upright, rather narrow tree to 40 feet in height. Leaves of 9-13 dull green, 2-3 inches long leaflets with toothed edges. Casts light, filtered shade. Leaves turn yellow in fall, dry up and sift down into lawn or ground cover, thus lessening litter problem.

***F.h.* 'Morain' Ash.**
Selected variety; more round headed than species, produces few seeds. Good lawn tree-neat, symmetrical, uniform bright yellow in fall.

***F. velutina* (Arizona Ash)**
Deciduous tree. Native to Arizona. Tree withstands hot, dry conditions and cold to about –10 F. Pyramidal when young; spreading, more open when mature. Leaves divided into 3-5 narrow to oval, 3 inch long leaflets. Male and female flowers on separate streets.

***F.v.* 'Modesto" Ash** Selection from tree in Westside Park, Modesto, California. Vigorous form of Arizona ash. Grows to about 50 feet, with a 30-foot spread. Medium green leaflets, glossier than those of the species, turns bright yellow in fall. In many area, Modesto Ash leaves get scorched look following a wet spring. This is caused by fungus disease called anthracnose. Control by spraying with benomyl. Prune out and dispose of infected wood; it can re-infect. Veticillium wilt is prevalent in agricultural areas; there is no control once it's started in young trees, but established trees often survive. Keep trees vigorous; if any are lost, replace with Raywood Ash. Control aphids, psyllids, and spier mites with contact spray. Resistant to oak root fungus.

Tulip Tree *Liriodenoron tulipifera*
Deciduous tree. Fast Growth to 60-80 ft., with eventual spread to 40 ft. Straight columnar trunk, with spreading, rising branches that form tall pyramidal crown. Lyre-shaped

leaves, 5-6 inches long and wide, Turn from bright yellow green to bright yellow (or yellow brown) in fall. Tulip-shaped flowers in late spring are 2 inches wide, greenish yellow, orange at base. Handsome at close range, thy are not showing on the tree being high up and well-concealed by leaves. They are not usually produced until tree is 10-12 years old.

Tree needs room, deep, rich, swell-drained neutral or slightly acid soil; plenty of summer water. Best where constant wind from one direction won't strike it. Control scale insects and aphids as necessary. Not bothered by oak rot fungus.

Good large shade, lawn, or roadside tree. Spreading root system makes it hard to garden under. Columnar variety 'Arnold' is useful in narrow planting areas; it will bloom 2-3 years after planing. 'Majestic Beauty' (L. t. 'Aureo-marginatum') has leaves edged with yellow. Moderate growth rate, size.

Autumn Gold (Maidenhair Tree) ***Ginkgo biloba***
Deciduous tree. Graceful, hardy tree, attractive in any season, especially in fall when leathery, light green leaves of spring and summer suddenly turn gold. Fall leaves linger, then drop quickly and cleanly to make golden carpet where they fall. Related to conifers but differs in having broad (1-4 inch wide), fan-shaped leaves rather than needlelike foliage. In shape and veining, leaves resemble leaflets of maidenhair fern, hence name. Can grow to 70-80 feet, but most mature trees are 35-50 feet . May be gawky in youth, but becomes well-proportioned with age. Narrow to spreading or even umbrella shaped at maturity. Usually grows slowly, about 1-foot per year but under ideal conditions can grow up to 3-feet per year.

Plant only male trees (grafted or grown from cuttings of male plants); female trees produce messy, fleshy, ill-smelling fruit in quantity. Named varieties listed below are reliably male. Use as street tree, lawn tree. Plant in deep, loose, well-drained soil. Be sure plant is not root-bound in can. Stake young trees to keep them straight; young growth may be brittle, but wood becomes strong with age. Water through dry seasons until 10-20 feet high, then let tree become self-sufficient. In general, ginkgos are not bothered by insects or diseases. They are resistant to oak root fungus.

> ***G. b.*** **'Autumn Gold'**. Upright, eventually rather broad.
> ***G. b.*** **'Fairmount'** Fast-growing, pyramidal form. Straighter main stem than; Autumn Gold', requires less staking and tying.

Oak ***Quercus fagceae***
Deciduous or evergreen trees. Western homeowners acquire oak trees in either of 2 ways. They may plant the trees themselves, starting from a nursery plant or an acorn or they may simply have a native oak tree, left from the days when the land was wild, on their property.

The method of acquisition is quite significant. An oak tree planted in a garden will vigorously and fast (1 ½ - 4 feet per year). It probably will not experience poor health or

any unusual pest attacks, whether it's a western native or not. Old wild tree, on the other hand, quite frequently cannot handle the surfeit of water and nutrients that they receive in a garden and must be given special treatment.

Special treatment for existing native oaks. If possible, do not raise or lower grade level between trunk and drip line. If you must alter grade, put a well around the base of trunk so that grade level there is not changed. Never water within 4-feet of trunk or allow water to stand within that area. Any of a number of sucking and chewing insects and mites feed upon existing native oaks. Most of the time these creatures are kept in check by other insects and mites, birds, and by insect-and-mite troubles that we don't even know about.

Occasionally, though, an outbreak of some organism-usually oak moth larvae- gets bad enough to required artificial control. When that happens, call a commercial arborist or pest control firm to diagnose and treat the problems; oak trees are too big for home owners to reach with their limited spray equipment.

Oak root fungus (Armilliaria) is often present in many California neighborhoods that once were oak forests or walnut groves. Get an arborist's advise on how to sustain infected trees. All old oaks, infected or not, can benefit from feeding and deep watering (fertilize and irrigate only out near drip line).

Old native oaks also benefit from periodic grooming to remove dead wood. However, arborists should not cut thick branches unless they have good reasons for doing so, since excessive pruning may stimulate succulent new growth that will be subject to mildew.

Q. rubra, Q. rubra maxima, Q. Borealis **Red Oak, Northern Red Oak.** Deciduous. Fast growth to 90 feet. Broad, spreading branches and round-topped crown. Leaves 5 – 8 inches long by 3 – 5 inches wide, with 3 – 7 pairs of sharp-pointed lobes. New leaves and leaf stalks are red in spring, turning to dark red, ruddy brown, or orange in fall. Needs fertile soil and plenty of water. Stake young plants. High-branching habit and reasonably open shade make it a good tree for big lawns, parks, broad avenues. It deep roots make it good to garden under.

Q. agriflia **Coast Live Oak** Evergreen tree. Native to Coast Ranges. Round-headed, wide-spreading tree to 20 – 70 feet high, often with greater spread. Smooth, dark gray bark. Dense foliage of rounded, holly-like, 1 –3 inch long leaves, slightly glossy n upper surface. As planted tree from nursery or acorn, it can grow as high as 25 feet in ten years, 50 feet in 25-years. Attractive green all year unless hit by oak moth larvae. Has greedy roots and drops almost all its old leaves in early spring just when gardening time is most malleable. Regardless of these faults, it's a handsome and quite worthwhile shade tree or street tree. Can be sheared into a handsome 10-20 foot hedge.

Q. ilex **Holly Oak Holm Oak.** Evergreen. Native to Mediterranean region. Grows at a moderate rate to 40-70 feet high, with equal spread. Leaves vary in shape and size, but are usually 1 ½ - 3 inches long ½ -1 inches wide, either toothed or

smooth edged, dark, rich green on upper surface, yellowish or silvery below. Tolerates wind and salt air; will grow in constant sea wind, but tends to be shrubby there. Inland, growth rate can be moderately fast but varies with soil and water conditions. Good evergreen street or lawn tree where coast live oak is difficult to maintain, but lacks open grace of coast live oak. Can take hard clipping into formal shapes or hedges.

Ornamental Pear *Pyrus rosaceae*
Deciduous or evergreen trees. Most ornamental species are subject to fireblight. All are best in full sun, will get along with no more than moderate summer watering once established.

***P. calleryana* Bradford Pear** Grows to 25-50 feet. Strong horizontal branching pattern. Leaves 1 ½ -3 inches long., broadly oval, scalloped, dark green, very glossy and leathery, Flowers clustered, pure white, ¾ -1 inch wide; very early bloom. In coldest areas, flower crop may be destroyed by late freezes in some years. Fruit very small, round, inedible. Fairly resistant to fireblight; rich purplish red fall color.

'Bradford', original introduction, has strongly horizontal limbs, has reached 50-feet in height, 30-feet in width. 'Aristocrat' is more pyramidal, with up-curving branches. 'Redspire' is similar, with yellow to red fall color. 'Capital' and 'Whitehouse' are narrowly columnar. 'Chanti-cleer' is narrow but not columnar, about 40 feet tall by 15 feet wide. 'Trinity' is round-head form.

