## City Of Fontana

## Urban Forest Management Plan

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**Dates covered by plan:**

# 2013/2014 through 2053/2054

**Prepared for:**

# City of Fontana Public Works Department

**Prepared by:**

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**Plan approval date and/or date of final draft:**

**Final Draft June 01, 2013**

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**Funding provided by the**

**USDA Forest Service**

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**Through the California Department of Forestry and Fire Protection**

**Urban and Community Forestry Program**

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**Executive summary**

This document is intended to help lead Fontana's Urban Forest into the conditions that provide a high degree of desirability to live in our city environment. This plan while providing facts of where Fontana's Urban Forest stands today is also intended to project to us the future of a city canopied under the protection of our oxygen breathing, heat reducing, beautiful friend the tree; in cohabitation with nature.

Ideas, goals and protections that are found in this plan:

* Incorporating species tree trimming to be used in conjunction with the current grid trimming methodology.
* Developing plans for improvements that can be used in the event funding resources become available.
* Planting for success over the next 5 to 40 years and beyond with short and long term planting plans.
* Tree care specifications concerning planting, selection, preservation and pruning.
* Increased focus towards educational opportunities towards the community we serve.

This plan has been developed to guide the actions of the City of Fontana Public Works Department for 40 years towards sustaining a vibrant urban forest.

# Vision statement

The City of Fontana establishes a well planned, sustainable and a highly coveted urban forest that helps to provide the aesthetic, social, environmental, and economic benefits related to a vibrant and thriving community driven urban forest.

# Mission statement

Our Mission is to preserve the existing urban forest while developing it to be stronger, healthier, and more diverse. Actively educating the public, developing short and long- term goals, identifying problems and developing action plans to correct deficiencies. With the intent of creating an urban environment that maximizes the positive impacts trees have on the quality of life for the residents of Fontana.

# Introduction

## Overview

**Historical context**

A.B. Miller as a farming community founded Fontana in 1913. The area was used for citrus orchards, vineyards and chicken ranches. During World War II Kaiser Steel Mill was built to the west just outside of the city limits. The land use has gone from farming to home development, transportation and warehousing industries taking over.

The weather is typical desert climate with above 100-degree (F) days in the summer, relatively low rainfall amounts. Fontana is hit hard each year y a wind season that typically lasts from October to March. Santa Ana winds are strong, hot, dry winds that come down through the Cajon Pass. Not exactly ideal conditions for establishing trees, but no reason to not find the best fits to make it successful.

**Environmental context**

The city is frequently affected by the strong, hot and dry Santa Ana winds as they blow through the nearby Cajon Pass of the San Gabriel Mountains, from the Mojave Desert. Fontana can also be extremely hot in summer, well over 100 degrees Fahrenheit. Mid summer temperatures average 95 degrees and low winter temperatures of 22 degrees Fahrenheit. The average yearly rainfall in Fontana is 14.77 inches of precipitation.

**Why we need a plan**

 The time is now for the City of Fontana to establish a living document to direct our Urban Forest efforts towards consistent goals that help to reduce our carbon footprint, increase canopy coverage, and improve the city's overall aesthetics and ultimately our resident's quality of life. We are a large city with a large urban forest that is inventoried and has a strong direction but loosely held ideas and plans do not continue on when employee’s change or major challenges appear. In the last four years a five-year tree trimming cycle has been implemented, an every year palm trimming plan, 1% minimum planting of current grid vacant sites and specialized species lists for trees that need more frequent attention.

Since the City of Fontana is at a point of distinction in many areas from its origins to the strides made in the last decade to remove some of the negative Fontana stereotypes, an Urban Forest Management Plan helps to facilitate a direction toward a sustainable and progressive Urban Forest ecosystem. This is a form of City image revitalization that can and will build an image of competence, comfort and pride for residents as well as visitors.

In Fontana there are a number of reasons why a comprehensive plan for the urban tree environment would thrive and grow into a long standing positive impact for the City as a whole. Being located in the center of the Santa Ana winds path through the inland empire causes havoc to poorly maintained and chosen species of trees. We have annexed County maintained areas on most sides of the city and many of these areas have multiple tree challenges from area to area. Such as no parkways, undesired species and unmaintained areas containing significant sized and amounts of trees. Village of Heritage, South Ridge, Hunter's Ridge to name a few of the large master planned communities that make up Fontana and it's large semi diverse urban forest, yet whether it be from pest/disease outbreaks, monoculture planting and 'lessons learned' about best tree for the location due to weather or other local issues, adjustments have been made and continue to be made. But this information could easily get misplaced or lost without a place to apply it.

## Benefits provided by trees

Trees provide many benefits to an area and most people know about things such as Oxygen conversion, shade and aesthetics. But there are many more benefits that are important to the health of a large city. This section will document some of the benefits that have been identified through studies and research, yet many more are being identified because of the attention to carbon offsets and climate change. This list has been written to highlight the benefits that are most pertinent to Fontana.

Economic Benefits – The urban forest contributes to the well being of the citizens of Concord in several ways. Trees add value to homes and businesses. Research shows that businesses on trees lined streets generate 20% higher income than those without. Single-family homes can have an increase of 10% in value with large shade trees. Properly placed deciduous trees can provide energy savings in the summer from their shade and energy savings in the winter once the leaves have fallen, the sun can warm the house.

