Urban Forest Management Plan

DRAFT

Funding provided by the
USDA Forest Service

Through the California Department of Forestry and Fire Protection
Urban and Community Forestry Program

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1: VISION AND MISSION

Vision Statement

By the year 2025, Long Beach's urban forest will be a healthy and diverse forest of multi aged and city appropriate trees. The urban forest will be recognized as a vital, functioning part of the City's infrastructure and will be included in the vision for all future development. Members of the entire Long Beach community will experience a healthier wellbeing from the urban forest through reduced energy costs, reduced pollution and softened city noise. The urban forest canopy cover will be extensive and reduce the heat island effect within the City. Long Beach residents will view the urban forest as an important part of the City's character and as an indicator of the City's health and livability. Management of the urban forest is successful because the City of Long Beach has formed meaningful partnerships with businesses, local organizations and residents to ensure the forest is protected and maintained. Due to careful management and sustained care, the urban forest greatly enhances the environmental, economic and social wellbeing of the city.

Mission Statement

The City of Long Beach has recognized that the environmental, economic, social and public health benefits provided by the urban forest along its streets and in its parks are critical to maintaining a healthy city. Moreover, the City recognizes that this valuable resource must be enhanced and expanded. The intent of the Urban Forest Management Plan is to address the long-term management and maintenance of City trees.

The project team identified seven goals for Long Beach's urban forest. These goals are broad in nature, defining what the City needs to accomplish in order to nurture its urban forest and enhance the environmental benefits it provides in the existing state of the urban forest and the potentially expanded urban forest. Because these goals involve commitment of City staff and financial resources; and possible modification of existing programs, we look to the City Council and the City's Commissions for support of this first step.

1. Protect, preserve and enhance Long Beach's existing urban forest.

2. Expand Long Beach's urban forest in the public right of way, on institutional campuses, on City-owned property and in partnership with private property owners in the City.

3. Provide fair distribution of urban forest services in all parts of the City.

4. Develop a common vision and partnership with local organizations, businesses, and residents to coordinate and address the long-term expansion, stewardship and maintenance of Long Beach's urban forest.

5. Enhance education and outreach related to the urban forest and tree care.

6. Enhance the social, economic, environmental, and public health benefits to the entire community through a sustainable urban forest.

7. Commit adequate and stable, long-term funding levels to maintain and enhance urban forest activities and programs.

2: INTRODUCTION

Environmental and Historical Context

In pre-development times, the area that would become Long Beach consisted mainly of grassland coastal plains with very few trees. What trees there were grew close to the spring-fed creeks and seasonal river flows that meandered across the land. The main historic tree species were riparian varieties, namely willows, sycamores and cottonwoods, with perhaps a few oaks on the hills. The first human inhabitants of the area kept their villages close to these forested waterways and made use of the bendable branches of young willow trees to construct their dome-shaped homes. A spring-fed grove of cottonwoods that was the focal point of the important Native American village of Puvunga later transformed into a Spanish/Mexican ranch settlement called "Rancho Los Alamitos" or the Ranch of the Little Cottonwoods. During the ranch period, significant trees would be used as survey points to delineate the boundaries between ranchos. When the ranchos came under American ownership, ornamental trees began to be imported to be planted in the ranch house gardens. Two important species that saw widespread use and planting during this time were Pepper trees originating from Peru and Eucalyptus from Australia.

By the 1880's many new towns were being laid out on the old ranchos in Southern California. The Rancho Los Cerritos created the American Colony of 20 acre farm lots with a seaside townsite known as Willmore City. In the tradition of Philadelphia, Willmore City used the names of trees as the names of most of its north-south avenues. The names Magnolia, Chestnut, Cedar, Pine, Locust, Elm, Linden, Lime and Olive all survive to the current day. Pine Avenue became the city's main commercial street and extended into the ocean as a pier. Elsewhere in the American Colony, where orchards were a popular pursuit, fruit tree names were used for streets, such as Orange, Walnut and Cherry. After Willmore City was renamed Long Beach in 1884, more residents came to call it home and more trees were planted. Long Beach's exposed position on the coast and natural lack of trees meant that many new trees were needed to provide shade and act as wind-breaks and overall beautification. An ample water supply from an artesian springs and wells aided rapid growth and by 1900, photographs show many mature trees in the downtown area.

In the 1920's many of the remaining stands of willow trees were removed to make way for progress and further urban growth.

Climate and Soil Conditions

Climate: Long Beach has a Mediterranean climate with semi-arid climate characteristics. Because of its proximity to the Pacific Ocean the city experiences moderate temperatures throughout the year. Long Beach can experience heavy rainfall in winter storms, but receives very little precipitation overall annually.

Soil conditions: There is a high degree of variation with regard to soils in the City, particularly because of the LA River floodplains. Some areas have clay and a high water table, while others are silty loam.

3: PURPOSE OF THE PLAN

Why we need a plan

The future of the City's urban forest is at risk without a comprehensive urban forest management plan. Long Beach's urban forest provides a multitude of economic, health-related and environmental benefits, making it an asset to the sustainable development of the city. In order to maintain and expand the urban forest, the Urban Forest Management Plan will provide the guidelines for the long-term management of Long Beach's trees. An urban forest management plan will help the city protect the value of its current urban forest and coordinate plans for future expansion of the urban forest to maximize the benefits it provides and minimize the costs to maintain it. Without a comprehensive plan, the city will end up paying for the adverse effects of an improperly managed urban forest, and the Long Beach community will experience a reduced quality of life. A well designed urban forest management plan will help Long Beach protect the investment it has made in its urban forest and provide a framework for improving the urban forest to greatly increase its value to the city as well as increase the quality of life of Long Beach residents.

Benefits Provided by Trees

The urban forest is an asset to the City's current and future health and longevity. It provides a variety of benefits which can greatly improve the quality of life of urban dwellers and provide an increasing value to the economy of a city.

Environmental Benefits

Wildlife
The presence of wildlife can add positive value to any urban environment. Trees provide habitat for a number of mammals, birds and insects, thus increasing biodiversity in the urban setting and providing opportunity for study. In riparian habitats, trees absorb pollutants from the water and cool the water, creating a positive effect for aquatic life. Urban street trees provide shelter for squirrels and chipmunks as well as a variety of birds.

Water Quality and Erosion Control
The urban forest can greatly improve the water quality for any metropolitan area. All precipitation can be intercepted and absorbed by trees and plants before it becomes urban runoff. The leaves of a tree absorb 30% of rainwater and allow it to evaporate back into the air. The roots of trees and other plants provide soil stabilization and water infiltration. This prevents excess sedimentation that could pollute waterways and reduces the potential for storm water runoff and flooding. The urban forest provides protection for people, animals, and buildings by improving water quality, reducing runoff and flooding and stabilizing the soil.

Temperature Control
In warmer seasons, trees provide shade and intercept solar energy, which reduces the need for air conditioning. In the winter, trees absorb impact from storms and insulate buildings. The strategic placement of trees and other vegetation can be used to block wind or divert it to areas that need cooling. The heat-island effect caused by pavement and buildings in an urban area can be significantly moderated by the shade of large tree canopies. Also, the heat-island effect increases temperatures over asphalt where tailpipe emissions occur, dramatically accelerating the creation of harmful ozone. Street trees can greatly reduce the creation of Ozone by lowering the temperature along transportation corridors with shaded canopies.

Air Quality
Urban cities contain a great deal of vehicle transportation and high concentrations of exhaust emissions. Some species of trees are able to absorb greenhouse gases such as nitrogen oxides, carbon monoxide, carbon dioxide, and ozone. Trees can also absorb chlorine, fluorine halogens and ammonia. Trees sequester these global warming pollutants, thus helping to mitigate the effects of global warming on our environment. Along with absorbing emissions, trees produce oxygen and other natural gases as a result of photosynthesis, providing cleaner air to residents in close proximity to trees. Improved air quality directly benefits public health and reduces common health impacts in urban cities, such as asthma. Trees and other vegetation can also act as cleaning agents, filtering dust and other particulate matter from the air.

Sound Control
Trees, shrubs, and turf have sound absorbing qualities. This reduces the amount of urban noise caused by highway traffic or industrial production. More trees provide more channels for natural sounds like rustling leaves and calls of songbirds to be heard and enjoyed. These sounds can also help to drown out city noise. Softening city noises provides a more calming environment and improves the psychological well-being of urban dwellers.

Social Benefits

Psychological Benefits
The urban forest is a vital contributor to the aesthetics of an urban environment. Trees and other vegetation have been known to invoke a feeling of serenity in people and have been reported to improve the health of hospital patients and productivity of school children. Trees carry a significance and symbolism for longevity and wisdom. Family and friends may plant a tree in honor and memory of a deceased loved one.(not sure this is very effective sentence, revise>) Neighborhoods may resist the removal of a large historic or symbolic tree when cities need to develop. An urban forest can create a sense of a unique character to a city and provide its residents with a feeling of having a special place in a hectic urban environment. Trees can soften the grey wasteland of city corridors, parking lots and expanses of blank cemented walls. Adding trees and other vegetation to these city

corridors improves the moods of residents who spend most of their days in these areas of the city.

Public Safety Benefits

Street trees act a barrier between traffic and pedestrians, creating safer walking environments. Urban street trees also act as a frame for the road, guiding the movement of motorists. This framework reduces the "optical width" of the street, which discourages speeding. When people reduce their driving speed, fewer accidents ensue. Strong research suggests that road rage is reduced in green urban areas compared to non-treed suburban environments. Motorists tend to perceive trips through treed environments as shorter than trips of the same distance on treeless roadways. This impression contributes to a more calm experience of driving, which in turn decreases the likelihood of road rage. Studies from the University of Washington's Center for Urban Horticulture even showed a result of lower crime rates in tree-present urban communities.

Economic Values

Since trees improve the aesthetics of the urban setting, the resale values of properties with trees, both residential and commercial, will be much higher. Recent studies from the University of Washington's Center for Urban Horticulture indicate that consumers are willing to pay 12% more for goods purchased in well-landscaped districts. Consumers surveyed also rated tree-lined sidewalks 80% higher for amenities and comfort, increasing the likelihood of interaction between consumers and merchants along district walkways.

The storm water retention properties of trees decrease the need for expensive drainage infrastructures. A 2002 San Antonio urban forest ecosystem analysis showed that their urban forest canopy cover of 20% provided a savings of $1.35 billion in construction costs for flood control systems and sewers. The city of Seattle determined a cost/benefit analysis of increasing the tree canopy cover from 18% to 36% and found that the additional canopy cover would more than double the stormwater retention capacity of the urban forest at an annual value of over $41million per year. This increase in canopy cover would also remove thousands of pounds of harmful air pollutants at an annual value of $9.8 million. By filtering pollutants out of the air, trees in the urban environment can directly improve respiratory health and the health of asthma patients, thus lowering health care costs.