Chinese Tallow *Sapium sebiferum Euphorbiaceae.*
Deciduous tree. To 35-feet with dense round or conical crown of equal width. Outstanding fall color. Tends toward shrubbiness, multiple trunks, suckering, but easily trained to single trunk. In colder areas, un-ripened branch tips freeze back each winter; new growth quickly covers damage, but may require thinning. Leaves are poplar-like, roundish, tapering to slender point, light green. Foliage is dense, but general effect is airy; leaves flutter in lightest breeze. If tree is in full sun and has moderate autumn chill, its foliage turns brilliant, translucent, neon red. Some trees color plum purple, yellow, orange, or mixture of colors. If possible, select your tree while it is in fall color; a few specimens have shown nondescript yellow instead of flaming red. Tiny yellowish flowers in spikes at branch tips; fruit small, clustered, grayish white; they are covered by a waxy coating.

Hardy to 10* - 15* F. Grows in most soils, but does somewhat better in mildly acid conditions. Give it ample water for fast growth and prune only to correct shape. Stake young plants securely. Good lawn or street tree, patio or terrace shade tree. Resistant to oak root fungus. Good screening against low summer sun or objectionable view. Gives light to moderate shade.

Privet *Ligustrum. Oleaceae*
Deciduous or evergreen shrubs or small trees. Most widely used in hedges. Can also be clipped into formal shapes and featured n tubs or large pots. One type is a common street tree. All have abundant, showy clusters of white to creamy white flowers in late spring or early summer. (Clipped hedges bear fewer flowers because most of the flower-bearing branches get trimmed off.) Fragrance is described as "pleasant" to "unpleasant". Flowers draw bees. Small, blue black, berry-like fruit follows blossoms. Birds eat fruit, thus distributing seeds resulting in multitudes of seedlings.

Most privets are easily grown in sun or some shade, and in any soil. Give them lots of water. In some areas they are subject to lilac leaf miner, which disfigures leaves.

Confusion exists concerning identity of certain privets in nurseries. The plant sold as *L. japonicum* usually turns out to be the small tree *L. lucidum*. The true *L. Japonicum* is available in 2 (or more) forms. The tall, shrubby kind is the true species; the lower-growing, more densely foliaged form is typically sold as *L. texanum*, and probably should be called *L. japonicum* 'Texanum'. In a similar fashion, the smaller-leafed hardy privets used for hedging are often confused; *L. amurense*, *L. ovalifolium*, and *L. vulgare* look much alike and any is likely to be sold as common privet, a name that belongs *to L vulgare.*

> ***L. japonicm* Japanese Privet** Evergreen shrub. Dense, compact growth habit to 20 – 12 feet, but can be kept lower by trimming. Roundish oval leaves 2 – 4 inches long, dark to medium green and glossy above, distinctly paler to almost whitish beneath; have thick, slightly spongy feeling. Excellent plants for hedges or screens, or for shaping into globes, pyramids, other shapes, or small standard trees. Sunburns in hot spells. In areas of caliche soil, or where Texas root rot prevails, grow it in containers.

Hackberry *Celtis Ulmaceae*
Deciduous trees. Related to elms and similar to them in most details, but smaller. All have virtue of deep rooting; old trees in narrow planting strips expand in trunk diameter and nearly fill strips; but without a surface rood or any sign of heaving the sidewalk or curb. Bare-root plants, especially in larger sizes, sometimes fail to leaf out. Safer to buy in containers. Or try for small bare-root trees with big root systems. Especially good in windy locations. Though young trees should be staked until well established. When established, trees will take wind, desert heat, much drought, and alkaline soil.

Street or lawn trees, even near buildings or paving; will take overhead shade. All have inconspicuous flowers. Only pest problems of note seems to be occasional aphid attack. Trees are attractive to birds.

> ***C. occidentalis* Common Hackberry** Native to eastern U. S. Grows to form rounded crown 50 feet high or more and nearly as wide. Branches are spreading and sometimes pendulous. Leaves oval, bright green, 2 – 5 inches long, finely

toothed on edges. Tree does not leaf out until April or later. Resistant to oak root fungus. Tolerates high-plains heat, wind, alkaline soil, urban pollution.

C. sineisis **Chinese Hackberry, Yunnan Hackberry** Similar in growth habit to common hackberry, but smaller. Leaves to 4 inches long, smoother and glossier than those of other hackberries, with scallop-toothed edges.

Australian Willow, Wilga ***Geijera parviflora. Rutaceae***
Graceful, fine textured, to 25 30 feet high, 20 foot wide. Main branches sweep up and out, little branches hang down, Distant citrus relative; called Australian willow because its 3 – 6 inch long, narrow, medium green, drooping leaves give a kind of weeping willow effect. With age, produces loose clusters of unimportant small, creamy white flowers in early spring, early fall. Well-drained soil and full sun; plant tolerates light shade but tends to be thin in foliage. Established three resists drought but responds to ample water with faster growth. Needs pruning only to correct from (much less pruning than willow). Quite pest free.

Has much of the willow's grace and the eucalyptus's toughness. Moderate growth rate; deep, noninvasive roots. Casts light shade. Plant singly as patio or street tree. Or in colonies for attractive grove effect.

Linden ***Tilia. Tiliaceae***
Deciduous trees. Dense, compact crowns. Much used for street and park planting in Europe. All have small, quite fragrant, yellowish white flowers in drooping clusters. All respond well to deep rich soil and plenty of water. All grow at slow to moderate rate. Young trees need staking and shaping. Older trees need only corrective pruning. Under certain circumstances, aphids cause disagreeable drip of honeydew and accompanying sooty mildew.

T. americana **American Linden** To 40-60 feet with 20 – 25 foot spread. Straight trunk; dense, compact narrow crown Heart-shaped, dull dark green leaves to 4-6 inches long, 3-4 inches wide (some times longer). Lose clusters of fragrant, yellowish white flowers in June-July. "Redmond" is a pyramidal form with glossy foliage.

T. cordata **Little-Leaf Linden** To 30-50 feet with 15 – 30 foot spread. Form densely pyramidal. Leaves 1 ½ - 3 inches long, equally broad or broader, dark green above, silvery beneath. Flowers in July. Excellent medium-sized lawn or street tree. Given space to develop its symmetrical crown, it can be a fine patio shade tree (but expect bees in flowering season). It is the hardiest linden. 'Chancellor', Glenleven', 'Greenspire', 'June Bride', and 'Olympic' are selected forms. 'June Bride' has an especially heavy show of flowers.

Japanese or Sawleaf Zelkova *Zelkova serrata Ulmaceae*
Deciduous tree. A good shade tree, it grows at moderate to fast rate, eventually to 60 feet or higher and equally wide. Smooth, gray bark like that of beech. Leaves similar to those of elm (2 – 3 ½ inches long by 1 ½ inches wide) but rougher textured, with saw-tooth margins. Carefully train young trees to develop strong framework – head back excessively long pendulous branches to force side growth, thin competing branches to permit full development of the strongest. Water deeply to encourage deep rooting. Pest resistant, but elm leaf beetles are a problem in local elms died.

Fall foliage color varies from yellow to dark red to dull reddish brown. Three grafted selections are sold; 'Halka', the fastest growing , resembles American elm more than do 'Green Vase' and 'Village Green. All are good substitutes for elm.

Locust *Robinia Leguminosae*
Deciduous trees or shrubs. Leaves divided like feathers into many roundish leaflets; clusters of sweet pea-shaped, white or pink flowers mid-spring to early summer. They are hardy everywhere, fairly fast growing, and sell adapted to dry hot regions. Will take poor soil, much drought when established. Drawbacks: wood is brittle, roots aggressive, plants often spread by suckers.

> ***R. pseudoacacia* Black or Sun Burst Locust Tree**; fast growth to 75 feet, with rather open, sparse-branching habit. Deeply furrowed brown bark. Thorny branchlets. Leaves divided into 7 – 19 leaflets 1 – 2 inches long. Flowers are white, fragrant, ½ - ¾ inches long, in dense, hanging clusters 4 –8 inches long. Bean-like, 4-inch long pods turn brown and hang on tree all winter.
>
> Emigrants brought seeds with tem from eastern U. S., and black locust is now common everywhere in West. In California's Gold Country it has gone native. Very drought tolerant. With pruning and training in its early years, it is a truly handsome flowering tree – but it is so common, and so commonly neglected, that it's often overlooked.
>
> Has been used as street tree, but not good in narrow parking strips or under power lines. Wood is extremely hard, tough; trees difficult to prune out where not wanted. Varieties include:
>
> > ***'Frisia'***. Leaves yellow; new growth nearly orange. Thorns; new wood red.
> > ***'Pyramidalis'.('Fastigiata').*** Very narrow, columnar tree.
> > ***'Tortuosa'.*** Slow growing, with twisted branches. Few-flowered blossom clusters.
> > ***'Umbraculifera'.*** Dense, round headed. Usually grafted 6 – 8 feet high on another locust. Very few flowers.