Health Benefits: Trees help to soften hardscape features and enhance a walking environment that encourages outdoor activities such as walking and biking. Tree canopies can help to reduce temperatures by 5- 15 degrees (F) in areas creating areas that provide pedestrians places for skin and heat protection. Reduced harmful tailpipe emissions and lower ozone. Reduced blood pressure and improved mental health through beautification of the surroundings.

Safety Benefits: Tree lined street help to reduce traffic speeds and help to create safer sidewalks by creating a buffer between the street and the pedestrian.

Environmental Benefits - Trees contribute to improving our air quality, water quality, and providing wildlife habitat. Trees leaf and branch structure absorbs the first 30% of precipitation, allowing evaporation back into the atmosphere. This moisture never hits the ground. Another 30% of precipitation is absorbed back into the ground and taken in and held onto by the root structure, then absorbed and transpired back into the air. Thus trees help reduce soil erosion and reduce the need to capture stormwater runoff.

The USDA Forest Service Center for Urban Forest Research at <http://www.fs.fed.us/psw/programs/cufr/tree_guides.php> is a resource for these studies or just search Center for Urban Forest Research.

## Scope of the plan

**Planning horizon**

 2014 implement species trimming to grid trimming cycle.

2018 finish planting 1,500 new trees throughout Fontana in sites selected for maximum tree health and environmental benefits.

2018 Evaluate plan for successes, changes, or to add new ideas

2023 Evaluate plan for successes, changes, or to add new ideas

2033 Evaluate plan for successes, changes, or to add new ideas

2043 Evaluate plan for successes, changes, or to add new ideas

**Relationship to other planning document**

This plan will be created to complement existing City documents regarding trees. It will be an addition that will help to clarify the goals, objectives and direction of the Urban Forest Ecosystem. Giving another avenue of transparency to the public about the care and long-term approach we are taking towards our trees.

Documents this document supports are:

General Plan

City of Fontana Municipal Code

City of Fontana Tree policy manual

## Historical context

Few types of trees have significant historical value and the ones that do are Citrus, Eucalyptus, and Oaks.

Citrus: Even though less than 1% percent of the community forest is comprised of Citrus, it is of definite community importance and used in highly visible areas.

Eucalyptus: This genus of trees makes up 5% of the total tree population in Fontana. Windbreaks are Eucalyptus trees most historical significance in Fontana. Eucalyptus has their place in Fontana but in more carefully used types of uses due to their weakly attached branches.

Oak: These trees are significant to the hills and foothills surrounding Fontana and are important for their historic/native value.

## Tree resource assessment

In the City of Fontana Urban Forest there are 58,165 total trees that can be broken down in these ways:

* Total street trees of 51,715
* Total park trees of 5,496
* Total Facility trees of 612
* Total Heritage Trees of 38
* Total vacant tree sites of 10,816

Top Ten Tree Species in Fontana:

 Total Percentage

|  |  |
| --- | --- |
| CRAPE MYRTLE | 6,080 10%  |
| MEXICAN FAN PALM | 3,373 6% |
| LONDON PLANE | 3,291 6% |
| AMERICAN SWEETGUM | 3,208 6% |
| SOUTHERN MAGNOLIA | 2,432 4%  |
| CANARY ISLAND PINE | 2,352 4% |
| BOTTLE TREE | 2,083 4% |
| CHINESE PISTACHE | 2,017 4%  |
| CAMPHOR TREE | 1,954 4% |
| AFGHAN PINE | 1,694 3% |

Currently the City of Fontana trims 6,800 palms each fiscal year with an emphasis upon trimming between the months of July through September. Also, the City urban forest has been divided into five distinct areas that are trimmed as a grid over a five-year period (one area per year). The average number of trees trimmed per year is 17,000. During a typical year an average amount of trees removed is estimated at 240 and the average amount of replanted trees is 200. The total amount of vacant (plant able) sites is at 9,934. The current estimated value of the City of Fontana’s Urban Forest sits at $111,548,230.00.

Because of the effect of *Xylella fastidiosa* on American Sweet Gum this tree is not being planted in the City of Fontana until a cure or a resistant cultivar is developed and widely available.

## Management

Currently, urban forest management is under the responsibility of the Public Works Department.

## Community Values

The City of Fontana is very concerned with our residents quality of life and providing as many community friendly services as possible. This way of thinking has led to a lot of positives concerning the urban forest, such as strong support for tree related projects and a healthy budget. But sometimes the concern to resident’s happiness gives way to the removing of healthy trees.

The public of Fontana is a collection of hard working class people of all backgrounds and ethnic groups. Many of the residents of Fontana know that trees have a positive impact on their lives, but the depth of understanding is lacking to the significant amount that trees play in fostering a satisfying quality of life.

### Local concerns/ issues not identified above

In polling limited to public meetings for specific communities the following has been gathered:

1. The common response is that trees are pretty and they are good for the environment, but they don't know how extensive the lists of benefits are to their own quality of life.

2. Most people feel like the debris from the trees around them creates too much of a mess and some trees are not worth the hassle.

This seems to show that there are a lot of educational opportunities that will increase the awareness as too just how important trees are and that will increase the local support for their urban forest dramatically.