Trees protect asphalt from weather damage and temperature fluctuation, which leads to longer pavement life and reduced roadway maintenance costs to the city. Tree canopies can also greatly reduce energy costs, by reducing the heat-island effect, giving residents and businesses leeway to spend their energy savings elsewhere within the city.

The costs of planting trees are minute compared to the multitude of direct economic benefits they provide (not including aesthetic or natural benefits). The average cost of planting a tree, along with its first 3 years of maintenance is between $250-600. A single tree, once established returns over $90,000 of benefits in its lifetime, proving the importance of trees to the economic vitality of the city.

4: SCOPE OF THE PLAN

The creation of an Urban Forest Management Plan was essential to ensuring the protection, coordinated management and enhancement of the urban forest. Furthermore, recognizing that the City cannot manage its urban forest by itself, making it pertinent to have a comprehensive plan to coordinate the effective management of the urban forest by all participating entities in the City of Long Beach.

The Urban Forest Management Plan addresses the long-term management and maintenance of City trees including street trees in the public right of way and on City-owned property, such as parks. The plan also addresses maintenance of residential and privately owned trees through partnerships with private property owners and businesses in the City.

5: STRATEGIC PLAN

Planning Horizon

The long-term goals of the Urban Forest Management Plan to protect and expand the urban forest are to be met by 2035. In order to achieve the overall goals of increasing the canopy cover in the city through the expansion of the urban forest, inventories of approved street trees for the city will be revisited and altered based on usage, appropriate placement, survivability and need every five years. To measure the success of the long-term enhancement of the urban forest, the City of Long Beach will first establish current inventories of its street trees and set clear projected targets for the expansion of the urban forest to be met by 2035. The UFMP will create a framework for effective management and encourage the engagement of community members, organizations, and multiple City Departments to maintain the health and prosperity of the urban forest. Short-term actions that can be implemented within the next five years to achieve overall goals of the UFMP include; improving the maintenance of street trees, increasing tree plantings, and increasing community outreach about the value of trees and how to select, plant and care for trees.

CITY OF LONG BEACH

DEPARTMENT OF PUBLIC WORKS

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R-40

April 15, 2008

HONORABLE MAYOR AND CITY COUNCIL
City of Long Beach
California

RECOMMENDATION:

Receive and file presentation by Public Works regarding the Urban Forest Master Plan, Goals and Policies Document. (Citywide)

DISCUSSION

Recent press has highlighted the fact that a healthy urban forest can serve to mitigate poor air quality and enhance the appearance of the urban environment. Faced with budget and staffing constraints, many portions of the City's urban forest are in need of revitalization. In particular, additional street trees would be beneficial and some existing street trees should be replaced as they become unsuitable for their environment or die due to disease or age. Similar conditions exist for trees in the City's open spaces and parks.

In order to better understand the scope of our needs and to provide a roadmap for addressing these needs, City staff entered into a contract with Melendrez and Associates and embarked on a phased master plan for the City's urban forest. The first phase of this process is the establishment of goals and policies related to the tree environment in our City. Funded jointly by the Community Development Department, the Public Works Department and the Port of Long Beach, the scope of work included:

- Reviewing existing City tree policies and procedures
- Meeting with City staff
- Conducting workshops with the City's Tree Committee, Parks and Recreation Commission and Port staff
- Drafting goals and policies
- Presenting these drafts for comment to the City's Tree Committee, Parks and Recreation Commission and Port staff
- Creating a document for Council approval

A copy of the Urban Forest Master Plan, Goals and Policies document is attached. A presentation outlining the process that led to this document as well as an explanation of the recommended goals and policies will be presented to Council for their review and consideration.

The next phase of the Urban Forest Master Plan effort will involve a detailed assessment of the City's current tree assets and the development of a multi-year plan to both enhance and manage these assets. The City has applied for grant funding to perform the detailed inventory and assessment and will be bringing this grant application to City Council as a separate item.

SUSTAINABILITY

The preparation of an Urban Forest Master Plan is essential to the long-term preservation of the City's tree assets. These trees provide many environmental benefits to the City including air quality enhancements, heat reduction via their canopies, nesting opportunities for a wide range of avian assets, and the creation of a valuable sense of neighborhood to the community. Adoption of the Goals and Policies Document will provide needed direction to both maintain and enhance these environmental benefits and emphasize the City's commitment to this element of environmental sustainability in the City.

TIMING CONSIDERATIONS

City Council action on this matter is not time critical.

FISCAL IMPACT

None.

SUGGESTED ACTION:

Approve recommendation.

Respectfully submitted,

MICHAEL P. CONWAY
DIRECTOR OF PUBLIC WORKS

MAC:db
P:/CL/urban forest master plan

Attachment

APPROVED:

for PATRICK H. WEST
CITY MANAGER

CITY OF LONG BEACH
URBAN FOREST MASTER PLAN

PHASE I GOALS AND POLICIES

March 2008

MELÉNDREZ

HORTSCIENCE

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I. INTRODUCTION

Trees play an important role in creating livable places, by providing aesthetic, environmental and economic benefits to communities. Trees help buffer noise, and mitigate environmental contaminants that result from air pollution. They slow down, then filter and clean storm water, and reduce energy consumption in both winter and summer. Economic studies have shown that a healthy tree canopy can increase property values.

The City of Long Beach has recognized that the benefits provided by the urban forest along its streets and in its parks are a critical part of maintaining a healthy city. Moreover, the City recognizes that this valuable resource must be enhanced and expanded. The Port of Long Beach must be a partner in this effort, and should be supported in its efforts to green property within the Harbor District, and, if possible along the goods movement corridors that serve the Port.

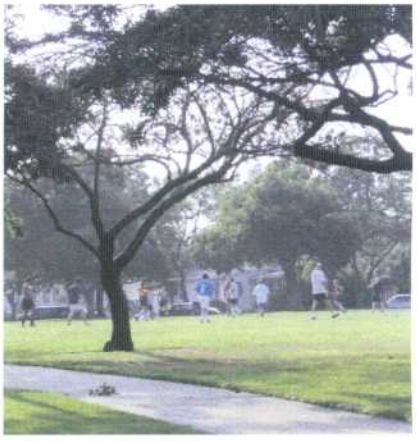
As a first step in stewarding this resource, the City has undertaken Phase 1 of the process to create an Urban Forest Master Plan, which will address City street trees within public rights-of-way, City parks, recreation and marine facilities trees, and the trees in Harbor District. This phase of the work comprises a set of goals and policies to serve as the foundation for the Master Plan, to be completed in a second phase of work.

The intent of the Urban Forest Master Plan is to address the long-term management and maintenance of City trees, as well as to quantify the environmental benefits provided by the existing and potentially expanded urban forest in the City of Long Beach, including the Port of Long Beach Harbor District and the proposed Riverlink enhancement area along the Los Angeles River.

This report is a summary of the Phase 1 work, which culminated in the development of the draft goals and policies that are presented in section five of this document. These were developed by reviewing existing City tree policies and procedures, followed by meetings with City staff, the City's Tree Committee, the Parks, Recreation and Marine Commission, and Port of Long Beach staff (see the Process Flow chart included in section II of this document). The City Council and the Board of Harbor Commissioners are the approval authorities for this document.

Street Trees in Long Beach

Median Trees in Long Beach



Park Trees in Long Beach

II. MASTER PLAN PHASE 1 PROCESS

August - September 2007

TASK 1:

Kick off and Policy Review

Kick Off Meeting

Urban Forest Maintenance Practices City

Urban Forest Policies

Data Collection

Site Tour

September - October 2007

TASK 2:

Committee, Commission & Staff Data Gathering

Tree Workshops

Compile workshop comments

Distill Major Themes

Share Findings with City

WORKSHOPS:

City Tree Committee

Port Environmental Staff

Parks and Recreation Commission

October - December 2007

TASK 3:

Draft Policies and Goals

Draft goals and policies

City Staff Meetings

Draft Review Meetings

Compile Suggestions/Comments

January - February 2008

TASK 4:

Final Policies and Goals

Final Goals and Policies City Staff Review

City Council Presentation

Scope for Final UFMP

III. URBAN FOREST ISSUES NOTES

A. CITY STAFF ISSUES

The issues identified below were discussed at the Long Beach Urban Forest Master Plan kick-off meeting, on August 14th. Representatives of the Department of Public Works, the Department of Recreation, Parks and Marine, and the consultant team of Meléndrez and HortScience were present. The purpose of the meeting was to present a plan of action for the development of the Urban Forest Master Plan goals and policies, as well as to discuss the range of issues and concerns that would likely be important considerations in the development of the Plan.

Life cycles: many neighborhoods have had problems with older trees dying, all at the same time, leaving them with little or no tree canopy.

Tree Pruning: trees within the city are on different cycles for pruning. For example, Ficus trees are on a five-year cycle and Palms are on a two-year cycle. Some trees should be pruned more often, but are not being completely neglected. Unscheduled maintenance is done in-house; regular maintenance is by contract. Public Works and Parks are talking about centralizing all tree maintenance activities into one plan.

City tree crew

Sidewalk issues: the City dedicates $3 million/year to repair sidewalks that have been damaged by tree roots. Many trees have been lost in the process. Public Works oversees the management of both the sidewalk program and the tree program. The City has made a lot of progress with regard to tying sidewalk repair to street tree assessment and trimming; however, there is an opportunity to continue to improve the process of linking these activities in order to save more trees and incur less damage to City infrastructure.

Sewer intrusions: the City has had some problems with tree roots breaking into sewer lines.

Utilities: the City has a lot of overhead utilities and maintains on-going communication with Edison about tree removal and pruning. They have over-pruned a lot of trees. Currently there is a debate about whether it is better to plant small or large trees. The traditional practice has been to plant small trees that will grow underneath utility lines. But because of increasing awareness of the value of trees in an urban environment, there is a shift to planting large trees and then pruning the canopy so that branches don't interfere with utility lines. Verizon is in the process of trimming trees to prevent them from hitting into and breaking fiber optic lines, which are easily damaged.

Tree and overhead power lines

Airport: there are height limitations around the airport that restrict certain species from being planted.

Street lights: many streets and parks are darker than they should be because street lights have been overtaken by large tree canopies. Adding pedestrian lighting may help. This is particularly apparent in Districts 4,5,6,7. The City presently deals with this issue on the basis of specific complaints.