Redbud *Cercis. Leguminosae*
Deciduous shrubs or trees. Five redbuds are grown in the West; 2 western natives, one eastern native, one from Europe, one from China. Early spring flowers are sweet pea-shaped, small, in clusters; where tree is adapted, blossoms are borne in great profusion on

bare twigs, branches, sometimes even on main trunk. Flowers are followed by clusters of flat pods. Attractive broad, rounded leaves are heart shaped at base. All give fall color with first frosts. Average water needs (except for drought-tolerant *C. occidentalis*)

> ***C. candensis* Eastern Redbud** Native of eastern U. S. Largest and fastest growing of available species where adapted. To 25 – 35 feet tall. Most apt to take tree form. Round headed but with horizontally tiered branches in age. Rich green, 3 – 6 inches long leaves have pointed tips. Small (1/2 inch long), rosy pink flowers clothe bare brown branches in early spring. Valuable for filling the gap between the early-flowering fruit trees (flowering peach, flowering plum), and the crabapples and late-flowering cherries. Varieties are 'Alba' (white flowers), 'Forest Pansy' (purple foliage, needs some shade in hot climates), 'Oklahoma' (wine red flowers, thick, glossy, heat resistant leaves), 'Plena' (double flowers), and 'Rubye Atkinson' (pure pink flowers).

Plane Tree, Sycamore. *Platanus. platanaceae*
Deciduous trees. All grow large, have lobed, maple-like leaves. Older bark sheds in patches to reveal pale, smooth, new park beneath. Brown, ball-like seed clusters hang from branches on long stalks through winter; prized for winter arrangements. Somewhat drought tolerant but better with some deep watering in summer. Subject to blight (anthracnose) which causes early, continued leave fall; *p. racemosa* especially susceptible. Rake up and dispose of dead leaves, since fungus spores can over-winter on them.

> ***P. acerifolia (P. orientalis)* London Plane Tree** Fast growth to 40 – 80 feet, with 30 – 40 foot spread. Smooth, cream-colored upper trunk and limbs. Leaves are 3 – 5- lobed, 4- 5 inches wide. Tolerates most soils, stands up beautifully under city smog, soot, dust, reflected heat. Can be pollarded to create dense, low canopy.
>
> Watch for spider mites and scale. Boot street, park, or lawn tree. Used on lines and blocks for formal plantings; avenues, screens masses. Powdery mildew can cause premature leave drop in some seasons. The scarce variety 'Yarwood' is somewhat resistant. 'Bloodgood' has some resistance to anthracnose.

Sumac *Rhus. Anacardianceae*
Evergreen or deciduous shrubs or trees. Of the ornamental sumacs, deciduous kinds are hardy anywhere and thrive in poor soils. They tend to produce suckers, especially if their roots are disturbed by soil cultivation. They need some water. Evergreen sumacs are not as hardy as the deciduous kinds, but they will grow in almost any soil as long as it is well drained (soggy soils may kill them). They are fire retardant if fairly well watered.

> ***R. lancea* African Sumac** Evergreen tree. Slow growing to 25-feet. Open, spreading habit; graceful weeping outer branchlets. Leaves divided into 3-willow-like, dark green leaflets 4-5 inches long. Pea-sized, berry-like, yellow or red fruit grows in clusters on female tree, can be messy on pavement.

African Sumac can tolerate high summer heat. Established plants are drought resistant, but will also thrive in lawns. Hardy to 12* F. Stake and prune to establish form you want. Makes attractive, airy tree with interesting branch pattern and effective dark red, rough bark. You can train it to a single trunk or let it grow as multi-trunked tree that looks somewhat like olive. Also useful as screens, clipped hedges, or background plantings. Old plants easy to transplant if grown under dry conditions.

Elm *Ulmus Ulmaceae*

Deciduous or partially evergreen trees. Easy to grow in any fairly good soil; will survive in most poor ones. Best with normal watering, but will tolerate low moisture conditions at expense of good growth, plant health. Root systems are aggressive and close to surface; you will have trouble growing other plants under these trees. Branch crotches often narrow, easily split. Many of the larger elms are tasty to leaf beetles, bark beetles, leafhoppers, aphids, and scale, making them either time-consuming to care for or messy (or both). Dutch elm disease, formerly a problem in the East and Midwest, has reached western states.

***U. parvifolia* (often sold a *U. p.* 'Sempervirens') Chinese Elm, Chinese Evergreen Elm.** Evergreen or deciduous according to winter temperatures and tree's individual heredity. So-called evergreen elm usually sold as 'Sempervirens'; this may be evergreen most winters, lose its leaves in unusual cold snap (new leaves come on fast). Very fast growth to 40- 60 feet, with 50 – 70 foot spread. Often reaches 30 feet in 5 years. Extremely variable in form, but generally spreading, with long, arching, eventually weeping branchlets. Trunks of older trees have bark, which sheds in patches somewhat like sycamore. Leaves leathery, ¾ - 2 ½ inches long, 1/3 – 1 1/3 inches wide, oval, evenly toothed. Round fruit forms in fall while leaves are still on tree.

Stake young trees until trunks can carry weight of branches. Stake and head leading shoot higher than other shade trees to compensate for weeping. Rub or cut out small branches along trunk for first few years. Shorten overlong branches or strongly weeping branches to strengthen tree scaffolding. Older trees may need thinning to lessen chance of storm damage. Very little bothered by pests or diseases.

Good for patio shade in milder portions of West. Useful for sun screening. With careful pruning, useful as a street tree.

Varieties are 'Brea', with larger leaves, more upright habit; and 'Drake', with small leaves, weeping habit. Both are more or less evergreen. 'True Green' has small deep green leaves, is round headed, more evergreen than others.

Sweet Gum
Liquidambar *Hamamelidiaceae*
Deciduous trees. Valuable for form, foliage, and fall color, easy culture. Moderate growth rate; young and middle-aged trees generally upright, somewhat cone shaped, spreading in age. Lobed, apple-like leaves. Flowers inconspicuous; fruits are spiny balls which ornament trees in winter, need raking in spring.

Requires neutral or slightly acid soils; cholorosis is strongly alkaline soils is hard to correct. Prune only to shape. Trees branch from ground up and look most natural that way; can be pruned high for easier foot traffic.

Good street trees. Form surface roots which can be nuisance in lawns or parking strips. Effective in tall screens or groves, planted 6-10 ft. apart. Brilliant fall foliage. Leaves color best when trees are in full sun and well-drained soil; fall color less effective in mildest climates or in mild, late autumns. For best appearance, should be watered deeply once a month in heavy soils, twice a month in sandy soils through dry season.

L. formosana. (Chinese Sweet Gum) To 40-60 ft. tall, 24ft. wide. Free-form outline; sometimes pyramidal, especially when young. Leaves 3-5 lobed, 3-4 ½ inches across, violet red when expanding, then deep green.

L. orientalis (Oriental Sweet Gum). Native to Turkey. To 20-30 feet; spreading or round headed. Leaves 2-3 inches wide, deeply lobed, each lobe again lobed in lacy effect. Resistant to oak root fungus.

L. styraciflua (American Sweet Gum) Grows to 6- feet. Narrow and erect in youth, with lower limbs eventually spreading to 20-25 feet. Tolerates damp soil; resistant to oak root fungus. In winter, branching pattern, furrowed bark, corky wings on twigs, and hanging fruit give interest; in spring and summer, leaves are deep green; in fall, leaves turn purple, yellow or red. Even seedling trees give good color (which may vary somewhat from year to year), but for uniformity, match trees while they are in fall color or buy budded trees of a named variety, which as the following:

> *'Burgundy'*. Leaves turn deep purple red, hang late into winter or even early spring if storms are not heavy.
> *'Festival'* Narrow, columnar. Light green foliage turns to yellow, peach, pink, orange, and red.
> *'Palo Alto'* Turns orange red to bright red in fall.

Kentucky Coffee Tree *Gymnocladus dioica* Deciduous tree, native to eastern U. S. Saplings grow very fast, but slow down at 8-10 feet. Trees ultimately reach 50 feet in height. Narrowish habit in youth. Older trees broader, with fairly few heavy, contorted branches. These, together with stout winter twigs, make bare tree picturesque. Leaves (1 ½ - 3 feet long) come out late in spring; they are pinkish when expanding, deep green in summer, yellow in autumn. Inconspicuous flowers are followed by 6-10 inch long flat reddish brown pods containing hard black seeds. Average soil and routine watering.