# Strategic Plan

### Issues and needs

#### Tree resources:

* Species and age diversity
* Tree planting – increasing canopy cover
* Protection and maintenance of existing trees
* Compatibility of species and planting sites

#### Management:

* Improved ability to schedule and track maintenance
* Better coordination between departments with respect to tree issues
* Adequate staffing
* Employee training
* Stable source of funding
* Updated species selection lists or criteria
* Tree planting standards

#### Community:

* Better access to and/or greater use of information related to proper tree selection, placement, planting, and care.
* Programs to improve tree care in commercial landscapes;
* Guidelines and ordinances to promote protection of existing trees;
* Licensing local tree care contractors to improve compliance with approved tree care standards.

### Goal 1

Establish and maintain optimal levels of tree cover to maximize ecosystem benefits provided by the urban forest, (maintain air quality, reduce energy use, moderate storm water runoff, and provide a favorable environment for city residents).

#### Objective 1.1

Use as large of species as is feasible for viable vacant site tree plantings.

##### Actions

1.1.1 Use inventory to identify locations and conditions of successful large canopy trees and record the site conditions such as parkway size, soil moisture, soil type and any other pertinent information. Responsibility of City Arborist and Parks Department due by July 2016.

1.1.2 Develop up to date tree palate that will reflect the information gathered in Action 1.1. Responsibility of City Arborist and Parks Department due by January 2015.

1.1.3 Explore other avenues of finding previously unused species that project to do well, through research and working with other agencies. Responsibility of City Arborist and Parks Department due by each July UFMP is in use.

1.1.4 Use in house staff and develop ideas to help to elevate concrete, sewer, and asphalt conflicts. Responsibility of City Arborist and Public Works Streets Department due by July 2014.

#### Objective 1.2

Identify neighborhoods and areas that can be reforested using large trees while maximizing the potential benefits associated with tree-lined streets.

##### Actions

1.2.1 Visual (driving) inspections and mapping inventory inspections of large areas that would benefit from a large scale planting effort. Responsibility of City Arborist and Parks Department due each March to facilitate budget planning for next fiscal year.

1.2.2 Create lists of pro and cons of each area identified and create a priority list. Responsibility of City Arborist and Parks Department on a as needed basis.

#### Objective 1.3

Find and pursue opportunities for grants and partnerships to provide funds and value to the projects that are identified as desirable and sustainable.

##### Actions

1.3.1 Research for new opportunities and continue to monitor previously identified urban forestry grants. Responsibility of City Arborist and Parks Department.

1.3.2 Continue to develop new project ideas that can benefit Urban Forest. Responsibility of City Arborist and Parks Department.

### Goal 2

Maintain trees in a healthy condition through good cultural practices.

#### Objective 2.1

Establish a 'Young tree' care policy that addresses locating, monitoring and trimming newly planted City maintained trees within 2 years or as needed.

##### Actions

2.1.1 Using information of when new landscapes (from development) are accepted, add these trees to our inventory and add them to a list for routine monitoring and trimming when needed. Responsibility of City Arborist and Parks Department due by July 2014.

2.1.2 Use currently inventoried tree population to identify areas that are in need of follow up monitoring and add them to a list for routine maintenance if needed. Responsibility of City Arborist and Parks Department due by July 2014.

#### Objective 2.2

Continue 5-year grid tree trimming cycle that includes monitoring all trees and making recommendations for area improvements; such as planting safety removals and disease monitoring.

##### Actions

2.2.1 Work closely with tree contractor to receive information compiled about each tree as it is trimmed or inspected. Responsibility of City Arborist and Parks Department on as needed basis.

2.2.2 Do routine sweeps of areas to monitor trees. Responsibility of City Arborist and Parks Department on a constant rotating basis.

### Goal 3

Establish and maintain an optimal level of age and species diversity.

#### Objective 3.1

Update tree species planting list in City of Fontana 'Tree Policy Manual' with trees that are known to thrive in the area, remove tree that don't do well and research local municipalities to find other possible tree selections that are successful in like environments.

##### Actions

3.1.1 Gather information about our local urban forest and determine types of trees that need to be supplemented in to the tree palate to help encourage proper plantings and diversity. Responsibility of City Arborist and Parks Department due by July 2014.

3.1.2 Work with contractors, local municipalities, school districts and industry professionals on any lowly or unused trees that are doing well locally. Responsibility of City Arborist and Parks Department due by July 2014 and continue updating on a three year cycle.

#### Objective 3.2

Work with nurseries to stock and grow species that will do will in the environment that are not commonly used.

##### Actions

3.2.1 Contact familiar growers to determine what stock is available and encourage new varieties. Responsibility of City Arborist and Parks Department on as needed basis.

#### Objective 3.3

Use past and current lessons about what trees survive/thrive in our environment, that have long life spans, and when possible re plant areas in phases.

##### Actions

3.3.1 Develop centralized Urban Forestry internet location to post ideas, deadlines, findings, pictures and workloads for better information gathering and more efficient time management. Responsibility of City Arborist and I.T. Department due by July 2015.

3.3.2 Chart best underused trees. Responsibility of City Arborist and Parks Department due by July 2013.

3.3.3 Chart worst over planted trees. Responsibility of City Arborist and Parks Department due by July 2013.

3.3.4 Create Urban Tree Canopy Report for Fontana and assess what areas would benefit the greatest from phased plantings. Responsibility of City Arborist and Parks Department due by July 2014.