Business identity issues: many businesses complain about the lack of visibility of their stores due to trees that grow in front of signs and facades. Second Street and Bixby Knolls areas, for instance, may need special guidance in terms of appropriate tree species for planting.

Sustainability: there are a number of sustainability issues related to the urban forest, include water conservation, nesting, and the use of native species. The City is interested in looking at what is sustainable for the future. The homeowner's association of the Park Estates community has made a huge reforestation effort. Public outreach to other homeowner's association would be good.

Planted parkway

Parkways: one of the outcomes of this plan could be a set of recommendations/ strategies for what people are planting under and around trees. The City currently has no established policy or any kind of conceptualization for this.

Soil conditions: there is a high degree of variation with regard to soils in the City, particularly because of the river floodplains. Some areas have clay and a high water table, while others are silty loam.

Rubber sidewalk

Rubber sidewalks: the City has installed these in a couple of places, but the installation is expensive and the sidewalks are very maintenance-intensive.

Green Waste: the City collects green waste from tree trimming on site. It is chipped and then used as landfill alternative daily cover.

Water Conservation: the plan should have some kind of link with the water department's water conservation strategies.

Social Justice issues: in general, low-income neighborhoods tend to have fewer trees and less canopy coverage in the City. This deficiency should be addressed in the plan.

Median Plantings: are currently maintained by the Parks, Recreation and Marine Department.

Green streets: this is a stormwater management technique in which medians and planting strips are constructed so that they collect water runoff from the street. Instead of flowing directly into storm drains, the water flows into the medians and/or parkways and slowly percolates into the water table or is cleaned and sent back into storm drains. This type of technique may be appropriate in the City.

Green Street in Downtown Los Angeles

Community Involvement: Two nonprofit organizations work on tree-related issues in the city. The City maintains communication with both of these groups, and there is an opportunity for them to play a larger role in the management of the urban forest. Long Beach Organic helped with Harbor-Arbor day, and operates a tree farm and the YELL team, a youth environmental leadership program. Long Beach Green evolved from one of the community gardens, and has expressed interest in having a future role in urban forest issues.

B. CITY COUNCIL ISSUES

The Urban Forest Master Plan project team made a presentation to City Council on August 14th in order to provide Councilmembers with a brief overview of the Urban Forest Master Plan Phase 1 process, and to provide them with an opportunity to offer specific suggestions or ask questions about the development of the plan. The following comments and issues were captured from that meeting.

Councilmember Gerrie Schipske—Fifth District

Community Forest Program: would it be possible to develop a program that would train local citizens to be arborists, similar to what has been done in New York? Tree maintenance is an enormous task. In a city the size of Long Beach, which has so many trees, community forestry could be an effective way of maintaining and managing the urban forest.

Community Outreach and Education: the City should have some kind of online resource to educate citizens about urban forest issues. Many residents do not understand the value that trees have in an urban environment. Perhaps the City could utilize a software program like Stratum or I-Tree and engage young people to help with the tree inventory. The City could also have an approved list of trees uploaded onto the City website, in order to provide guidance to residents who are interested in planting trees.

City Council Involvement: Can the project team arrange to meet with individual council offices as well?

Councilmember Tonia Reyes Uranga—Seventh District

Port of Long Beach: what will be the Port's role in this process? Can we expand their tree-planting reach within the community? Can we find carbon offsets for the Port in Port impact areas?

I-710 Freeway edge in Long Beach

Project Timeline: there is a lot happening with neighborhoods groups. Can this process be accelerated so that it captures what is currently happening in the field?

Councilmember Rae Gabelich—Eighth District

Neighborhood Benefit: how will this plan benefit neighborhoods directly impacted by Port activities, such as those that are located along goods movement corridors?

City Trees: An approved list of trees should be developed and uploaded onto the City website.

Union Pacific right-of-way

Public rights-of-way: we should consider the Union Pacific ROW in the 8th District as a potential corridor for planting new trees.

Councilmember Suja Lowenthal—Second District

Tree Coverage: determining the amount of tree coverage that a city has is an important component of an urban forest plan. How are we going to determine what is an appropriate level of tree coverage in different Long Beach neighborhoods?

Stormwater Management: how will stormwater management issues be considered in the development of this plan?

Councilmember Bonnie Lowenthal—First District

Tree Coverage: we should look at tree coverage neighborhoods rather than using district boundaries.

Port Involvement: we should make sure that the Port is involved in the project.

Councilmember Suja Lowenthal, 2nd District

On September 20th, 2007 a one-on-one meeting was held with Councilmember Suja Lowenthal in order to capture the additional input she wished to feed into the development of relevant goals and policies that could be incorporated into an Urban Forest Master Plan. These discussions led to an additional list of urban forest issues and concerns, which are summarized below.

Tree Coverage: the #1 goal for this project should be to increase the tree coverage as much as possible. Tree canopies and overall tree coverage has many advantages, including cooling the cooling effect and the creation of shade. Some creative ideas will have to be developed in order to increase the overall canopy coverage in the city.

Aesthetics: aesthetics of specific trees is almost as important as their benefits.

View Corridors: there are areas in Long Beach that have view corridors that need to be maintained, and where trees should not necessarily be planted. This includes Ocean Park Avenue downtown and Bluff Heights.

Nuisance trees: there are many nuisance trees in the city that should be removed. However, the City is in a bind because there are many bad trees, yet they are beneficial so it is not wise to remove them.

Magnolia trees: Magnolias create lots of leaf litter and problems with sidewalk. There are better trees to plant in small spaces.

Ficus trees: Ficus is a problem species because it creates cracks in the sidewalk

Elms: Chinese Elms are not an appropriate species for Pine Street. Slender and taller trees would be better

Flowering trees: more flowering trees, such as the Jacaranda, should be planted around the city.

Trees and Lighting: A balance needs to be achieved between trees and lighting. Big trees are great during the day because they create shade and help cool the urban environment, but at night they obstruct lighting and create potential unsafe conditions. This issue could be resolved by installing pedestrian lighting that goes underneath the tree canopy.

Mobility Plan: this plan needs to be coordinated with the Mobility Plan because of the relationship between trees and sidewalks/streets.

Alleys: are there potential places where neighbors could take over alleys that no longer serve a public purpose and then put in landscaping, trees, etc.? Certain alleys could be maintained as public corridors but then closed off for other benefits.

Jacaranda trees

General Plan: the plan should focus on the implementation of General Plan goals and policies pertaining to trees, including the policy of replacing trees that are removed with new trees.

Tree Stewardship Training: could the plan involve the development of stewardship training?

Planted median

Parking Lots: the plan should develop guidelines/ordinances for parking lots so that trees will have enough space to become large and shade pavement.

Density Bonuses: can density bonuses be conceived or other incentives for tree planting in development projects?

Medians: the plan should involve the development of medians along business corridors, such as along 7th Street.

Downtown: the plan should consider the green space vision from the Downtown Visioning process. We also may want to consider/review the Armory Park proposal that has not been implemented.

Planted curb extension/ bulb out

Pine Street: can be a hard environment for trees because of the dense, urban conditions. Chinese Elms are not an appropriate species for Pine Street. Slender and taller trees would be better

Broadway: the Ficus trees on Broadway are an immediate issue. More trees could be planted on Broadway if the street were to continue one-way east of Alamitos, so that the sidewalks can be expanded. Larger canopy trees would be better for Broadway

Bulb-outs: we should look for opportunities for planted bulb-outs, even in parking impacted areas where losing spaces is controversial.

C. PARKS, RECREATION & MARINE COMMISSION ISSUES

On September 20th the team outlined the Urban Forest Master Plan Phase I process and sought input from the Parks, Recreation and Marine Commission on the development of relevant goals and policies that could be incorporated into the plan. An additional list of urban forest issues and concerns came to light at that meeting, and are summarized below.

Partners of Parks: could potentially have a role in promoting tree planting and maintenance within Long Beach public parks.

Community Tree Adoption: perhaps some type of community program, similar to the Adopt-a-Highway program, could be created. This could potentially give private sector partners an opportunity to invest in the maintenance of local parks.

Endowments: what if some type of endowment for trees was created? Ten cents for every dollar could go into a fund that could help the City finance a program to plant and maintain trees.

City park and wildlife areas

Wildlife: Coastal birds such as the Great Blue Heron and the Black-Crowned Night Heron are nesting in trees in one of the City's marinas and are seen in El Dorado Park as well. Because these birds are protected, the Parks Department has to get permits to trim trees and work in the area where the nesting is taking place. The City has reached out to many of these groups and has fenced off areas where coastal birds nest in Ficus trees. The Port has been in litigation with the Audobon Society due to problem with Black-Crowned Night Heron nesting in Ficus trees. This is occurring in Gull Park, which acts as the Port's very own urban forest. (Note that the Public Works Department is also dealing with this issue in trees in the public right of way. Their response is to trim trees in cooperation with biologists and local environmental groups, and outside of the nesting season)

National Audobon Society: the City currently does not have an established partnership with the NAS. Because of an increase in the number of protected birds nesting in City trees, such a partnership would be beneficial.

Southern California Edison: can we develop some type of partnership with the utility companies? Right now Edison is doing heavy pruning to trees that have branches that touch their utility lines. The City has no jurisdiction over Edison and therefore has no way of preventing them from doing this. We need to reach out to Edison so that this problem can be resolved.

Education: a big part of this project is education—teaching people about urban forest, and what it is trying to accomplish long-term in different public areas such as street medians, parks, etc.

Realistic Plan: the plan should be realistic in the sense that City staff members won't be trying to sell something that know they can't get.

Agency perspectives: individual public agencies and communities groups have different perspectives and different needs regarding trees. This needs to be considered in the development of the master plan.

Tree root damage to sidewalk

Infrastructure: trees are part of the infrastructure of a community—right now there is a huge battle taking place between sidewalks and street trees because many residents live on streets where trees have uprooted the sidewalk and they want something to be done about it.

Nature Center: the trees that were planted at the nature center have now matured, and staff is fighting the battle of what to do with aging trees that have not been maintained properly.

Long Beach Unified School District: there is a need to plant more trees in Long Beach's public schools. How can we work develop a partnership with LBUSD?

Tree Events: proper planning of tree planting events is important. An example of poor planning is a community planting project that occurred near the river (didn't catch the name). Residents went out and planted a wide variety of trees, many of which were not on the City's approved list of trees. They also planted them too close together, which has created problems over time.