Established trees will take some drought, much heat and cold, poor soil. Effective for form in any cold-winter garden.

Lilac ***Syringa Oleaceae*** Deciduous shrubs, rarely small trees. Best where winter brings pronounced chill, but some bloom well with light chilling. Sun, light shade in hottest areas. All like alkaline soil.

Japanese Tree Lilac. ***S. reticulata (s. japanica, S. amurensis japonica).*** Large shrub easily trained as single-stemmed 30-ft. tree. Bark is smooth, something like cherry in its gloss. Large leaves (to 5 inches long). White flower clusters to 1 ft. appear in late spring, early summer. Flowers showy, but not fragrant; they smell like privet flowers. Useful small shade or street tree in difficult climates.

Crape Myrtle ***Lagerstroemia indica Lythraceae.*** Deciduous shrub or tree. Root hardy and sometimes treated as perennial. Flower freely. Native of China. Dwarf shrubby forms and shrub-tree forms, 6-30 feet tall. Slow growing as shrub, spreads as wide as high; trained as tree, becomes vase shaped with very attractive trunk and branch pattern. Spring foliage is light green tinged bronze red; mature leaves 1-2 inches long, oval deep glossy green. Fall foliage is yellow, more rarely orange to red. Crinkled, crepe-like, 1 ½ inch flowers in rounded, slightly conical clusters, 6-12 inches long, at ends of branches. Colors in shapes of red, rose, deep or soft pink, rosy orchid, purple, white. Long flowering period from July to September.

Subject to mildew. Selections called Indian Tribes have heavy foliage with considerable resistance to mildew. (Catawba, Cherokee, Potomac, Seminole, Powhata). Hybrids between *L. indica* and the species *L. fauriei* have even greater resistance to mildew than Indian Tribes.

Maple ***Acer Aceraceae*** Deciduous or evergreen trees or large shrubs. Larger maples have extensive fibrous root systems that take water and nutrients form the topsoil. The great canopy of leaves calls for a steady, constant supply of water not necessarily frequent watering, but constantly available water throughout the root zone. Ample deep watering and periodic feeding will help keep roots down.

Tident Maple ***A. buergeranum*** Native of China and Japan. Grows 20-25 feet high. Lobed leaves that are pale beneath. Fall color usually red, varies to orange or yellow. Low, spreading growth; A decorative, useful patio tree and favorite bonsai subject.

Japanese Maple ***A. palmatum*** Native to Japan and Korea. Slow rowing to 20-feet; normally many stemmed. Most airy and delicate of all maples. Leaves 2-4 inches long, deeply cut into 5-9 toothed lobes. All-year interest; young spring growth is flowing red; summer's leaves are soft green; fall foliage scarlet, orange, or yellow. Slender leafless branches in greens and reds provide winter pattern. Resistant to oak root fungus.

Date Palm *Phoenix Palmae*

Mostly large feather palms, but one a dwarf. Trunks patterned with bases of old leaf stalks. Small yellowish flowers in large, hanging sprays followed by clusters of often edible fruit (*P. dactylifera* bears dates of commerce). These palms hybridize freely, so buy from reliable nurseryman who knows his seed or plant source.

***P. canariensis* Canary Island Date Palm** Big, heavy-trunked plant to 60-feet tall with 50-foot spread composed of a great many gracefully arching fronds. Grows slowly until it forms trunk, then speeds up a little. Young plants do well in pots for many years, looking something like pineapples. Grow on slopes, in parks, big spaces along wide streets; not for small city lots. Hardy to 20* F. Slow to develop new head of foliage after hard-frost damage.

Appendix "C"
Newman Tree Management Descriptions

Name	Habit	Positive	Negative	Best Application
Chinese Pistache ***Pistacia chinensis***	Moderate growth to 60 feet tall, 50 feet wide. Young trees often gawky and lopsided, but older trees become dense and shapely with reasonable care. Leaves with 10-16 paired leaflets 2-4 inches long by ¾ inches wide. Foliage colors beautifully in fall-scarlet, crimson, orange, sometimes yellow tones. Fruit on female trees bright red, turning dark blue. Not fussy as to soil or water; accepts moderately alkaline conditions, lawn watering though verticillium wilt is a danger or no summer watering at all (this only in deep soils). Resistant to oak root fungus. Stake young trees and prune for first few years to develop head high enough to walk under..	One of the best all-around street tree species; relatively pest free; excellent fall color; relatively drought-tolerant.	Spindly growth when young, so must be properly trained; sometimes attacked by Verticillium wilt, a soil-borne fungus disease; female trees bear large crops of nuisance fruits, so budded male sterile trees should be planted – these are not always easy to find in the trade.	Reliable tree for street or lawn, patio or garden corner planting
Raywood Ash ***Fraxinus oxycarpa***	Deciduous trees, one almost evergreen. Trees grow fairly fast and most tolerate hot summers, cold winters and many kinds of soil (including alkaline soil). Fairly pest free. In most cases leaves are divided into leaflets. Male and female flowers generally inconspicuous, in clusters) grow on separate trees in some species, on same tree in others. In latter case, flowers are often flowed by clusters of single-seeded, winged fruit, often in such abundance that they can be a litter problem. When flowers are on separate trees, you'll get fruit on female tree only if it grows near a male tree. Compact, round-headed, fast-growing tree to 25-35 feet. Produces no seeds. Purple red fall color.	Relatively good street tree; fast growing.	Attacked by woolly ash aphids which produce large amounts of honeydew; suffers from an unknown branch dieback disorder (examples of this problem can be found in Newman).	Chiefly used as street trees, shade trees, lawn trees, patio shelter trees.

Name	Habit	Positive	Negative	Best Application
Moraine Ash ***Fraxinus moranous***	Deciduous tree. Native of eastern Balkan Peninsula. Upright, rather narrow tree to 40 feet in height. Leaves of 9-13 dull green, 2-3 inches long leaflets with toothed edges. Casts light, filtered shade. Leaves turn yellow in fall, dry up and sift down into lawn or ground cover, thus lessening litter problem. More round headed than species, produces few seeds.	Fast growth; grows relatively well under lawn irrigation.	Becomes very seedy with age – large numbers of brown, winged seeds may become as numerous as the leaves; susceptible to mistletoe.	Good lawn tree-neat, symmetrical, uniform bright yellow in fall.
White Ash ***F. americana.***	Grows to 80-feet in height with straight trunk and oval-shaped crown. Leaves 8-15 inches long with 5-9 dark green, oval leaflets, paler beneath; turn purplish in fall. Needs some watering. Seedless selections include "Autumn Applause" and Autumn Purple", both with exceptionally good, long-lasting purple fall color; Champaign County" a dense upright oval with brown and purple fall color.	Trees grow fairly fast and most tolerate hot summers, cold winters and many kinds of soil (including alkaline soil). Fairly pest free.	With both male and female trees, you will get a heavy crop of seed; letter and seedlings a problem. Leaf edges show burning in hot, windy areas.	Chiefly used as street trees, shade trees, lawn trees, patio shelter trees.
Green Ash, Red Ash ***F. pennsylvanica (F. lanceolata).***	Deciduous, native to eastern U.S. Moderate grower to 30-40 feet in height forming compact oval crown. Gray brown bark; dense twiggy structure. Leaves 10-12 inches long, divided into 5-9 bright green, rather narrow, 4-6 inch long leaflets.	Takes wet soil and severe cold but foliage burns in hot dry winds	Male and female flowers on separate trees. Seedless varieties include; "Marshall", "Summit", "Bergeson", "Emerald" "Patmore" and "Urbanite".	Chiefly used as shade trees, lawn trees, patio shelter trees. Little growth experience in Newman
Tulip Tree ***Liriodenoron tulipifera***	Deciduous tree. Fast Growth to 60-80 ft., with eventual spread to 40 ft. Straight columnar trunk, with spreading, rising branches that form tall pyramidal crown. Lyre-shaped leaves, 5-6 inches long and wide, Turn from bright yellow green to bright yellow (or yellow brown) in fall. Tulip-shaped flowers in late spring are 2 inches wide, greenish yellow, orange at base. Handsome at close range, thy are not showing on the tree being high up and well-concealed by leaves. They are not usually produced until tree is 10-12 years old. Tree needs room, deep, rich, swell-drained neutral or slightly acid soil; plenty of summer water. Control scale insects and aphids as necessary. Not bothered by oak rot fungus.		Not recommend for Newman. It develops iron chlorosis in alkaline soils, which Newman has. It is also consistently and heavily attacked by the tulip tree aphid.	Good large shade, lawn, or roadside tree. Spreading root system makes it hard to garden under. Best where constant wind from one direction won't strike it.