### Goal 4

Select, situate, and maintain urban trees appropriately to maximize benefits and minimize hazard, nuisance, hardscape damage, and maintenance costs.

#### Objective 4.1

Increase department cooperation and develop ways to resolve tree conflicts.

##### Actions

4.1.1 Have meetings with public works, engineering and planning to open up discussions as what ideas will work best in Fontana to reduce hardscape conflicts. Responsibility of City Arborist and Parks Department to be a continuing effort.

4.1.2 Find local examples that can be viewed. Responsibility of City Arborist and Parks Department to be a continuing effort.

4.1.3 Create reports based on findings from Action 4.1.2. Responsibility of City Arborist and Parks Department.

4.1.4

#### Objective 4.2

Observe and record what trees already in use have worked successfully, Factors looked at will be aesthetics, health, and limb breakage and root damage.

##### Actions

4.2.1 Chart best under planted trees list. Responsibility of City Arborist and Parks Department due by July 2013.

4.2.2 Chart worst overly planted trees list. Responsibility of City Arborist and Parks Department due by July 2013.

#### Objective 4.3

Develop and maintain relationships with other agencies and businesses that can help with ideas and strategies.

##### Actions

4.3.1 Create an Urban Forestry Contacts Directory for department use. Responsibility of City Arborist and Parks Department due by July 2013.

4.3.2 Attend local forestry events and training when able to keep up to date with new techniques and ideas. Responsibility of City Arborist and Parks Department to be a continuing effort.

### Goal 5

Promote efficient and cost-effective management of the urban forest.

#### Objective 5.1

Providing staff with training on current practices.

##### Actions

5.1.1 Purchase ISA training videos for staff education and safety training concerning trees. Responsibility of Parks Department due by January 2014.

5.1.2 Attend seminar and training opportunities as able to keep up to date with industry standards and foster creative thinking. Responsibility of City Arborist and Parks Department to be a continuing effort.

#### Objective 5.2

Inspect Urban Forest for safety concerns and improvement ideas.

##### Actions

5.2.1 Create Fontana Urban Forest Map that is broken into small sections that can be inspected street by street and findings can be reported and/or recorded for future assessment. Responsibility of City Arborist and Parks Department due by January 2014.

5.2.2 Inspect areas according to map and input findings in centralized Urban Forestry Internet location. Responsibility of City Arborist and Parks Department due by July 2015 and then to be assessed and update timeframe to be determined.

### Goal 6

Foster community support for the local urban forestry program.

#### Objective 6.1

Attend City events such as Fontana Days festival, Farmer's Market and other events to reach out to the community.

##### Actions

6.1.1 Apply for booth and for funds to supply give a ways such as education flyers. Responsibility of City Arborist and Parks Department due by January 2014.

6.1.2 Come up with fun ways to get community involvement in the their Urban Forest. Responsibility of City Arborist and Parks Department to be a continuing effort.

#### Objective 6.2

Contribute to Community Meetings by presenting a power point presentation of current Urban Forest projects or important topics.

##### Actions

6.2.1 Create Power Point presentation and get supervisor approval of topic and time spent. Responsibility of City Arborist and Parks Department due by July 2014.

6.2.2 Continue to seek to find ideas for new presentations. Responsibility of City Arborist and Parks Department to be a continuing effort.

### Goal 7

Encourage good tree management on privately-owned properties.

#### Objective 7.1

Make public education on proper tree care and selection a priority.

##### Actions

7.1.1 Create presentations to use at Community meeting and include personal property tree care as a point of focus. Responsibility of City Arborist and Parks Department to be a continuing effort.

7.1.2 Make tree education flyers available to the public in offices, at meetings and at events. Responsibility of City Arborist and Parks Department to be a continuing effort.

#### Objective 7.2

Provide urban forest literature on the benefits and importance of trees at all community meetings.

##### Actions

7.2.1 Make tree education flyers available at meetings by supplying event coordinators with them and involving Landscape Technicians that are attending them to check levels and supply meeting coordinators with more if stock becomes low. Responsibility of City Arborist and Parks Department to be a continuing effort.

**Monitoring Plan**

### Goal 1

Establish and maintain optimal levels of tree cover to maximize ecosystem benefits provided by the urban forest.

Data from the Center for Urban Forest Research at UC Davis on canopy cover will be used. Each year as this data becomes available, the City Arborist will evaluate the data and determine if there is a change in canopy cover for Fontana and submit a report to management.

### Goal 2

Maintain trees in a healthy condition through good cultural practices.

Each year in June, the City Arborist will submit a report to CC using work records from WCA or the current tree contractor to substantiate that trees are being maintained in good condition and that good cultural practices are followed.

### Goal 3

Establish and maintain an optimal level of age and species diversity.

City Arborist using work records will submit an annual report to CC as to the number of trees planted, their diversity, and relation to the established goals of this plan.

### Goal 4

Select, situate, and maintain urban trees appropriately to maximize benefits and minimize hazard, nuisance, hardscape damage, and maintenance costs.

City Arborist using work records will determine annually that newly planted trees by the City and developers are following the approved guidelines for species selection.

### Goal 5

Promote efficient and cost-effective management of the urban forest.