D. PORT ENVIRONMENTAL STAFF ISSUES

On September 20th the team outlined the Urban Forest Master Plan Phase I process and sought input from environmental and tree specialists at the Port of Long Beach on the development of relevant goals and policies that could be incorporated into the plan. An additional list of urban forest issues and concerns came to light at that meeting, and are summarized below.

Lack of trees on Port lands

Limitations of Port Involvement: the Port of Long Beach is interested in doing offsite mitigation with trees. However, it is currently limited in its ability to participate in this project due to legal restrictions related to a Tidelands grant which restricts Port revenue from being used outside of the Harbor District. The Port is currently investigating whether or not it will be able support projects outside of this area. For the time being, it can only commit to planting trees within the Harbor District. The Port's specific interests in this project include using trees as noise barriers, as a mechanism to improve air quality and reduce particulate matter, as a visual barrier, and to capture greenhouse gases.

Caltrans: owns the best places to plant trees along freeways and goods movement corridors. This plan should include their participation and investigate ways to plant trees lands that are under their jurisdiction.

Tree Canopy: the Port is interested in adding to the tree canopy on Port land. This will require research into the location of unleasable space on the property, and negotiation with leaseholders, in some cases. Roadway setbacks (such as on Ocean Boulevard) may be an appropriate place to add trees as well. A difficulty in adding trees, in addition to finding the space for them, is the poor soil condition on Port lands.

Sustainable Landscape Palette: we need to be aware that additional tree planting may seem inconsistent with the City's current water conservation initiatives. The Port has a sustainable landscape palette that can be utilized for new urban forest areas within the Harbor District. Species must be tolerant of recycled water, variable soil & dust. Evaluate palette with low BVOC in mind.

Former naval station land: Gull Park has been created on former naval station land, now in the Port, on which Black-Crowned Night Heron nest in Ficus trees. This park is not generally accessible to the public.

Palms in Long Beach

E. TREE COMMITTEE ISSUES

On September 20th the team outlined the Urban Forest Master Plan Phase I process and sought input from the Long Beach Tree Advisory Committee on the development of relevant goals and policies that could be incorporated into the plan. An additional list of urban forest issues and concerns came to light at that meeting, and are summarized below.

Utility pruning: the City needs to develop better practices as to why trees are pruned as they are.

Palm Trees: the plan should address the use of palms and the use of palms as magic trees for blighted areas. Tree Committee members would like to see other trees used that have more benefits. A possible goal for the plan might be to minimize the use of palm trees except where appropriate. At the very least, the plan could try to minimize the widespread use of Fan Palms.

California Natives: Tree Committee members would like to see more California natives planted in Long Beach. This is a difficult issue because many coastal areas in California historically didn't have any trees planted. In fact, Long Beach does not

Coast Live Oak

have any trees that are native to this environment. On the other hand, the plan could certainly encourage the use of Coast Live Oak as a viable street tree, and avoid the continued planting of Black Walnut.

Water Use: is water use going to be considered in this plan? Water recycling should be considered in this plan. Does the use of recycled water to irrigate trees affect any species? --The Department of Parks, Recreation and Marine—which uses recycled water to irrigate—hasn't had any negative impact from watering trees with recycled water.

Tree replacement: the plan may need to consider that replacement of trees will be different for different types of environments. For example, the planting of trees along medians will likely be very different than trees in natural areas or trees in parks. It almost seems like there are several different tiers of management that the plan will need to address—trees along public rights-of-way, trees in parks and open spaces, and trees in natural areas.

A meandering sidewalk

Meandering sidewalks: many residents would like to have a broader sidewalk repair policy that doesn't damage the trees so much. One possibility is to increase the implementation of meandering sidewalks. However, programs in other communities that involve the construction of meandering sidewalks have been abandoned because of issues with changes to setbacks and zoning. When a traditional sidewalk is replaced with a meandering sidewalk, the property line is often inadvertently changed. This isn't a problem until the resident goes to sell the house and finds that the property is out of compliance with city property records. These types of changes to existing zoning require a variance, and many communities have not found an effective way to resolve this issue. Until this is resolved, these types of programs have come to a halt.

A planted bioswale

Industrial areas: is there a policy for planting trees in industrial areas? We should try to make the industrial sections of town as green as possible.

Watershed Management/Runoff: the plan should look into the development of bioswales and other types of strategies for water catchment.

General Plan: the plan should focus on the implementation of General Plan goals and policies pertaining to trees, including the policy of replacing trees that are removed with new trees.

Management: the Committee would like to see a policy that has enforces strict rules for the management and maintenance of the urban forest. A good example is the

urban forest plan for the City of Portland. The plan imposes very strict guidelines about planting trees, as well as about the maintenance of trees. This is something that could be incorporated into the Long Beach plan.

Business corridors: the Tree Committee would like to see a policy that trees planted along commercial corridors should not be in care of or under the jurisdiction of business owners. Many business owners have a bad attitude about the trees near their business because of visibility issues and the negative impact they feel the tree has on their business. Public trees along commercial corridors like Pine Street should be the responsibility of the City, and the City should have special measures in place that help protect those trees from the self-interests of business owners.

Business corridor in Long Beach lacking street trees

Downtown environment: in general, Long Beach has a somewhat dismal looking downtown environment. Trees could be used to improve the environment downtown.

Tipuana Tipu: this tree looks great and would be a nice addition to Pine Street downtown, as well as other locations such as near Alegria.

Green waste program: Long Beach doesn't have this type of service. Could something like this be incorporated into the plan? Could the City give away mulch for free like some other cities do?

School environments: many schools have blacktops with very little trees and green space. Can the plan incorporate more trees in the schools? One goal for the plan might be for the city to partner with the district to increase the number of trees that are planted.

Signature trees: Committee members would like to see the development of a policy that addresses the use of signature trees in selected areas.

Greening of the Port: other ports, such as the Port Miami or the Port of Montreal, are completely surrounded by trees. Can something like this be done to green the environment around the Port of Long Beach?

Refineries and diesel areas: the Tree Committee would like to see policies that encourage planting of trees around the refineries, as well as along goods movement corridors.

New development: the Tree Committee would like to see a policy that makes developers stick to a plan. Nobody is holding developers accountable for what they are doing, which results in less than desirable conditions.

Education: business owners can be educated about the trees that are planted in front of their business, because they often don't consider that the tree needs some time but eventually its branches will grow above their sign.

Funding: there are some realtors in Long Beach who would be willing to contribute money to a fund for the maintenance of trees. One possible goal of the plan could be to find alternate sources of funding from the private sector, such as money contributed by realtors. This funding could be used to augment the Department of Public Works' operating budget for tree maintenance.

Daisy Avenue median cedars

Historic trees: there should be a policy regarding heritage trees and/or trees that are found in historic neighborhoods such as Wilmore. The City did make an effort to develop an ordinance for heritage trees, but it required staff to go out and inventory the trees and this has never been done. There are additional problems with this because the actual definition of a heritage tree varies across the state. So it is difficult to come up with a widely accepted standard for defining what a heritage tree is and then enforcing its protection.

Nonprofit participation: a possible goal for the plan would be to encourage nonprofit organizations to take on a larger role in managing/maintaining the urban forest. The City could develop stronger community partnerships with organizations like Long Beach Organic and Long Beach Green.

Community Forester training: the plan could encourage the development of a community forester training program. Such a program would give a broad arborist training to local residents.

Private donations: the plan should look at other possible private donations such as a program that would plant a tree to commemorate the loss of a loved one.

Tree availability: local residents should not have to jump through hoops to get trees when they want to organize local planting events.

Activism: Long Beach has a number of activist environmental groups that have special interests which are sometimes contrary to the City. However, Long Beach is a unique city in that there are not a lot of organized groups. Opposition to projects tends to be at

the local level, from groups who tend to form according to something that is happening in a specific neighborhood. So at any given point in time, the City might deal with a group of boaters, or birders, etc.

Tree Removal: City needs to enforce its existing policies with respect to illegal tree removal.

City Working Group: consider establishing a working group from various City committee & departments that would develop a sidewalk repair and tree management policy.

IV. URBAN FOREST ISSUES SUMMARY

Based on our meetings with elected leaders, City staff and residents, as well as our document and policy review, the project team can make the following observations:

1. The City of Long Beach values its urban forest and considers it important to the livability of the community. However, budgetary constraints limit the City's ability to comprehensively manage the urban forest.
   - The City appears willing to support its urban forest but not fully able to do so.

2. The City does not have an urban forest management program. It manages trees, but not its forest.
   - City departments vary widely in their tree management programs. The Department of Public Works has an active street tree program while such management is a secondary activity to Recreation, Parks & Marine, and to the Port.
   - The City does not have any idea of how many trees are located on public property. Although Public Works has an inventory of street trees, the Department acknowledges that the inventory is out of date. None of the other departments know the size of the tree resource in City parks and recreation areas, or in the Port.
   - The City lacks a planting program. City trees are removed but not replaced. The Neighborhood Services Bureau sponsors tree planting efforts, and coordinates with neighborhood groups in order to do tree plantings, but these are not fully coordinated with the departments that must eventually maintain the trees.
   - Departments lack the staff resources to respond to citizen requests and provide outreach to the community.

3. Citizen support for the City's tree management programs is variable.
   - On the positive side, community groups have undertaken tree planting efforts. The City's Tree Committee provides forum for discussion of trees and for tree removal appeals, as well as a connection to government.
   - On the negative side, citizens are unhappy with tree removal and sidewalk repair. Further, community groups such as the Audubon Society have opposed tree management activities such as pruning and removal.
   - There appears to be a good opportunity for outreach and cooperation with community groups such as Long Beach Organic, Long Beach Green, a wide array of already active neighborhood groups, as well as other City institutions including the Long Beach Unified School District.

4. Financial constraints limit action.
   - As noted above, budget limitations constraint tree management as reflected in the statement, heard multiple times in this process, "Why should plant new trees if we can't maintain the ones we already have?" As a result, tree management is limited to tree removal, sidewalk repair and pruning.

5. City does not enforce existing policies regarding tree removal.
   - Staff expressed frustration that residents who illegally remove trees are not fined or otherwise prosecuted.

6. The City has no information about the value of the benefits provided by its urban forest.
   - Because the City lacks a comprehensive inventory, it cannot fully assess the environmental, economic and social benefits provided by public and private trees.

In the next section of this report, we address these general observations with specific suggestions for goals and policies.

V. DRAFT GOALS AND POLICIES

INTRODUCTION

Upon completion of the policy review and City review meetings, and after touring the City's urban forest, the project team compiled a preliminary set of goals and policies. These goals and policies will provide the foundation for the Urban Forest Master Plan, which will be the focus of a future Phase 2 of this process.