Name	Habit	Positive	Negative	Best Application
Autumn Gold (Maidenhair Tree) ***Ginkgo biloba***	Deciduous tree. Graceful, hardy tree, attractive in any season, especially in fall when leathery, light green leaves of spring and summer suddenly turn gold. Fall leaves linger, then drop quickly and cleanly to make golden carpet where they fall. Related to conifers but differs in having broad (1-4 inch wide), fan-shaped leaves rather than needlelike foliage. In shape and veining, leaves resemble leaflets of maindenhair fern, hence name. Can grow to 70-80 feet, but most mature trees are 35-50 feet. May be gawky in youth, but becomes well-proportioned with age. Narrow to spreading or even umbrella shaped at maturity. Usually grows slowly, about 1-foot per year but under ideal conditions can grow up to 3-feet per year. Plant only male trees (grafted or grown from cuttings of male plants); female trees produce messy, fleshy, ill-smelling fruit in quantity. Named varieties listed below are reliably male. Plant in deep, loose, well-drained soil. Be sure plant is not root-bound in can. Stake young trees to keep tem straight; young growth may be brittle, but wood becomes strong with age. Water through dry seasons until 10-20 feet high, then let tree become self-sufficient. In general, ginkgos are not bothered by insects or diseases. They are resistant to oak root fungus.	A very good street tree; almost pest free; relatively easy to train; excellent fall color.	Very slow growing; female trees produce very objectionable nuisance fruits – only guaranteed male sterile trees should be planted.	Use as street tree, lawn tree.
Red Oak ***Quercus rubra***	Deciduous. Fast growth to 90 feet. Broad, spreading branches and round-topped crown. Leaves 5 – 8 inches long by 3 – 5 inches wide, with 3 – 7 pairs of sharp-pointed lobes. New leaves and leaf stalks are red in spring, turning to dark red, ruddy brown, or orange in fall. Needs fertile soil and plenty of water. Stake young plants.	Good fall color.	Develops iron chlorosis in alkaline soil; has a serious aphid pest problem; probably best to keep the numbers of this species low in Newman.	High-branching habit and reasonably open shade make it a good tree for big lawns, parks, broad avenues. It deep roots make it good to garden under.

Name	Habit	Positive	Negative	Best Application
Live Oak ***Quercus agriflia***	Evergreen tree. Native to Coast Ranges. Round-headed, wide-spreading tree to 20 – 70 feet high, often with greater spread. Smooth, dark gray bark. Dense foliage of rounded, holly-like, 1 –3 inch long leaves, slightly glossy n upper surface. As planted tree from nursery or acorn, it can grow as high as 25 feet in ten years, 50 feet in 25-years. Attractive green all year unless hit by oak moth larvae. Has greedy roots and drops almost all its old leaves in early spring just when gardening time is most malleable.	In time a very large tree; best in a park where there is plenty of room.	Because of its ultimate size, not a good choice for a street tree; produces acorns, which may become a nuisance and slipping hazard when they fall to the sidewalk.	A handsome and quite worthwhile shade tree or street tree. Can be sheared into a handsome 10-20 foot hedge.
Holly Oak ***Quercus ilex***	Evergreen. Native to Mediterranean region. Grows at a moderate rate to 40-70 feet high, with equal spread. Leaves vary in shape and size, but are usually 1 ½ - 3 inches long ½ -1 inches wide, either toothed or smooth edged, dark, rich green on upper surface, yellowish or silvery below. Tolerates wind and salt air; will grow in constant sea wind, but tends to be shrubby there. Inland, growth rate can be moderately fast but varies with soil and water conditions.	Medium size; naturally well-shaped.	Often produces large crops of acorns; evergreen, so winter sun is blocked.	Good evergreen street or lawn tree where coast live oak is difficult to maintain, but lacks open grace of coast live oak. Can take hard clipping into formal shapes or hedges.
Bradford Pear ***Pyrus calleryana***	Deciduous or evergreen trees. All are best in full sun, will get along with no more than moderate summer watering once established. Grows to 25-50 feet. Strong horizontal branching pattern. Leaves 1 ½ -3 inches long, broadly oval, scalloped, dark green, very glossy and leathery, Flowers clustered, pure white, ¾ -1 inch wide; very early bloom. In coldest areas, flower crop may be destroyed by late freezes in some years. Fruit very small, round, inedible. Fairly resistant to fireblight; rich purplish red fall color. 'Bradford', original introduction, has strongly horizontal limbs, has reached 50-feet in height, 30-feet in width. 'Aristocrat' is more pyramidal, with up-curving branches. 'Redspire' is similar, with yellow to red fall color. 'Capital' and 'Whitehouse' are narrowly columnar. 'Chanti-cleer' is narrow but not columnar, about 40 feet tall by 15 feet wide. 'Trinity' is round-head form.	The best of the Callery flowering pears; good, medium size; used throughout downtown Newman; attractive spring bloom and fall color; fast growth.	Vigorous, upright growth habit; needs careful early training to develop strong framework; susceptible to iron chlorosis in wet, poorly-drained soils; nuisance fruits (small, brown fleshy berries) are often a problem.	A handsome and quite worthwhile street tree with bright fall colors.

Name	Habit	Positive	Negative	Best Application
Chinese Tallow ***Sapium sebiferum***	Deciduous tree. To 35-feet with dense round or conical crown of equal width. Outstanding fall color. Tends toward shrubbiness, multiple trunks, suckering, but easily trained to single trunk. In colder areas, un-ripened branch tips freeze back each winter; new growth quickly covers damage, but may require thinning. Leaves are poplar-like, roundish, tapering to slender point, light green. Foliage is dense, but general effect is airy; leaves flutter in lightest breeze. If tree is in full sun and has moderate autumn chill, its foliage turns brilliant, translucent, neon red. Some trees color plum purple, yellow, orange, or mixture of colors. If possible, select your tree while it is in fall color; a few specimens have shown nondescript yellow instead of flaming red. Tiny yellowish flowers in spikes at branch tips; fruit small, clustered, grayish white; they are covered by a waxy coating. Hardy to 10* - 15* F. Grows in most soils, but does somewhat better in mildly acid conditions. Give it ample water for fast growth and prune only to correct shape. Stake young plants securely.	Medium size; fast growth; beautiful fall color; good lawn tree.	Produces small nuisance fruits (small, gray-white berries in clusters); small twigs throughout tree freeze and die back.	Good lawn or street tree, patio or terrace shade tree. Resistant to oak root fungus. Good screening against low summer sun or objectionable view. Gives light to moderate shade.
Japanese Privet ***Ligustrum japonica***	Evergreen shrub. Dense, compact growth habit to 20 – 12 feet, but can be kept lower by trimming. Roundish oval leaves 2 – 4 inches long, dark to medium green and glossy above, distinctly paler to almost whitish beneath; have thick, slightly spongy feeling. Sunburns in hot spells. In areas of caliche soil, or where Texas root rot prevails, grow it in containers.		Not recommend as a street tree. It produces heavy crops of nuisance fruits (small, black berries); the City of Newman pulled out several dozen privets in the downtown area several years ago, and replaced them with Bradford pears.	Excellent plants for hedges or screens, or for shaping into globes, pyramids, other shapes, or small standard trees.