City Arborist will submit a report annually to management regarding the results of the year’s tree inspections. Certificates of training will be available for inspection.

### Goal 6

Foster community support for the local urban forestry program.

Every two years, the department will survey residents regarding the value and benefits of the urban forest to see if the educational materials are working and revise accordingly.

### Goal 7

Encourage good tree management on privately-owned properties.

City Arborist to write an annual report based on visual inspections, regarding the quality of tree care on private properties.

**Appendix**

**Tree Preservation Guidelines**

Trees are an essential element of City of Fontana‘s image and quality of life. Hardscape elements, such as sidewalks, curbs, gutters, and driveways are also indicative of the City of Fontana‘s commitment to maintain its infrastructure. Over the years, broken and damaged sidewalks, curbs, and gutters and driveways will have to be replaced throughout the City. As a result, many trees will be involved. Whenever possible, curbs, gutters, and sidewalks should be meandered away from the tree thereby providing more growing space for roots. Trees will probably also be impacted during new construction and need to be protected. To mange this process and protect existing trees, the following guidelines have been established:

1. **Root Pruning**
	1. Whenever sidewalk, curb gutter or driveway replacements occurs within four feet of a tree, the site will be inspected by the Public Works Parks and Landscape Department for tree impact assessment. Root pruning may be performed on any tree that the Parks and Landscape Department determines can be safely performed without jeopardizing the life of the tree.
	2. All roots greater than two (2) two inches in diameter must be cleanly cut to encourage good callus tissue. It is recommended that roots be pruned back to the next root node.
2. **Sidewalk Renovation**

Trees that would be seriously impacted by root pruning during sidewalk replacements will be inspected by a certified arborist or urban forester in coordination with the Public Works Parks and Landscape Department to determine whether:

* 1. The repair work can be deferred and a temporary asphalt patch used to eliminate any hazard until other steps can be reviewed and implemented.
	2. The tree can be saved by narrowing the sidewalk near the tree, while still leaving sufficient sidewalk width for disabled access. Standard disability access width is four (4) feet with variances given to 38 inches where absolutely necessary.
	3. Relocating the sidewalk onto private property and negotiating the appropriate easement with the adjacent property owner can save the tree.
	4. The tree can be saved by replacing the sidewalk with minimal disruption of the roots (alternatives: a temporary asphalt sidewalk; rubberized sidewalk; use of root barrier fabric; raising the grade over the roots; and immoral walkway; or other options).
	5. To remove the tree and replace it with a minimum 24” boxed replacement tree.
1. **Curb and Gutter Replacement**

Trees that would be seriously impacted by root pruning during curb/gutter replacement will be inspected by a Certified Arborist or Urban Forester in coordination with the Parks and Landscape Department and responsible party for work to determine whether:

* 1. The repair work can be deferred if it does not create drainage problems or otherwise increase street maintenance unnecessarily and is not a hazard.
	2. The tree can be saved by relocating the curb and gutter into the street at lease one foot (ideally two (2) to six (6) feet), thereby narrowing the street width, which in effect may cause the elimination of some street parking.
	3. Where six or more trees along one side of a block are severely affected, consideration is to be given to relocating the curb and gutter into the street along the entire block.
	4. The tree can be saved by replacing the curb and gutter with minimal disruption of the roots (alternatives: temporary asphalt curb and gutter, use of root barrier fabric: or other similar options).
1. **Recovery Period**

When significant root pruning on two sides of a tree is required, there will be a 24-month separation between sidewalk and curb/gutter repair to allow time for the tree roots to recover. An exception to this policy may be made if the curb/gutter or sidewalk is relocated away from the tree or other measures are employed that reduce or eliminate root involvement or it is otherwise determined by the Public Works Parks and Landscape Department that the root involvement is minimal.

1. **Construction Projects**

The following guidelines have been developed to protect trees on City of Fontana property during construction projects:

A root protection zone shall be defined by a minimum 42” high barrier constructed around any potentially impacted tree. This barrier shall be at the drip line or at a distance from the trunk equal to 6 inches for each inch of trunk diameter 4.5 feet above the ground if this method defines a larger area.

Should it be necessary to install irrigation lines within this area, the line shall be located by boring, or an alternate location for the trench is to be established.

* 1. The minimum clearance between an open trench and a street tree shall be one (1) foot or six inches for each inch of trunk diameter measured at 4.5 feet above existing grade if this method defines a larger distance. The maximum clearance shall be ten (10) feet. The contractor shall conform to these provisions unless otherwise directed by the City of Fontana.
	2. At no time shall any equipment, materials, supplies or fill be allowed within the prescribed root protection zone unless otherwise directed by the agency.

It is recognized that failure to abide by these provisions will result in substantial root damage to trees that may not be immediately apparent. The City of Fontana will therefore assess damages according to the International Society of Arboriculture standards and bill the responsible party.

1. **Release Requirements**

In order for construction work to begin that will impact a tree, the Public Works Parks and Landscape Department must issue a signed release form. This release shall be based on the condition of the tree and an assessment of the impact of the proposed construction. Mitigation measures necessary to protect the tree will also be stated.

In the event a tree must be removed, the Public Works Parks and Landscape Department will issue a Tree Removal Permit.