The project team identified seven goals for Long Beach's urban forest. These goals are broad in nature, defining what the City needs to accomplish in order to nurture its urban forest and enhance the benefits it provides. The goals start with protecting the existing urban forest, then move toward enhancing it. Furthermore, recognizing that the City cannot manage its urban forest by itself, but relies on partnerships and public support, we identify outreach and education as important goals.

Within each goal, we identify more detailed policies that introduce specific actions the City can take to meet the goals of the plan. As the plan moves to Phase II, these policies will be further developed and prioritized.

Because the goals and policies involve commitment of City staff and financial resources, and possible modification of existing programs, we look to the City Council and the City's Commissions for support of this first step.

URBAN FOREST DRAFT GOALS & POLICES REVIEW MEETINGS

On January 17th a draft goals and policies document was presented to the Parks, Recreation and Marine Commission and the Long Beach Tree Advisory Committee. Comments made by Commissioners and members of the Tree Committee led to some refinements to the content of the enclosed set of goals and policies. Also, additional estimates of costs to complete some policy elements were added, in response to concerns raised by the Commission about the need to understand the full implications of potential Urban Forest Master Plan activities prior to starting the next phase of the planning process. Notes from these meetings are enclosed in an appendix to this document.

GOALS

What we intend to accomplish

POLICIES

How we will accomplish our goals

1.

Protect and maintain Long Beach's existing urban forest

1.1 Establish a citywide benchmark of no net loss of trees within the city, and replace every tree removed with a tree that meets minimum departmental requirements for species, size, and planting.(Estimated yearly cost: $75,000. Assumes 400 new street trees per year @ $150 per tree [installed] plus 100 new park trees. State & federal funds may be available to purchase trees.)

1.2 Conduct an assessment of the City's urban forest, using the USDA Forest Service Urban Forest Effects (UFORE) model to calculate the structure, environmental effects and values. (Estimated cost: $25,000 to 50,000) Perform periodic updates of the assessment (not more than once every five years.)

1.3 Update the citywide tree inventory to include park and median trees. (Estimated cost: $600,000)

1.4 Develop a cost benefit analysis of the City's street & median trees, using updated inventory information and computer modeling tools (Stratum's street tree module.)(also see policies related to Goal 6). (Estimated cost: $5,000)

1.5 Require tree care contractors to provide updates of tree removal and pruning, in order to maintain the tree inventory.

1.6 Develop standards for tree maintenance activities that will be used by all City departments that have trees on the properties they manage and/or operate, addressing lost trees, regular and on-going maintenance, tree life cycles and appropriate pruning intervals.

1.7 Develop a street tree master plan that will identify appropriate tree and plant palettes for different types of environments (e.g. residential, commercial storefront, office and industrial), site requirements and soil conditions; a list of native trees appropriate for use in urban areas; the preservation of important view corridors; and the use of signature trees for specific urban areas. (Estimated cost: $25,000 to $75,000).

1.8 Work with the City's Tree Committee to develop direction on guidelines for the repair of tree damaged sidewalk including possible repair alternatives.

1.9 Work with Southern California Edison, and other utility service providers, to establish a program of "Right Tree, Right Place," which will provide guidelines for removal and replacement of trees near utility lines.

1.10 Establish standards for identifying and protecting historic and/or heritage trees.

GOALS What we intend to accomplish	POLICIES How we will accomplish our goals
2. **Expand Long Beach's urban forest in the public right of way, on City-owned property, and in partnership with private property owners in the City**	2.1 Identify ways to increase the amount of tree canopy provided by street and park trees, in order to achieve a long-term net gain in the overall level of urban forest cover in the City. 2.2 Develop landscape standards for planting trees and plants within existing street medians, City parkways, and other public rights-of-way. 2.3 Revise and enforce City landscaping standards for tree planting in parking lots in development projects (including projects in the Harbor District) to ensure appropriate canopy cover is achieved in them. 2.4 Make planting new trees on private property a priority through a combination of City commitment, outreach and education. 2.5 Create new and strengthen existing relationships with neighborhood associations, nonprofit organizations, educational institutions, homeowner's associations, business districts and business owners to plant new, and maintain young, trees along streets. 2.6 Coordinate with the Port of Long Beach, MTA, Los Angeles County, Caltrans, Long Beach Unified School District, CSU Long Beach, Long Beach City College, railroads, and other public agencies to organize new tree planting projects within transportation and goods movement corridors.
3. **Ensure the fair provision and distribution of urban forest services in all parts of the city**	3.1 Establish criteria and priorities to identify areas of the city appropriate for enlarging the urban forest. 3.2 Prioritize new tree planting efforts (in cooperation with nonprofit organizations and neighborhood groups) in underserved neighborhoods that are identified as tree-deficient or maintenance poor, using criteria such as tree inventory, tree stocking levels, trees per street mile, etc.
4. **Develop a unified voice to address the long term expansion, stewardship and maintenance of Long Beach's urban forest**	4.1 Place all tree management and maintenance activities on City property under the responsibility of one department. (Recommend: the Department of Public Works) (related costs indicated in Policy 7.2) 4.2 Expand the mission of the existing Tree Committee to include proactive urban forest planning and management oversight. 4.3 Expand the existing Tree Committee into a citywide Commission incorporating all tree-related interests, including involved City agencies, departments and commissions, nonprofit organizations, and community groups. 4.4 All departments supporting City urban forestry efforts, including Public Works, Community Development, and Parks, Recreation and Marine, shall liaise with the City Tree Committee (future Commission) on these efforts. 4.5 Develop strong linkages between the Urban Forest Master Plan and other City policy such as the General Plan, Specific Plans, Parks, Recreation and Marine plans including Riverlink, Redevelopment Project Area plans, and the Municipal Code, so that a synergy is achieved in their implementation.

GOALS What we intend to accomplish	POLICIES How we will accomplish our goals
5. **Enhance education and outreach related to city trees and tree planting efforts.**	5.1 Establish a Citizen Forester program that will train residents to plant, maintain and protect young trees in their neighborhoods, as well as to assist with regular updates of the citywide tree inventory. (Estimated cost per year: $70,000) 5.2 Publicize and enforce tree policies, relating for example to planting and removal within the street right-of-way, and planting requirements for new projects. 5.3 Develop a coordinated urban forest outreach strategy including Public Works, Community Development, Parks, Recreation and Marine and LBUSD, in partnership with community groups, such as neighborhood organizations and historic districts. The strategy will address Arbor Day programs, cooperation on tree planting events, and education about the urban forest 5.4 Develop a set of online resources and services that educate citizens about the benefits, values and costs of the urban forest. 5.5 Coordinate tree planting efforts with the Long Beach Unified School District, Long Beach City College, and CSU Long Beach, and encourage those institutions to serve as another source of educational outreach to the community regarding the value of the urban forest.
6. **Improve the quality of the contribution that the urban forest in Long Beach makes on the city's environmental health.**	6.1 Develop a methodology for estimating the environmental benefit of planting trees in order to mitigate air and water pollution impacts in the City. As part of this analysis of the City's urban forest, evaluate its potential benefit and use as green waste within the City, in storm water capture, filtration and management, air quality improvements, property value increases and energy use reduction. 6.2 Develop guidelines for protecting and enhancing the wildlife habitat value of the urban forest. Critical issues include protecting coastal birds that nest in City trees, appropriate use of native plants and trees, and evaluating trees within restored native habitat areas such as the Nature Center. 6.3 Identify an urban forest related component for the citywide water use reduction strategy to include mandating planting climatically and geographically appropriate species, using recycled water for irrigation, and implementing "green streets" programs incorporating storm water management tools such as bioswales. 6.4 Develop policies for diversifying tree species within City owned parks and along public rights-of-way, to ensure the ongoing health of the urban forest. 6.5 Develop guidelines for expanding the urban forest to serve as an emission and noise buffer near facilities with significant impacts. Specifically, work with the Port of Long Beach to establish new tree planting programs within and outside its boundaries, with the focus on measurable air quality mitigation. Also see Policy 2.6
7. **Identify appropriate funding levels, and provide stable, long-term funding sources for urban forest activities and programs.**	7.1 Expand and/or consolidate urban forest staff as needed to address education and outreach and other community forestry activities while continuing to provide necessary street tree management services. 7.2 Provide adequate funding for tree trimming, maintenance, removal and replacement to allow one department to take responsibility for all City trees on public lands. (Recommend: the Department of Public Works)(Estimated cost per year: $6,000,000) 7.3 Reach out to the private sector in order to augment current funding for urban forest management and maintenance. This may include developing an "Adopt a Tree" program that will provide funding for the maintenance, planting and replacement of City trees. 7.4 Continue coordinated multi-departmental initiatives to pursue available federal, state and local grant funding for tree planting.

VI. PROPOSED URBAN FOREST MASTER PLAN OUTLINE

Based on our findings, and assuming support for the goals and policies, we propose a preliminary outline for the Phase 2 Urban Forest Master Plan, as follows. The process and steps which might be taken in order to develop this Master Plan are also conceptually identified on the following page.