Name	Habit	Positive	Negative	Best Application
Chinese Hackberry, Yunnan Hackberry ***Celtis occidentalis, sineisis***	Deciduous trees. Related to elms and similar to them in most details, but smaller (to 50–feet). All have virtue of deep rooting; old trees in narrow planting strips expand in trunk diameter and nearly fill strips; but without a surface rood or any sign of heaving the sidewalk or curb. Bare-root plants, especially in larger sizes, sometimes fail to leaf out. Safer to buy in containers. Or try for small bare-root trees with big root systems. Especially good in windy locations. Though young trees should be staked until well established. When established, trees will take wind, desert heat, much drought, and alkaline soil. Similar in growth habit to common hackberry, but smaller. Leaves to 4 inches long, smoother and glossier than those of other hackberries, with scallop-toothed edges.	Relatively large tree; tolerates drought; fast growth; strong branches.	Produces nuisance fruits (small, purple berries).	Street or lawn trees, even near buildings or paving; will take overhead shade. All have inconspicuous flowers. Only pest problems of note seems to be occasional aphid attack. Trees are attractive to birds.
Australian Willow, Wilga ***Geijera parviflora. Rutaceae***	Graceful, fine textured, to 25 30 feet high, 20 foot wide. Main branches sweep up and out, little branches hang down, Distant citrus relative; called Australian willow because its 3 – 6 inch long, narrow, medium green, drooping leaves give a kind of weeping willow effect. With age, produces loose clusters of unimportant small, creamy white flowers in early spring, early fall. Well-drained soil and full sun; plant tolerates light shade but tends to be thin in foliage. Established three resists drought but responds to ample water with faster growth. Needs pruning only to correct from (much less pruning than willow). Quite pest free.	Very attractive, weeping habit.	Frost sensitive – will be seriously injured at temperatures below 32 degrees F; evergreen, so winter sun is blocked; often sheds many leaves in spring.	Has much of the willow's grace and the eucalyptus's toughness. Moderate growth rate; deep, noninvasive roots. Casts light shade. Plant singly as patio or street tree. Or in colonies for attractive grove effect.
American Linden ***Tilia americana***	To 40-60 feet with 20 – 25 foot spread. Straight trunk; dense, compact narrow crown Heart-shaped, dull dark green leaves to 4-6 inches long, 3-4 inches wide (some times longer). Lose clusters of fragrant, yellowish white flowers in June-July. "Redmond" is a pyramidal form with glossy foliage.	Respond well to deep rich soil and plenty of water. All grow at slow to moderate rate. Young trees need staking and shaping. Older trees need only corrective pruning	Like all Linden, under certain circumstances, aphids cause disagreeable drip of honeydew and accompanying sooty mildew.	Potential Street Tree. Little experience with this tree in Newman.

Name	Habit	Positive	Negative	Best Application
Greenshire Little Leaf Linden ***Tilia cordata***	Deciduous trees. Dense, compact crowns. Much used for street and park planting in Europe. All have small, quite fragrant, yellowish white flowers in drooping clusters. All respond well to deep rich soil and plenty of water. All grow at slow to moderate rate. Young trees need staking and shaping. Older trees need only corrective pruning. Under certain circumstances, aphids cause disagreeable drip of honeydew and accompanying sooty mildew. To 30-50 feet with 15 – 30 foot spread. Form densely pyramidal. Leaves 1 ½ - 3 inches long, equally broad or broader, dark green above, silvery beneath. Flowers in July. It is the hardiest linden. 'Chancellor', Glenleven', 'Greenspire', 'June Bride', and 'Olympic' are selected forms. 'June Bride' has an especially heavy show of flowers.	Relatively good lawn tree.	Attacked by aphids; upright form does not provide as much shade as spreading species.	Excellent medium-sized lawn or street tree. Given space to develop its symmetrical crown, it can be a fine patio shade tree (but expect bees in flowering season).
Japanese Zelkova ***Zelkova serrata***	Deciduous tree. A good shade tree, it grows at moderate to fast rate, eventually to 60 feet or higher and equally wide. Smooth, gray bark like that of beech. Leaves similar to those of elm (2 – 3 ½ inches long by 1 ½ inches wide) but rougher textured, with saw-tooth margins. Carefully train young trees to develop strong framework – head back excessively long pendulous branches to force side growth, thin competing branches to permit full development of the strongest. Water deeply to encourage deep rooting. Pest resistant, but elm leaf beetles are a problem in local elms died. Fall foliage color varies from yellow to dark red to dull reddish brown.	Relatively good street tree species, but needs lots of space; large, spreading tree; tolerates drought; fast growth.	Susceptible to elm leaf beetle; gangly and somewhat unattractive when young.	Three grafted selections are sold; 'Halka', the fastest growing , resembles American elm more than do 'Green Vase' and 'Village Green. All are good substitutes for elm.

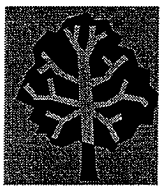
Name	Habit	Positive	Negative	Best Application
Black or Sun Burst Locust ***Robinia pseudoacacia***	Deciduous trees or shrubs. Leaves divided like feathers into many roundish leaflets; clusters of sweet pea-shaped, white or pink flowers mid-spring to early summer. They are hardy everywhere, fairly fast growing, and sell adapted to dry hot regions. Will take poor soil, much drought when established. Drawbacks: wood is brittle, roots aggressive, plants often spread by suckers. Fast growth to 75 feet, with rather open, sparse-branching habit. Deeply furrowed brown bark. Thorny branchlets. Leaves divided into 7 – 19 leaflets 1 – 2 inches long. Flowers are white, fragrant, ½ - ¾ inches long, in dense, hanging clusters 4 –8 inches long. Bean-like, 4-inch long pods turn brown and hang on tree all winter.	Very drought tolerant. With pruning and training in its early years, it is a truly handsome flowering tree – but it is so common, and so commonly neglected, that it's often overlooked	Not recommend; either black or honey locusts as street trees; root systems are very invasive, and sprout freely; foliage is thin and unattractive; black locust is very susceptible to aphids. (The City of Modesto is systematically removing all of their honey locust street trees, mainly because of sidewalk damage problems).	Can be used as a park or garden tree.
Eastern Redbud ***Cercis candensis***	Deciduous shrubs or trees. Early spring flowers are sweet pea-shaped, small, in clusters; where tree is adapted, blossoms are borne in great profusion on bare twigs, branches, sometimes even on main trunk. Flowers are followed by clusters of flat pods. Attractive broad, rounded leaves are heart shaped at base. All give fall color with first frosts. Average water needs (except for drought-tolerant *C. occidentalis*) Native of eastern U. S. Largest and fastest growing of available species where adapted. To 25 – 35 feet tall. Most apt to take tree form. Round headed but with horizontally tiered branches in age. Rich green, 3 – 6 inches long leaves have pointed tips. Small (1/2 inch long), rosy pink flowers clothe bare brown branches in early spring. Varieties are 'Alba' (white flowers), 'Forest Pansy' (purple foliage, needs some shade in hot climates), 'Oklahoma' (wine red flowers, thick, glossy, heat resistant leaves), 'Plena' (double flowers), and 'Rubye Atkinson' (pure pink flowers).	Very nice small tree; mostly planted for its blossoms and attractive fruit.	Small size does not make it a very effective street tree.	Valuable for filling the gap between the early-flowering fruit trees (flowering peach, flowering plum), and the crabapples and late-flowering cherries.

Name	Habit	Positive	Negative	Best Application
London Plane Tree, Sycamore. *Platanus acerifolia*	Deciduous trees. All grow large, have lobed, maple-like leaves. Older park sheds in patches to reveal pale, smooth, new park beneath. Brown, ball-like seed clusters hang from branches on long stalks through winter; prized for winter arrangements. Somewhat drought tolerant but better with some deep watering in summer. Subject to blight (anthracnose) which causes early, continued leave fall; *p. racemosa* especially susceptible. Rake up and dispose of dead leaves, since fungus spores can over-winter on them. Fast growth to 40 – 80 feet, with 30 – 40 foot spread. Smooth, cream-colored upper trunk and limbs. Leaves are 3 – 5- lobed, 4- 5 inches wide. Watch for spider mites and scale. Boot street, park, or lawn tree. Used on lines and blocks for formal plantings; avenues, screens masses. Powdery mildew can cause premature leave drop in some seasons. The scarce variety 'Yarwood' is somewhat resistant. 'Bloodgood' has some resistance to anthracnose.	Still one of the best, hardiest, problem-free large street trees; good near sidewalks; tolerates lawn water; excellent branch structure with little pruning.	Some people have allergic reactions to the hairs on the bottom of the leaves.	Tolerates most soils, stands up beautifully under city smog, soot, dust, reflected heat. Can be pollarded to create dense, low canopy.
African Sumac *Rhus* (Male Only)	Evergreen or deciduous shrubs or trees. Of the ornamental sumacs, deciduous kinds are hardy anywhere and thrive in poor soils. They tend to produce suckers, especially if their roots are disturbed by soil cultivation. They need some water. Evergreen sumacs are not as hardy as the deciduous kinds, but they will grow in almost any soil as long as it is well drained (soggy soils may kill them). They are fire retardant if fairly well watered. Evergreen tree. Slow growing to 25-feet. Open, spreading habit; graceful weeping outer branchlets. Leaves divided into 3-willow-like, dark green leaflets 4-5 inches long. Pea-sized, berry-like, yellow or red fruit grows in clusters on female tree, can be messy on pavement. African Sumac can tolerate high summer heat. Established plants are drought resistant, but will also thrive in lawns. Hardy to 12* F. Stake and prune to establish form you want.	Tough tree; tolerates heat and drought; good lawn tree.	Evergreen, so blocks winter sun; very messy leaf drop in spring and summer; produces nuisance fruits (red berries); requires careful training when young to prevent blowing over, especially in shallow or poorly-drained soils; frost sensitive.	Makes attractive, airy tree with interesting branch pattern and effective dark red, rough bark. You can train it to a single trunk or let it grow as multi-trunked tree that looks somewhat like olive. Also useful as screens, clipped hedges, or background plantings. Old plants easy to transplant if