1. **Protecting Tree Roots from Vehicular Compaction.**

In order to protect our Urban Forest and Fontana’s assets; it shall be unlawful for any vehicle to be parked under the drip line of a City of Fontana tree in non-paved areas such as parkway strips.

In summary, it is the City of Fontana’s policy to protect its valuable resources and also to provide useable, safe sidewalks, curbs, gutters, and other infrastructure features. Although this policy may cost more in the short run, the long-term solutions will benefit the City of Fontana both aesthetically and fiscally.

**Tree Pruning Guidelines**

**Need for Pruning**

Trees are pruned principally to preserve their health and appearance and to prevent damage to human life and to property. Broken, dead, or diseased branches are pruned to prevent decay from spreading. Live branches are removed to permit penetration of sunlight and air circulation which helps maintain a strong and healthy tree.

All City of Fontana trees should be completely pruned on a periodic basis based on species needs. Frequency also depends on funding levels.

Additional tree pruning is done on an “as needed” basis. Specific examples of where ‘”as needed” work is authorized are:

* Pruning tree limbs that interfere with utility lines.
* Pruning tree limbs that interfere with street, parking lot or security light illumination.
* Pruning tree limbs that interfere with buildings or other private or public facilities.
* Pruning hazardous limbs, such as large dead limbs greater than two (2) inches in diameter, hangers, and structurally unsound limbs.
* Pruning tree limbs that interfere with safe vehicular or pedestrian traffic.
* Sucker pruning.

**Property Owners Ability to Prune Trees**

There are two options available to property owners that would like to have the public tree(s) pruned more frequently. First, the fee (see schedule) may be paid to West Coast Arborists and this contractor will prune the trees within 90 days except during the summer months. Second, the public may apply for a permit and hire their own contractor who is licensed and insured to trim the tree(s) according to these standards contained herein.

**Tree Pruning Specifications**

Any tree work performed on a City of Fontana tree must be done according to the specifications outlined here in. There are different criteria for pruning depending on the purpose for the pruning.

* Complete Pruning Specifications are used when the entire tree needs to be fully pruned.
* Safety Pruning Specifications require less pruning and are used when specific, possibly hazardous (dead/dying) limbs need removal to eliminate all safety concerns. Safety pruning may be recommended in some circumstances instead of complete pruning. Safety pruning specifications are used for “as needed” pruning and address only safety concerns. Safety pruning includes only the basic requirements to address the problem.
* Where overhead wires pass through trees, safety and reliability of service demand that tree trimming be done in order that the wires may clear branches and foliage by a reasonable distance. The minimum clearances must be followed as established by the California Public Utilities Commission General Order No. 95.

The following guidelines are designed to maintain required clearance of City trees from high voltage distribution and transmission lines with a minimum of re-sprouting and fewer pruning cycles. These guidelines are based on the biological response of trees to pruning techniques and should only be used when combined with safe work practices.

Tree growth adjacent to utility lines shall be managed with lateral or directional pruning (thinning cuts). Directional pruning removes a branch from the trunk or large lateral branch growing away from the conductor. Heading cuts are prohibited. Pruning cuts should be determined by structure and branching habit of the species. Branches should not be arbitrarily cut to a pre-established clearance limit.

All trees should be examined for hazards prior to line clearance work. Hangers and dead wood should be removed first. Climbing spikes on live trees is prohibited. Only dead trees may be climbed with spikes. Whenever possible, trees should be allowed to attain a normal height, with the crown developing away from high voltage conductors to develop a V-shaped canopy structure. When foliage loss on a branch exceeds one-half (1/2), it should be removed from the parent stem. Final drop-crotch cuts should be made outside of the branch bark ridge on the main stem or lateral branch. The remaining branch shall be no smaller than one-third (1/3) the size of the branch being removed. The removed portion should be pruned to direct the remaining growth away from the conductors.

The use of multiple small diameter cuts to create an artificially uniform crown form, commonly known as “rounding over,” is not an acceptable pruning practice for utility line clearance.

All specifications are based on International Society of Arboriculture, National Arborist Association, and American National Standards Institute criteria.

The following trimming specifications are for the use of any pruning of City of Fontana trees.

**Method of Operation**

1. Lightly trim all trees to lighten and balance the trees, removing no more than 15 to 20% of the tree.
2. Remove dead wood and cross branches.
3. Remove all suckers.
4. Remove all diseased branches.
5. Encourage radial distribution of all branches to provide sufficient number of scaffold branches to fill the circular spaces as concentrically as possible around the trunk.
6. Final trimming cuts shall be made without leaving a stub. Cuts shall be made just outside the shoulder ring area. Extremely flush cuts, which produce large wounds and weaken the tree at the cut, shall not be made.
7. All trimming shall provide adequate clearance for any obstructed (street, directional etc.) sign, streetlight, safety light or other approved standard.
8. Over sidewalks, limbs shall be raised a minimum of seven and a maximum of eight feet from grade to wood. Where sidewalks do not occur or are located on the street side of a parkway, limbs may be retained below the minimum elevation as long as they conform to the natural shape of the species.
9. Over residential streets, limbs shall be raised gradually from ten (10) feet to fourteen (14) feet over traffic lanes from grade to wood giving the appearance of an arch rather than an angle. Near driveways where automated refuse containers are placed, it is imperative to have fifteen (15) feet of clearance. (Insert all, some or none if appropriate)
10. Over arterial streets, limbs should be raised a minimum of twelve (12) and a maximum of fourteen (14) feet from grade to wood. A major arterial street may require a higher maximum over central traffic lanes for existing, mature canopy-forming limbs.
11. Whether over sidewalk or street, where the lowest limb is attached to a trunk above the desired elevation but extends below that elevation, if possible, rather than removed all together, in order to avoid giving the trunk a skinned appearance.
12. Trimming shall not exceed the amount necessary to achieve the specified elevation at the time of raising. NO attempt to trim to a higher elevation to allow for future growth shall be permitted.
13. No limb over three inches in diameter will be removed without prior City of Fontana approval.
14. No lion tailing. An effect known as “lion-tailing” results from pruning out the inside lateral branches. Lion-tailing, by removing all the inner foliage, displaces the weight to the ends of the branches and may result in sunburned branches, water sprouts, weaken branch structure and limb breakage.
15. Topping, stump cutting, hat raking pollarding, etc. is not acceptable.