I. EXECUTIVE SUMMARY

II. INTRODUCTION
- a. Background
- b. Benefits of the urban forest
- c. Plan organization
- d. Related plans and programs

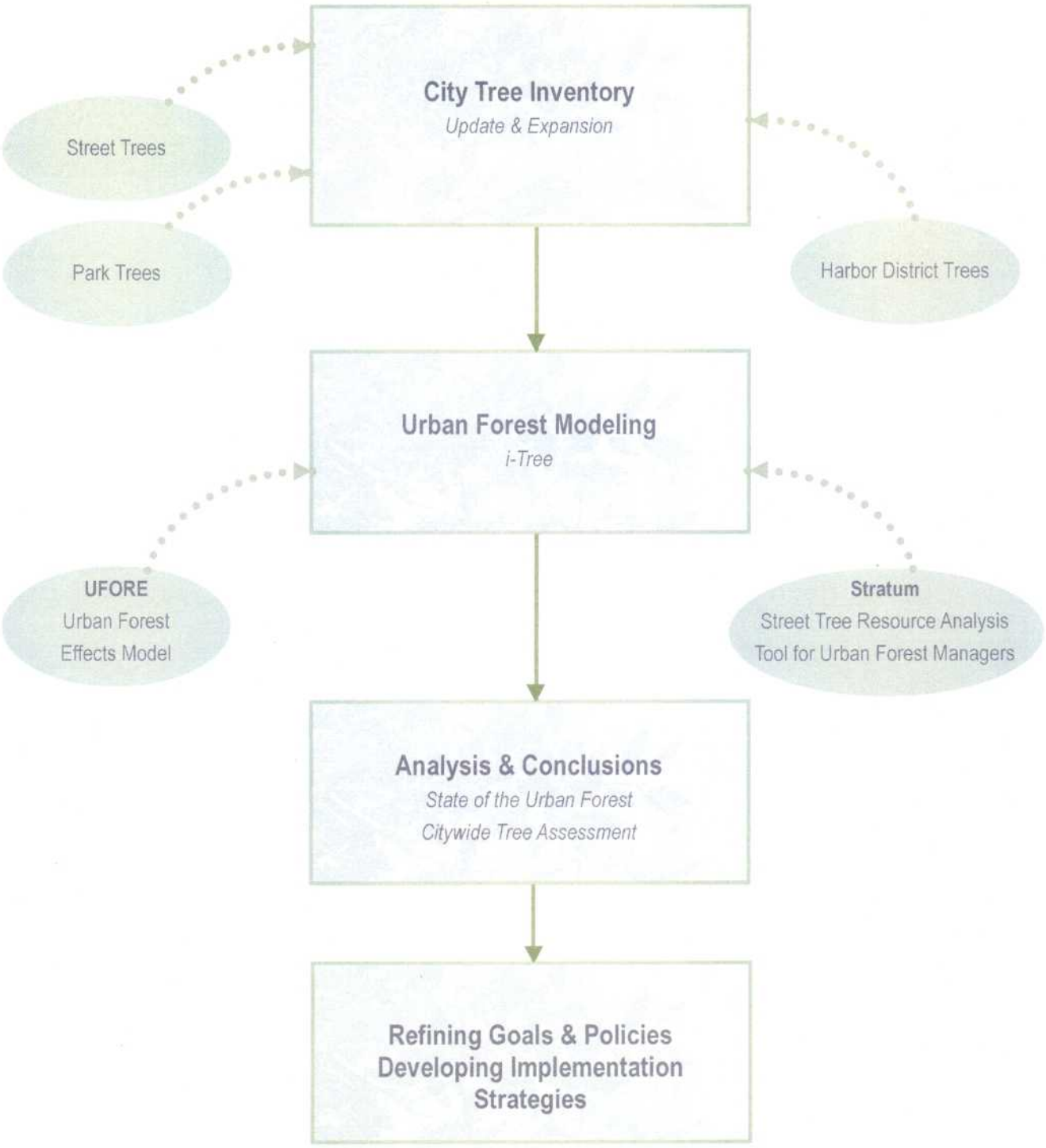
III. LONG BEACH'S URBAN FOREST
- a. Current state of the urban forest (health, planting needs, etc.)
- b. Current staffing/program structure
- c. Existing codes and ordinances

IV. CITYWIDE TREE ASSESSMENT
- a. Methodology
- b. Urban Forest structure (diversity, composition, distribution, etc.)
- c. Environmental effects and values
- d. Cost/benefit analysis

V. URBAN FOREST GOALS, POLICIES AND ACTIONS
- a. Protecting and maintaining existing resources
- b. Expanding the urban forest on public lands
- c. Equitable distribution
- d. Coordinated management and planning
- e. Education and outreach
- f. Sustainability and environmental benefits
- g. Funding for activities and programs

VI. APPENDICES

CONCEPTUAL URBAN FOREST MASTER PLAN PROCESS



Appendix 1: DRAFT GOALS & POLICIES REVIEW MEETING NOTES

PARKS, RECREATION AND MARINE COMMISSION
Meeting Notes, January 17, 2008

Harry Saltzgaver, President
The maintenance and expansion of the urban forest are important components of the goals and policies, yet there aren't any cost estimates attached. Why do some of the policies have suggested cost estimates and others don't? We need to provide a better sense of how much an expanded maintenance program is ultimately going to cost the City.

Drew Satariano, Vice President
In the previous meeting, when this effort was initially presented to the Commission, Council had just released its annual budget and had made a number of significant cuts to City departments and programs. This plan seems to have bad timing. How did this process get started, and why is it being developed now when other City programs are being cut?

Tom Shippey, Maintenance and Operations Bureau Manager
Any urban forest program has to include all the trees in the City, and has to be comprehensive. Putting the responsibility of tree management under one department is logical. The development of a comprehensive plan for the City's trees is really the only way to make this work, especially from a funding perspective. In order to obtain funding for City projects and programs, the City needs to have an approved plan.

Phil Hester, Director of Parks, Recreation and Marine
The City needs a comprehensive plan for the management of the urban forest. Maintenance of the urban forest is a big issue, and Council needs to understand the costs involved. Getting trees is not a problem, and many community groups are currently organizing tree planning activities. The bigger problem is what to do with these trees when they are in the ground.

Tom Shippey, Maintenance and Operations Bureau Manager
With regard to Policy 1.3, this has to happen before maintenance can be addressed. The City needs to understand its entire inventory before it can go through the process of estimating maintenance costs. The goals and policies being presented have a natural sequence. For example policies 1.5 and 1.6 would naturally come after policy 1.3. The City needs a plan to move forward with this process, and the details of the plan are therefore very important.

Mark Christoffels, City Engineer
With an adopted plan we can then go begin to look for grants that will fund the program. The plan will open up an avenue for doing this.

Commissioner Sarah Tong Sangmeister
Policy 5.5 makes sense, but we also need to refer to the City's educational institutions in policies 2.5 and 2.6 as well. We need to think of educational institutions as allies in public education efforts, as well as partners in expanding and maintaining the urban forest on their own properties.

Commissioner Brett Waterfield
As part of educating citizens about the urban forest, we need to educate them about the whole urban forest mission and its costs. People need to really understand the full cost of the urban forest, not only in planting, but maintenance/stewardship in the long term.

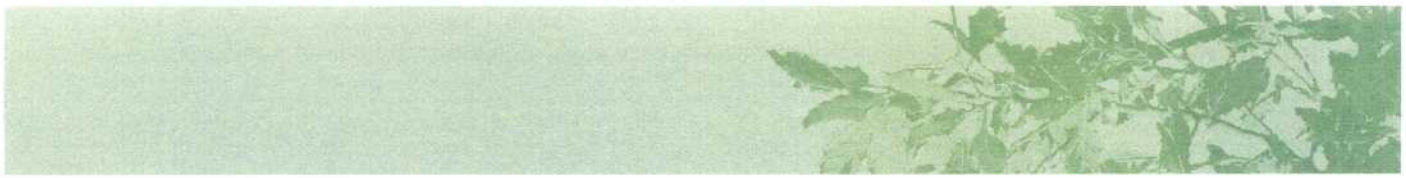
TREE COMMITTEE
Meeting Notes, January 17, 2008

SC Edison maintenance practices: the Right Tree, Right Place policy relating to tree removal and replacement is good. However, it overlooks an existing and ongoing problem with maintenance and pruning. The policy needs to also address Edison's tree maintenance and management practices.

Port involvement: what are the legal issues related to the Port tree planting and management activities?

Underserved neighborhoods: many currently underserved areas have significant spaces in which trees could be planted. Many of the schools in these neighborhoods are covered in asphalt. These are great places to start tree-planting projects and programs. Many of the portable bungalows at public schools are in full sun. Trees should be planted around the bungalows. The City should also consider a tree planting program in vacant lots.

Volunteer involvement: would it be possible to approach residents in historic districts and affiliated with other neighborhood organizations to organize volunteers to do some of the work for the tree inventory? This could help cut the cost of doing the inventory, while providing an educational opportunity, and further engage residents as stewards.



Grassroots education: grassroots efforts could be useful for educating people about urban forest issues. For example, Long Beach has quite a few community newspapers, which could be used to provide community members with information about urban forest activities. Information should also be provided to neighborhood groups and organizations to pass on.

Sustainability: the City should choose the right trees to plant going forward, to ensure that water use for irrigation will be minimized. Air quality and water quality are important considerations when evaluating the urban forest and its contribution to the City's environmental health. The City should also consider using cisterns to capture stormwater for cleaning and reuse in irrigation.

Process: Ensure that the Tree Committee is notified in advance of next steps connected with the Urban Forest Master Plan goals and policies adoption, as well as phase 2 of the project. Hopefully the consultant is looking at other cities who are modeling good policies relating to urban forest issues, as case studies informing the policy direction they are setting for Long Beach.

Development Guidelines: The redesign work recently completed on the shopping center at Palo Verde and Spring provides a good example of why we need policy 2.3. While the project did add trees in the parking lot, it focused on adding palm trees, which do not provide the maximum environmental benefits the Committee would like to see as a result of this Plan.

Historic Tree Preservation: Policy 1.10 is important, as no protections currently exist in City code for historic or heritage trees in the City. Policy such as this must have already been developed in other cities, and should be used as a model for Long Beach.

Appendix 2: SAMPLE i-TREE STRATUM RESULTS

In order to demonstrate the eventual benefit of modelling the urban forest in the City and analyzing its environmental, air quality and economic benefits, HortScience ran a sample set of City tree data from three City street blocks through the STRATUM model. These blocks are on Keynote, Oregon and Albany. The results summarized below indicate the actual net benefits provided by the trees sampled on each of the three blocks, as well as the atmospheric contaminants removed by those same trees. The benefits include the value of energy savings, carbon dioxide removal, air quality improvements, stormwater filtration, and aesthetics. The atmospheric contaminants evaluated are ozone, nitrus oxide, particulate matter (PM10) and sulfur dioxide. In summary, this small test analysis shows over $47,000 in annual benefits derived from just three blocks of street trees within our over 50 square mile city.

Annual net benefits produced by City of Long Beach street trees

Street segment	No. of Trees	Annual Benefits					
		Energy	CO2	Air quality	Storm-water	Aesthetic / other	Total
6100 6200 Keynote St.	49	$1,096	$223	$2,864	$235	$24,522	$28,942
2300 Oregon Ave.	51	$723	$244	$1,654	$89	$7,888	$10,599
3700 Albury Ave.	45	$675	$76	$1,209	$90	$6,174	$8,223

Atmospheric contaminants removed by City of Long Beach street trees.