				grown under dry conditions.
Name	**Habit**	**Positive**	**Negative**	**Best Application**
Chinese Elm, Chinese Evergreen Elm ***Ulmus Ulmaceae parvifolia*** **(often sold a *U. p.* 'Sempervirens')**	Deciduous or partially evergreen trees. Best with normal watering, but will tolerate low moisture conditions at expense of good growth, plant health. Branch crotches often narrow, easily split. Evergreen or deciduous according to winter temperatures and tree's individual heredity. So-called evergreen elm usually sold as 'Sempervirens'; this may be evergreen most winters, lose its leaves in unusual cold snap (new leaves come on fast). Very fast growth to 40- 60 feet, with 50 – 70 foot spread. Often reaches 30 feet in 5 years. Extremely variable in form, but generally spreading, with long, arching, eventually weeping branchlets. Trunks of older trees have bark which sheds in patches somewhat like sycamore. Leaves leathery, ¾ - 2 ½ inches long, 1/3 – 1 1/3 inches wide, oval, evenly toothed. Round fruit forms in fall while leaves are still on tree. Stake young trees until trunks can carry weight of branches. Stake and head leading shoot higher than other shade trees to compensate for weeping. Rub or cut out small branches along trunk for first few years. Shorten overlong branches or strongly weeping branches to strengthen tree scaffolding. Older trees may need thinning to lessen chance of storm damage. Very little bothered by pests or diseases. Varieties are 'Brea', with larger leaves, more upright habit; and 'Drake', with small leaves, weeping habit. Both are more or less evergreen. 'True Green' has small deep green leaves, is round headed, more evergreen than others.	Very beautiful spreading tree; attractive bark; tolerates drought; fast growth. Easy to grow in any fairly good soil; will survive in most poor ones.	Partially evergreen – drops more leaves in cold weather; susceptible to European elm scale.	Good for patio shade in milder portions of West. Useful for sun screening. With careful pruning, useful as a street tree. Root systems are aggressive and close to surface; you will have trouble growing other plants under these trees. Many of the larger elms are tasty to leaf beetles, bark beetles, leafhoppers, aphids, and scale, making them either time-consuming to care for or messy (or both). Dutch elm disease, formerly a problem in the East and Midwest, has reached western states.

Name	Habit	Positive	Negative	Best Application
Liquidambar ***Hamamelidiaceae***	Deciduous trees to 60 feet in height; some low growth ornamental species to 30-feet. Valuable for form, foliage, and fall color, easy culture. Moderate growth rate; young and middle-aged trees generally upright, somewhat cone shaped, spreading in age. Lobed, apple-like leaves. Flowers inconspicuous; fruits are spiny balls which ornament trees in winter, need raking in spring. Requires neutral or slightly acid soils; cholorosis is strongly alkaline soils is hard to correct. Prune only to shape. Trees branch from ground up and look most natural that way; can be pruned high for easier foot traffic. Brilliant fall foliage. Leaves color best when trees are in full sun and well-drained soil; fall color less effective in mildest climates or in mild, late autumns. For best appearance, should be watered deeply once a month in heavy soils, twice a month in sandy soils through dry season	Fast, upright growth that needs little or no pruning; beautiful fall colors.	Bears large crops of nuisance fruits (large, spiny balls); subject to limb breakage; shallow, invasive roots in lawns.	Good street trees along parkways and parking lots. Form surface roots which can be nuisance in lawns or parking strips. Effective in tall screens or groves, planted 6-10 ft. apart.
Kentucky Coffee Tree ***Gymnocladus dioica***	Deciduous tree, native to eastern U. S. Saplings grow very fast, but slow down at 8-10 feet. Trees ultimately reach 50 feet in height. Narrowish habit in youth. Older trees broader, with fairly few heavy, contorted branches. These, together with stout winter twigs, make bare tree picturesque. Leaves (1 ½ - 3 feet long) come out late in spring; they are pinkish when expanding, deep green in summer, yellow in autumn. Inconspicuous flowers are followed by 6-10 inch long flat reddish brown pods containing hard black seeds. Average soil and routine watering. Established trees will take some drought, much heat and cold, poor soil. Effective for form in any cold-winter garden.	Colorful and hardy.	Nuisance seed pods	No experience with this tree in Newman.
Japanese Tree Lilac. ***S. reticulata (s. japanica, S. amurensis japonica).***	Large shrub easily trained as single-stemmed 30-ft. tree. Bark is smooth, something like cherry in its gloss. Large leaves (to 5 inches long). White flower clusters to 1 ft. appear in late spring, early summer. Flowers showy, but not fragrant; they smell like privet flowers. Useful small shade or street tree in difficult climates.	Colorful flowers; like alkaline soil.		Can be used as a street tree under power lines or in areas requiring low shrubbery.

Name	Habit	Positive	Negative	Best Application
Crape Myrtle ***Lagerstroemia indica Lythraceae.***	Deciduous shrub or tree. Native of China. Dwarf shrubby forms and shrub-tree forms, 6-30 feet tall. Slow growing as shrub, spreads as wide as high; trained as tree, becomes vase shaped with very attractive trunk and branch pattern. Spring foliage is light green tinged bronze red; mature leaves 1-2 inches long, oval deep glossy green. Fall foliage is yellow, more rarely orange to red. Crinkled, crepe-like, 1 ½ inch flowers in rounded, slightly conical clusters, 6-12 inches long, at ends of branches. Colors in shapes of red, rose, deep or soft pink, rosy orchid, purple, white. Long flowering period from July to September.	Root hardy and sometimes treated as perennial. Flower freely.	Subject to mildew. Selections called Indian Tribes have heavy foliage with considerable resistance to mildew. (Catawba, Cherokee, Potomac, Seminole, Powhata). Hybrids between *L. indica* and the species *L. fauriei* have even greater resistance to mildew than Indian Tribes.	Small yard or street tree.
Tident Maple ***A. buergeranum***	Native of China and Japan. Grows 20-25 feet high. Lobed leaves that are pale beneath. Fall color usually red, varies to orange or yellow. Low, spreading growth;	Attractive small leaves and colorful.	Extensive fibrous root systems that take water and nutrients form the topsoil.	Small yard or street tree A decorative, useful patio tree and favorite bonsai subject.
Japanese Maple ***A. palmatum***	Native to Japan and Korea. Slow rowing to 20-feet; normally many stemmed. Most airy and delicate of all maples. Leaves 2-4 inches long, deeply cut into 5-9 toothed lobes. All-year interest; young spring growth is flowing red; summer's leaves are soft green; fall foliage scarlet, orange, or yellow. Slender leafless branches in greens and reds provide winter pattern.	Attractive all year. Resistant to oak root fungus.	Extensive fibrous root systems that take water and nutrients form the topsoil. Ample deep watering and periodic feeding will help keep roots down.	Small yard or street tree
Canary Island Date Palm ***Phoenix canariensis***	Mostly large feather palms, but one a dwarf. Trunks patterned with bases of old leafstalks. Small yellowish flowers in large, hanging sprays followed by clusters of often-edible fruit (*P. dactylifera* bears dates of commerce). Big, heavy-trunked plant to 60-feet tall with 50-foot spread composed of a great many gracefully arching fronds. Grows slowly until it forms trunk, then speeds up a little. Hardy to 20* F. Slow to develop new head of foliage after hard-frost damage.		Not a good street tree in residential areas, as it does not produce shade; should be planted along wide avenues (like Las Palmas), or in parks to be enjoyed at a distance.	Young plants do well in pots for many years, looking something like pineapples. Grow on slopes, in parks, big spaces along wide streets; not for small city lots



Appendix "D"
Street Tree Ordinance

CHAPTER 4

STREET TREE REGULATIONS

SECTION:

11-4-1: **TITLE:** This Chapter shall be known and may be cited as the *STREET TREE ORDINANCE OF THE CITY OF NEWMAN.*

11-4-2: **DEFINITIONS:** For the purposes of this Chapter, the following terms, phrases and words shall have the meaning given herein:

APPROVED TREES, NONCONFORMING TREES: Trees planted and growing in accordance with the Street Tree Plan, both as to variety and location, shall be known as approved trees. All other street trees shall be known as nonconforming trees.