**Trees with known pathogens**

Trees with known pathogens that can be spread with pruning tools shall be pruned using additional caution.

Avoid pruning on windy days in order to reduce the transmission of spores - Sterilize tools in between cuts on diseased trees that can be transmitted on pruning tools. Acceptable sterilization methods include fifty percent (50%) bleach solution for ten (10) minutes or handheld butane torch heating for fifteen (15) seconds per side.

Wood with known wood boring insect infestations shall be chipped into pieces smaller than four inches (4”) and spread. - Wood that is infected with disease shall be handled and disposed of in a manner that minimizes the possibility of transmission of disease. This may include:

a. Not working on windy days to reduce transmission of spores.

b. Transporting greenwaste in covered containers.

**General Staff Requirements**

1. **Certified Tree Workers** – All persons performing tree work on City of Fontana trees should be trained according to tree care standards accepted by the International Society of Arboriculture.
2. **Certified to Work Around Electric Lines** – All persons performing tree work on trees in and around primary electrical lines must be trained to do so according to the “Electrical Safety Orders” of the State of California, including all amendments and revisions.

Line-clearance tree workers shall be trained to work around high voltage conductors. The United States Occupational Safety and Health Act (OSHA) and the American National Standards Institute (ANSI) have established minimum distances to be maintained by tree workers from electrical conductors. All line-clearance work involving City trees shall adhere to these standards as well as the utility pruning standards established by the International Society of Arboriculture (ISA) and the Utility Arborists Association (UAA).

1. **Certified Arborists** – Any contracted tree company shall employ a full-time, permanent Certified Arborist, as accredited by the International Society of Arboriculture. This person is responsible for ensuring that the contractor’s crews are performing work according these specifications. This individual must be present along with the crew at all times.
2. **Contractor Qualifications** – All contractors are required to have a state contractor’s license for tree work (C-61) and that the contractor adheres to the specifications provide in the bid documents.

**General Work Site Requirements**

1. Proper disposal of all tree green products generated is required mindful of recycling.
2. Assure good traffic control and minimum disruptions to the public.
3. Assure adequate safety of employees and the public.

**Wildlife Avoidance/Migratory Bird Treaty Compliance**

The Migratory Bird Treaty Act, the Endangered Species Act and local laws protect birds and wildlife located in trees. An arborist that is also a Certified Wildlife Protector can inspect trees. To minimize conflicts with nests, trees should be inspected carefully for nests and cavities using binoculars prior to pruning.

The recommended criteria shall apply to tree pruning or removal activities to protect wildlife: • as feasible, trees should be scheduled for removal during non-breeding/non-nesting season.

Trees scheduled for pruning or removal during the breeding/nesting

season shall be visually inspected at ground level. • If wildlife is located in the tree, the tree shall not be pruned and the responsible Public Works Parks and Landscape person shall be notified.

**Safety Tree Pruning Specifications**

Safety tree pruning shall consist of the total removal of those dead or living branches as may menace the future health, strength and attractiveness of trees. Specifically, trees shall be pruned according to the Tree Pruning Specifications as outlined on pages 7,8, & 9.

**Tree Planting Procedures**

• All planting locations shall be checked for underground conflicts. It is mandatory that Dig Alert be notified to detect all underground utilities prior to any digging.

• Dig planting holes 2-3 times as wide as the container. The depth of the planting pit shall be equal to the size of the rootball. Place the tree in the planting pit so the trunk flare or the top of the rootball is at least one-half inch to 1 inch (1/2” to 1”) above finish grade. In grass-covered parkways the top of the rootball shall be higher than the surrounding soil by one-half inch to one inch (1/2” to 1”). In a concrete tree well, the rootball shall be one inch (1”) above the level of the finished surface of the surrounding concrete.

• When obtaining a tree from a nursery, always carry the tree by its container or rootball, never by the trunk.

• After removing the tree from the container, cut circling roots and matted roots off the bottom. Check for any circling roots missed during initial inspection. Any roots less than one-third (1/3) the size of the trunk shall be removed with a sharp pruning tool.

• Before placing the tree in the planting pit, examine the root ball for injured roots and the canopy for broken branches. Damaged roots shall be cleanly cut off at a point just in front of the break. Broken branches shall be cut out of the canopy making sure that the branch collar is not damaged.