Street segment	No. of Trees	Annual deposition (lb.)				BVOC produced	Annual benefit
		Ozone	Nitrous oxide	PM10	Sulfur dioxide		
6100 6200 Keynote St.	49	53.0	24.3	30.4	1.9	-34.0	$2,864
2300 Oregon Ave.	51	32.9	15.2	18.9	1.2	-61.3	$1,654
3700 Albury Ave.	45	24.7	9.5	13.1	0.9	-33.4	$1,209

Note: BVOC = biogenic volatile organic compounds

Main species	
Keynote	Italian stone pine
Oregon	Siberian elm
Albury	Southern magnolia, Siberian elm

Public Works Department - Tree Maintenance Policy

Mission Statement

It is the intent of the following provisions to recognize and underscore the importance of the trees and urban forest of Long Beach and to preserve the trees of our City for future generations.

Introduction

The purpose of this Tree Maintenance Policy is to provide guidelines to administer Section 14.28 of the Long Beach Municipal Code, to preserve and protect the community's urban forest and to promote the health and safety of City trees, from the time they are planted through maturity.

Guidelines are included for planting, maintenance and removal of street trees located in the public rights-of-way (the area between the curb and the sidewalk known as parkways and median islands).

This policy is intended to be used as a reference by City staff, citizens and private contractors for tree-related decisions in the public rights-of-way in the City of Long Beach.

Tree Maintenance

There are over 100 varieties of street trees in the City of Long Beach. Each species requires different care; some trees require a two-year pruning cycle while others require an eight-year cycle. Immediate trimming may be required on some trees to protect public safety, while other trees are identified for trimming as time and resources allow. There are also a number of trees within the city that require special handling, for reasons including species, age or location near buildings or power lines. Utility Companies under their franchise agreements have the right to trim City trees when they pose a hazard to their facilities.

The Public Works Department is responsible for trimming trees. Each year City funds are budgeted for tree trimming services. Trims related to safety (tree limbs that interfere with safe passage of vehicles or pedestrians) are scheduled immediately. Other trims are scheduled, as funds are available. All trees are trimmed in accordance with criteria set by the International Society of Arboriculture, the National Arborist Association and the American National Standards Institute. This means that trees limbs are selectively removed to "air out" the tree to encourage good development and preserve their health, structure and natural appearance. The City will not allow its crews or contractors to perform topping, heading back, stubbing, lion tailing or pollarding.

If a property owner wishes to have a parkway tree trimmed sooner than the City can schedule it, he/she may request and complete a no-fee Permit to Trim a Street Tree. The property owner shall be responsible for the tree trimming and for all costs related to it, including cleanup. A City-approved, licensed, bonded and insured contractor must do the actual trimming.

Work performed on any city tree must be done according to City specifications. Topping, heading back, stubbing, lion tailing or pollarding is prohibited. **Section 14.28.040 LBMC**.

Tree Planting

The Public Works Department is responsible for all tree plantings in City parkways, medians and rights-of-way. In an effort to restock and enhance the City's urban forest, the Public Works Department, subject to funding availability, will plant trees in areas where trees have been lost due to disease, age, weather, or infrastructure damage. The cooperation of adjacent property owners in care of newly planted trees will be encouraged.

To supplement City funded tree replacement activity, the City will endeavor to work with neighborhood and non-profit organizations to obtain additional resources and coordinate neighborhood-planting efforts.

Trees to be planted shall be on the Approved Street Tree List and must be appropriate for the specific planting site. No tree shall be planted closer than 25 feet to another tree unless a City Arborist has determined that a lesser distance will not impact the growth or health of the tree, or closer than 15 feet to any utility pole or light standard, or nearer than 5 feet to any fire hydrant, water meter or gas meter, or closer than 25 feet from the curb radius centers of any street intersection. No tree shall be planted in a planting strip that is less than 30 inches in width between the sidewalk and curb, except upon the approval of the Director of Public Works. Since after five years a 15-gallon tree will be larger and healthier than a 24 or 36 inch boxed tree, the preferred tree size shall be 15 gallon.

If a property owner wishes to plant a tree on an adjacent parkway, he/she shall obtain a permit from the Public Works Department. The permit provides the means for the City to work with the property owner to insure that the proper tree is selected, planted in the appropriate location and added to the City's tree inventory for future maintenance work. The permit will be issued on a no-fee permit basis. As part of the completion and approval of the permit, the property owner shall agree to bear all costs and liabilities associated with the planting(s) and ensure that any contractor used is licensed by the City. Property owners shall also be responsible for watering the tree to ensure its healthy growth. **Section 14.28.010 LBMC**

Trees planted without a permit that are considered undesirable (not on the Approved Street Tree List) will result in the property owner being required to remove and replace the tree with a tree on the Approved Street Tree List. Failure to comply will result in the removal of the tree by the City, at the property owner's expense. **Section 14.28.090 LBMC**

Removal of Street Trees

The City recognizes the value and appeal of a viable urban forest and promotes not only the conservation but also the addition to the urban forest canopy in the constantly

evolving and complex biological setting that the City landscape provides. The City recognizes that there is no perfect tree for all situations and that site conditions and community preferences, along with biological constraints, are all involved in tree selection and maintenance.

The conservation of City trees, especially those in parkways, is collaboration between the City and its individual residents. Property owners and/or their tenants are required to care for and properly maintain their parkway trees and report any damaged or suspected diseased trees to the Public Works Department.

The City attempts to correct, by all means available, situations that may call for removal of City trees. However, as trees and neighborhoods mature, removal and replacement may become necessary. In general, the City will only remove or allow removal of a street tree if it is dead, dying, diseased, uprooted, damaged and in danger of falling, or where tree root-damaged sidewalks and curbing cannot otherwise be safely corrected. The City will not allow removal of a tree solely because of leaf, flower, berry debris, or personal preference. The Director of Public Works or his/her designee is authorized to approve or deny all tree removal requests.

Removal Conditions

The determination of a tree's condition and removal will be made by a City employed Certified Arborist. Removal of a street tree at no cost to the adjacent property owner may be considered for the following reasons:

- The tree is dead, dying, critically diseased or damaged beyond reasonable repair
- The tree is in danger of falling or uprooting
- There is a recognized danger of falling or dropping limbs, which, combined with other factors such as high winds, make corrective measures non-cost effective
- The tree is competing for light or space with adjacent trees that are more valuable because of their potential longer life, attractiveness and/or sturdier growth
- The tree is host to aggressive, life-threatening disease or pests that threaten to spread to other trees
- The tree is in decline and is estimated to have less than two years of life remaining
- The tree is damaging vital infrastructure such as a sewer line, water line, gas or electrical conduit or is causing other major structural damage.
- The Director of Public Works or his/her designee has made the determination that the removal is required to accommodate a City approved infrastructure improvement

Unless the tree is causing or has the potential to cause an immediate hazard, or is preventing the immediate repair of an essential utility service, the following notice procedure will be utilized prior to a tree removal:

1. The tree shall be inspected by a certified arborist and a written determination made that the tree needs to be removed.

2. City staff shall post the tree and issue notices to all property owners within 300 feet as well as the Council District office of the pending tree removal. The tree shall be removed if no appeals are filed within 10 working days of the tree posting.

3. If an appeal is submitted it shall be heard by a Tree Committee designated by the Public Works Director.

In the cases where the majority of the trees on a block are designated for removal due to declining tree health, the City will work with property owners on a staged removal plan.

For removals being requested by a property owner due to re-occurring utility damage being caused by the tree, the property owner shall provide proof of such damage, verified with invoiced repair costs by a licensed contractor.

Tree/Hardscape Conflicts

The following guidelines have been established for correcting potentially hazardous situations that result from tree roots disturbing nearby hardscape (sidewalks, curbs, etc.):

Hardscape damage on public property may require a temporary asphalt ramp to be followed by permanent repair of the area as funds become available. All reported offsets/deviations will be patched.

Hardscape damage on public property that creates a public safety hazard will be scheduled for repair, as funds are available. The following procedures for the removal of street trees as part of any street or sidewalk reconstruction project shall apply:

1. The tree shall be inspected by a certified arborist and a written determination made that the proposed street or sidewalk work cannot be accomplished as planned without permanent damage to the tree resulting in making the tree unstable or causing its demise, or the tree has significantly re-damaged a street or sidewalk repaired within the previous 36 months.

2. City staff shall make a determination that the proposed improvement plans cannot be altered to avoid tree removal (i.e.: sidewalk routed around the tree with an easement granted by the adjoining property owner).

3. City staff shall post the tree and issue notices to all property owners within 300 feet as well as the Council District office of the pending tree removal. The tree shall be removed if no appeals are filed within 10 working days of the tree posting.

4. If an appeal is submitted it shall be heard by a Tree Committee designated by the Public Works Director.

Removal to Accommodate Private Construction Projects / Tree Removals at Property Owner's Expense

Removal of a street tree at the property owner's expense may be considered if the property owner agrees to all the applicable conditions outlined below. Property owners wishing removal of a parkway tree shall request and complete a no-fee Permit to Remove Street Trees.

- The private construction plan is a City Approved Plan and it shows that the existing City (parkway) tree has a direct impact to the design and function of the proposed project. The City Approved Construction Plan must be submitted with the permit to remove tree(s).

- The property owner will pay all removal costs, including site cleanup, make any necessary repair of hardscape damage and replace the tree. The tree must be replaced with an approved 15-gallon tree to be planted in an appropriate area of the parkway. The property owner will also pay for the equivalent of one (1) 15-gallon tree (approximate cost: $75) to be planted elsewhere in the City. All fees collected for tree replacement will be placed in a designated Tree Fund, used solely for the enhancement of the community forest program.

- The tree, stump and debris are to be removed by a City-approved, licensed, bonded and insured contractor. If the sidewalk, curb and/or gutter or any infrastructure is damaged by the contractor while removing the tree (final conditions will be inspected by the City), the property owner agrees to have all damages repaired within forty-five (45) days after tree removal. If the property owner fails to make repairs, the property owner will be assessed the full value of the tree based on ISA standards. The property owner will be required to replant a tree if the parkway space is available. If the request is granted the property owner will be required to do the following:

1. The property owner must complete all permits, provide a bond for completion and secure a City-approved, licensed, bonded and insured contractor.

2. The property owner must notify the City Council District Office and any formally organized neighborhood association in writing, with a copy to the Department of Public Works, of his/her request to remove the tree.

3. The City will post the tree and issue 10-day notices to all property owners within 300 feet of the tree.

4. The property owner will also be responsible for notifying the City's Neighborhood and Historic Preservation Office if the tree is located within a designated historical area.

Tree may be removed if no appeals are filed within 10 days of the tree removal posting and the Tree Removal Agreement has been approved and all fees have been paid.

Tree Removal Appeals

The appeal of denied request to have a tree removed will be heard by a Tree Committee designated by the Director of Public Works.