PERMIT: Written or printed authorization issued by the City Clerk.

STREET TREES, STREET TREE AREAS: All trees planted or growing within the public rights of way, public easements, streets, parking

strips, alleys, roads and ways within the City shall be known as street trees; the locations herein referred to shall also be known as street tree areas.

11-4-3: **STREET TREE PLAN:**

(A) It shall be the duty of the City Planning Commission to prepare and adopt a Street Tree Plan for the City, specifying a list of approved street trees, a uniform method of street tree planting, and designating certain streets or blocks of certain specimens of tree or trees.

(B) Said Plan shall be submitted to the City Council and after adoption of the Plan, as submitted or modified, in accordance with law it shall become the Street Tree Plan of the City.

No street tree shall hereafter be planted except in accordance with the Street Tree Plan and the provisions of this Chapter.

11-4-4: **ADMINISTRATION, AUTHORITY; DIRECTOR OF PUBLIC WORKS:**

(A) It shall be the duty of the Director of Public Works of the City to administer, control and regulate the street tree program of the City in accordance with the provisions of the Street Tree Plan and of this Chapter.

(B) The Director of Public Works shall have the authority to prune, trim, clip, spray, maintain and care for the street trees or private trees to the extent that they overhang or project within public rights of way, or public roads of the City, as needed, to remove or require the removal by the owner of the adjoining property of diseased dead trees, and encourage planting of approved trees throughout the City. (Ord. 279, 11-12-74)

11-4-5: **PERMITS REQUIRED:**

(A) No person shall plant or remove any street tree without first obtaining a permit from the City Clerk. Said permit shall be issued only for work to be done in compliance with the Street Tree Plan and

this Chapter, and shall be issued without a fee. All work done pursuant to a permit shall be done under the supervision of the Director of Public Works. Whenever any street tree, whether approved or nonconforming, is removed or needs replacing, it must be replaced with a tree approved for that specific street tree area.

Notwithstanding the foregoing, the City Clerk shall issue to any person doing business as a public utility, subject to the jurisdiction of the California Public Utilities Commission and holding a valid franchise, a permit which shall authorize the cutting or removal of trees necessary for the safety and proper maintenance of said utilities' service pursuant to the orders, rules, and regulations of said California Public Utilities Commission. Such a permit, unless renewed, shall expire at the end of one year after the date of issuance, or it may be revoked for good cause. (Ord. 77-12, 4-12-77)

(B) Public utilities providing gas, water, electric, telephone or telegraph service to residents of the City may, in those emergency cases where street trees are interrupting said services, trim or remove branches of said trees only to the extent necessary to restore said service without first securing a permit.

11-4-6: **ILLEGAL ACTS:**

(A) Abuse or Mutilation of Trees: No person shall abuse, destroy or mutilate any street tree; nor attach or place any rope or wire (other than a rope or wire customarily used to support a young or broken tree), sign, poster, handbill, paint or any other substance, structure, thing or device of any kind or nature whatsoever, to or on any street tree; nor allow any gaseous liquid or solid substance which is harmful to such tree to come in contact with it.

(B) Open Ground for Trees: No person shall place or maintain any stone, cement or other substance so that it shall impede the free access of water or air to the roots of any street tree; not less than twelve (12) square feet of open ground shall be left and maintained around every street tree.

(C) Interference with Work of Director of Public Works: No person shall in any way interfere with the Director of Public Works or other City employees or City contractors while they are lawfully engaged in planting, mulching, pruning, trimming, spraying, treating or removing any street tree, or in removing any stone, cement or other substance from about the trunk of any street tree.

(D) Private Trees: No person shall allow or maintain any tree on private property to become a hazard to pedestrian or vehicular traffic obstructing vision or impairing necessary clearance, or in any manner endangering the security or usefulness of any public street, sewer, sidewalk or other public property.

Any such private tree allowed or maintained contrary to the provisions of this Section is hereby declared to be a public nuisance; upon a determination by the Director of Public Works that such private tree constitutes a nuisance, he shall give written notice to the owner of the property upon which said nuisance exists to trim, remove or otherwise control such tree in such a manner as will abate such nuisance. Failure to comply with such written notice within ten (10) days thereafter, shall be deemed a violation of this Section. Such written notice may be given by a personal service of a copy thereof, or by placing a copy of said notice in the United States mail, postage prepaid, addressed to the owner of the property as shown by the last assessment roll of the City.

11-4-7: **ERECTION, ALTERATION OR REMOVAL OF BUILDINGS:** When the erection, repair, alteration or removal of any building, house or structure necessitates the trimming, pruning or removal of any street tree, such trimming, pruning or removal shall be done only after written permit issued by the City Clerk and at the expense of the applicant. As a condition to granting a permit, under this Section for the removal of a tree, the City Clerk shall collect a deposit from the applicant sufficient to defray the cost of replacing said removed tree with an approved tree in conformance with the Street Tree Plan. The amount of such deposit shall be determined and set from time to time by resolution duly passed by the City Council.

11-4-8: **SUBDIVISION STREET TREE PLANS:** With or before the filing of any final map of any new subdivision, the subdivider shall either file with the Planning Commission a proposed plan of street tree planting showing the location and variety of trees proposed to be planted in the subdivision, or shall request the Planning Commission to designate the type and location of street trees for such subdivision and file same with the City Council before approval of the final subdivision map.

Subdividers are hereby required to deposit a sum to be set from time to time by the resolution of the City Council duly passed upon determination and recommendation of the City Engineer and/or the Director of Public Works, said sum to be based on front footage, and said sum to be used by

the City for planting street trees within its subdivisions. Prior to the approval of the final subdivision map, the deposit shall have been either paid or guaranteed by the subdivider's bond pursuant to Section 6-4-3(B) of this Code. After planting, the subdivider or property owners in the subdivisions shall maintain said trees at their own expense. Subdividers shall comply with Section 6-6-3(B) of this Code.

11-4-9: **DISEASED, NUISANCE TREES:** In case, in any part of the City any approved trees should at any time become subject to pests or otherwise unsuitable as street trees, the owners of not less than fifty percent (50%) of the front footage on any block and not less than fifty percent (50%) of the frontage of the block facing the same on the opposite side of the street may apply to the Planning Commission for change in the variety of approved trees on such block. Block shall mean the block fronting on any street between cross streets. The Planning Commission shall give at least ten (10) days' notice of hearing such application to the owners of lands on said block to be affected by such proposed change, by mail addressed to them at the address shown on the current assessment roll, and shall publish a notice of said hearing at least once in a newspaper published in the City. At said hearing the Planning Commission shall hear the evidence presented and shall take into consideration the effect of said change on the general tree planting program of the City.

Any person dissatisfied with the decision of the Planning Commission may appeal the same to the City Council within ten (10) days after notice of such decision. The City Council shall consider such appeal at its next regular meeting or at such time as it may be continued, and its decision shall be final. In like manner and upon like notice and with similar right of appeal, the Planning Commission may at its own motion consider and make changes in said street tree plan, and shall determine the type and location of street trees to be planted along any new street that may be opened in the City, and in such a case shall give the notice and be subject to appeal as above set forth.

11-4-10: **NONLIABILITY OF CITY; DUTY OF PROPERTY OWNER:** Nothing contained in this Chapter shall be deemed to impose any liability upon the City, its officers or employees, nor to relieve the owner of any private property from the duty to keep any tree, shrub or plant upon any street tree area on his property or under his control in such condition as to prevent it from constituting a hazard or an impediment to travel or vision upon any street, park, pleasure ground, boulevard, alley or public place within the City.

11-4-11: **APPEALS:** Any person dissatisfied with any order of the Director of Public Works may appeal therefrom to the City Council by filing a written notice of appeal with the City Clerk not more than five (5) days after the date of such order. Said appeal shall be considered at the next regular meeting of the City Council and its decision shall be final. The acts of the Director of Public Works in ordinary trimming and maintenance of street trees are not subject to appeal. (Ord. 279, 11-12-74)

11-4-12: **VIOLATION, PENALTIES:** Any person violating any of the provisions of this Chapter shall be deemed guilty of an infraction and upon conviction thereof shall be punishable as provided by Section 1-4-1 of this Code. (Ord. 279, 11-12-74; amd. Ord. 77-5, 2-22-77)

Where any work is done or materials purchased by the City in performing any of the acts required by this Chapter after failure of the owner or occupant of the abutting property to do so upon demand, the cost thereof may be recovered from such owner or occupant by civil action. The bringing of such action shall not prevent a criminal prosecution for the same act or omission. (Ord. 279, 11-12-74)