• Backfill with soil removed from the planting hole. Only add fertilizer or compost if soil analysis indicates it is required. Build a temporary four to six inches (4” to 6”) water retention berm around the root ball to allow for establishment watering. Immediately after planting the tree, water it thoroughly by filling the water retention basin twice.

• Eliminate all air pockets while backfilling the planting pit by watering the soil as it is put into the hole. Do not compact the backfill by tamping it down.

• All trees shall be staked with two wooden lodge poles and two ties per pole. The minimum diameter of a lodge pole is two inches (2”), but may be larger for 36” and 48” box trees. Place the tree ties at one-third (1/3) and two-third (2/3) of the trunk height. Drive the stake into the ground approximately twenty-four to thirty inches (24” to 30”) below grade making sure not to penetrate the root ball.

• Mulch with a two to four inch (2” to 4”) layer of mulch where appropriate to conserve soil moisture, provide protection from extreme temperatures and prevent damage from weed eaters. Mulch shall be kept three to four inches (3” to 4”) away from the tree trunk and shall extend at minimum to the boundary of the water retention basin. It may extend further if desired.

• The soil around the new tree shall be kept moist, but not saturated, by watering at least once a week during the cooler winter months and twice a week during the hot summer months.

**SELECTING NURSERY STOCK**

Container material is the most common type of nursery stock in California and is preferable for use in the City of Fontana.

**Types of Nursery Stock**

• Container

• Ball and Burlap

**Selecting Quality Container Nursery Stock**

Trees should meet the following minimum standards. Trees that do not meet these requirements will be rejected. The City of Fontana retains the right to inspect the root mass from a sample tree of each species. Extra provisions may be necessary in project contracts to notify nurseries of this requirement. Tree planting specifications for selection of quality tree stock shall be as follows:

• All trees shall be true to type or botanical name as ordered or shown on planting plans or contract orders.

• All trees shall have a single, relatively straight trunk with a good taper and branch distribution vertically, laterally, and radially with a live crown ratio (distance from bottom of canopy to tree top/tree height) of at least sixty percent (60%). All branches in the canopy should be less than two-third (2/3) the trunk diameter and free of included bark. The trunk and main branches shall be free of wounds except for properly made pruning cuts, damaged areas, conks, bleeding and signs of insects or disease.

• All trees shall be healthy, have a form typical for the species or cultivar, be well-rooted and pruned as appropriate for the species.

• All trees shall have sufficient trunk diameter and taper so that it can remain vertical without the support of a nursery stake.

• The root ball of all trees shall be moist throughout and the crown shall show no sign of moisture stress.

• The tree shall be well rooted in the soil mix. The point where the topmost root in the root ball emerges from the trunk should be visible at the soil surface of the root ball. When the container is removed, the root ball shall remain intact. When the tree is lifted, the trunk and root system shall move as one.

• All trees shall comply with federal and state laws requiring inspection for plant diseases and pest infestations.

• No tree shall be accepted that has been severely topped, headed back or lion-tailed.

• No tree shall be accepted with co-dominant stems or excessive weak branch attachments that cannot be correctively pruned without jeopardizing the natural form of the species.

• No tree shall be accepted that is root bound, shows evidence of girdling or kinking roots, or has roots protruding above the soil (a.k.a. “knees”).

• No tree shall be accepted that has roots greater than one-fifth (1/5) the size of the trunk diameter growing out of the bottom of the container.

**Contract Growing Criteria**

The City of Fontana will continually make a concentrated effort to secure newly introduced species through contract growing. Contract growing will also be considered for large scale City public improvement projects and street tree planting involving newly introduced species. Tree species that may be difficult to obtain in the nursery trade can be grown on contract by an experienced nursery. Each species requires a different specification based on project requirements. Trees produced for a contract-growing project must meet the tree planting specifications listed under “Selecting Quality Container Nursery Stock.”

 **Percolation and Soil Fertility**

Prior to planting, the following procedures shall be followed:

• Test the soil for percolation to determine if it drains properly. If it does not drain at least .5 inches per hour, then recommendations should be made to improve drainage, if feasible.

• Check the soil fertility and structure. If the soil is compacted, then it should be physically cultivated and have organic material added. If soil fertility issues are suspected, soil should be tested and approved by the Public Works Parks and Landscape Department. Soil remediation measures shall be reviewed and approved by the Public Works Parks and Landscape Department. All recommendations shall be implemented prior to planting trees.

**Sites for New Street Trees**

Typically street trees will be planted where there is an existing vacancy that is unoccupied, as a replacement tree, or if there is a break in the established street tree pattern that should be filled.

**Street Tree Spacing**

The following guidelines shall be followed when planting new street trees. The standard street tree spacing is as follows:

• 30’-35’ feet on center

• 30’ feet from the corner property line

• 20’-25’ feet on center for smaller statured trees

• 10’ feet from driveway approaches

• 10’ feet from light poles

• 5’ feet from utility meter boxes

**Street trees will not be approved for planting under the following conditions**:

• The tree would interfere with the growth of other trees in the area.

• The vacant tree well site is overshadowed by other trees nearby creating an unsuitable growing condition for the proposed new tree.

• Utility meters are in the way.

• The tree could block scenic views or views of oncoming traffic.

• The tree is not on the Street Tree Policy Manual Tree Palette List.