Private Trees Obstructing Public Property

Any tree, shrub or plant located on private property infested with disease or insects which, in the opinion of the Director of Public Works, is infectious and may spread such disease or insects to other trees or shrubs in the City, shall constitute a public nuisance.

Any tree, shrub or plant growing or standing on private property in such a manner that any portion interferes with utility poles, lines, wire or electroliers lawfully erected or maintained along any public street or sidewalk or restricts the flow of traffic or visibility of such street, sidewalk or intersection or any such tree which has become diseased or weakened in such a manner as to be dangerous to persons lawfully using the streets or sidewalks shall constitute a public nuisance.

The Director of Public Works shall cause notice to be served upon the property owner directing that the public nuisance be removed or abated within seven (7) days. If the public nuisance is not abated or removed or abated within seven (7) days after notice is served, the Director is granted authority to direct Public Works employees to enter the property and spray, trim, prune, treat or remove all or any part of the tree or shrub determined to be infested or to otherwise abate or cause to be abated the public nuisance. The Director shall determine the cost of the work performed by the City employees and bill the property owner the cost of the work performed.

Private Trees and Shrubs Damaging Public Property

If a private tree, shrub or other plant material causes damage to public property including sidewalks, curbs, gutters, streets and alleys, repair of damaged areas is the responsibility of the abutting property owner. The property owner is required to obtain a Street Improvement Permit from the Engineering Bureau, prior to making any repairs. If

the property owner fails to make proper repairs, the City, at the owner's expense, will make repairs.

City Trees and Shrubs Damaging Private Property

If private property damage occurs as a direct result of a City tree, the property owner is responsible for filing a claim for damages with the City. Claim forms for such damages are available from the City Clerk by calling (562) 570-6101. City staff will inspect and advise, upon request.

If the damage is on private property and is not caused by a City-owned tree, the City is not responsible for damages or repairs.

Approved: Christine F. Andersen 1/20/06

Christine F. Andersen, Director of Public Works — Date

Street Tree List 2012

Botanical Name	Common Name	California Native	Type	Parkway Size	AQMD	Drought Tolerant
Acer macrophyllum	Big Leaf Maple	√	Deciduous - Up to 50'	7' to 8'	√	
Acer negundo	Box Elder	√	Deciduous - Up to 50'	6' to 7'	√	
Alnus rhombifolia	White Alder	√	Deciduous - 50 to 90'	5' to 6'		
Celtis reticulata	Western or Netleaf Hackberry	√	Deciduous - Up to 35'	4' or greater	√	√
Cercis occidentalis	Western Redbud	√	Deciduous - Up to 25'	4' or greater	√	√
Chilopsis linearis	Desert Willow	√	Deciduous - Up to 25'	4' or greater	√	√
Cupressus macrocarpa	Monterey Cypress	√	Evergreen - Up to 45'	5' to 6'		√
Lyonathamnus floribondus	Catalina Ironwood	√	Evergreen - Up to 50'	6' to 7'	√	√
Pinus radiata	Monterey Pine	√	Evergreen - Up to 50'	6' to 7'	√	√
Platanus racemosa	California Sycamore	√	Deciduous - Up to 100'	8' or greater	√	√
Quercus agrifolia	Coast Live Oak	√	Evergreen - Up to 60'	8' or greater		√
Quercus engelmannii	Engelmann Oak	√	Deciduous - Up to 100'	8' or greater	√	√
Umbellularia californica	California Laurel	√	Evergreen - Up to 60'	8' or greater	√	√
Washingtonia filifera	California Fan Palm	√	Evergreen - Up to 65'	4' or greater	√	√
Acacia melanoxylon	Black Acacia		Evergreen - Up to 45'	5' to 6'		
Acacia subporosa	Bower Wattle		Evergreen - Up to 35'	4' or greater		
Acer oblongum	Evergreen Maple		Evergreen to partly deciduous - Up to 50'	7' or greater		
Agonis flexuosa	Peppermint Tree		Evergreen - Up to 35'	4' or greater		
Albizia julibrissin	Silk Tree		Deciduous - Up to 35'	4' or greater		
Alnus cordate	Italian Alder		Deciduous - Up to 50'	5' or greater		
Arcastrum romamzoffianun	Queen Palm		Evergreen - Up to 35'	4' or greater		
Archontophoenix cunninghamiana	King Palm		Evergreen - Up to 35'	4' or greater		
Bauhinia variegata	Purple Orchid		Deciduous - Up to 35'	4' or greater		
Betula nigra	River Birch		Deciduous - Up to 90'	7' or greater		
Brachychiton populneus	Bottle Tree		Evergreen - Up to 50'	5' or greater		

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Street Tree List 2012

Botanical Name	Common Name	California Native	Type	Parkway Size	AQMD	Drought Tolerant
Brahea armata	Blue Hesper Palm		Evergreen - Up to 50'	4' or greater		
Brahea edulis	Guadalupe Palm		Evergreen - Up to 35'	4' or greater		
Calistemon	Lemon Bottlebrush		Evergreen - Up to 35'	4' or greater		
Calodendrum capense	Cape Chestnut		Deciduous - Up to 40'	5' or greater		
Cassia excelsa	Crown of Gold		Partly deciduous - Up to 35'	4' or greater		
Cassia leptophylla	Gold Medallion Tree		Deciduous - Up to 25'	4' or greater		
Casuarina cunninghamiana	River She Oak		Evergreen - Up to 50'	6' or greater		
Catalpa bignonioides	Common Catalpa		Deciduous - Up to 50'	6' or greater		
Catalpa speciosa	Western Catalpa		Deciduous - Up to 50'	6' or greater		
Cedrela fissilis	Brazilian Cedar Wood		Evergreen - Up to 65'	6' or greater		
Cedrus atlantica	Atlas Cedar		Evergreen - Up to 65'	8' or greater		
Cedrus deodara	Deodar Cedar		Evergreen - Up to 80'	10' or greater		
Celtis occidentalis	Common Hackberry		Deciduous - Up to 65'	8' or greater		√
Cercis canadensis	Eastern Redbud		Deciduous - Up to 25'	4' or greater		
Cercis Mexicana	Mexican Redbud		Deciduous - Up to 25'	4' or greater		
Chionanthus retusus	Chinese Fringe Tree		Deciduous - Up to 20'	4' or greater		
Chitalpa tashkentensis	Pink Dawn		Deciduous - Up to 35'	4' or greater		
Cinnamomum camphora	Camphor Tree		Evergreen - Up to 60'	7' or greater		
Crinodendron patagua	Lily of the Valley		Evergreen - Up to 25'	4' or greater		
Cryptocarya rubra	Cryptocarya		Evergreen - Up to 35'	5' or greater		
Cupaniopsis anacardioides	Carrotwood		Evergreen - Up to 35'	5' or greater		
Eriobotrya japonica	Loquat		Evergreen - Up to 35'	5' or greater		
Eucalyptus camaldulensis	Red Gum		Evergreen - Up to 100' or more	8' or greater		
Eucalyptus citriodora	Lemon Scented Gum		Evergreen - Up to 100' or more	8' or greater		
Eucalyptus cornuta	Yate		Evergreen - Up to 25'	8' or greater		

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Botanical Name	Common Name	California Native	Type	Parkway Size	AQMD	Drought Tolerant
Eucalyptus erythrocorys	Red Cap Gum		Evergreen - Up to 65'	4' or greater		
Eucalyptus ficifolia	Red Flowering Gum		Evergreen - Up to 35' or more	5' or greater		
Eucalyptus lehmannii	Bushy Yate		Evergreen - Up to 25' or more	5' or greater		
Eucalyptus leucoxylon	White Iron Bark		Evergreen - Up to 90' or more	8' or greater		
Eucalyptus nicholii	Willowleaf Peppermint		Evergreen - Up to 50'	6' or greater		
Eucalyptus polanthermos	Silver Dollar Gum		Evergreen - Up to 90' or more	8' or greater		
Eucalyptus rudis	Desert Gum		Evergreen - Up to 65'	8' or greater		
Eucalyptus sideroxylon	Red Iron Bark		Evergreen - Up to 65'	8' or greater		
Eucalyptus torquata	Coral Gum		Evergreen - Up to 20'	4' or greater		
Fraxinus oxycarpa	Raywood Ash		Deciduous - Up to 35'	6' or greater		
Geijera parviflora	Australian Willow		Evergreen - Up to 35'	5' or greater		
Ginkgo biloba (male)	Maidenhair Tree		Deciduous - Up to 65'	6' or greater		
Gleditsia tricanthos	Honey Locust		Deciduous - Up to 65'	8' or greater		
Harpephyllum caffrum	Kaffir Plum		Evergreen - Up to 25'	4' or greater		
Hymenosporum flavum	Sweet Shade		Evergreen - Up to 35'	5' or greater		
Jacaranda mimosifolia	Jacaranda		Deciduous - Up to 50'	6' or greater		
Jubaea chilensis	Chilean Wine Palm		Evergreen - Up to 65'	5' or greater		
Koelreuteria bipinnata	Chinese Flame Tree		Deciduous - Up to 40'	6' or greater		
Koelreuteria paniculata	Golder Rain Tree		Deciduous - Up to 30'	4' or greater		
Lagerstroemia indica	Crape Myrtle		Deciduous - Up to 25'	4' or greater		
Laurus saratoga	Saratoga Laurel		Evergreen - Up to 25'	4' or greater		
Liriodendron tulipifera	Tulip Tree		Deciduous - Up to 80'	7' or greater		
Macadamia integrifolia	Smooth Shell Macademia		Evergreen - Up to 35'	5' or greater		
Magnolia grandiflora	Southern Magnolia		Evergreen - Up to 50'	7' or greater		
Magnolia grandiflora 'Glen St.Mary'	Glen St. Mary Southern Magnolia		Evergreen - Up to 35'	6' or greater		

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Botanical Name	Common Name	California Native	Type	Parkway Size	AQMD	Drought Tolerant
Magnolia grandiflora	Majestic Beauty		Evergreen - Up to 50'	7' or greater		
Melaeuca linariflolia	Flaxleaf Paperbark		Evergreen - Up to 35'	5' or greater		
Melaleuca quinquenervia	Cajeput		Evergreen - Up to 35'	5' or greater		
Metrosideros excelsus	New Zealand Christmas Tree		Evergreen - Up to 35'	5' or greater		√
Myoporum laetum	Carson Myoporum		Evergreen - Up to 25'	4' or greater		
Nyssa sylvatica	Sour Gum		Deciduous - Up to 50'	6' or greater		
Olea europaea - (Fruitless)	Olive		Evergreen - Up to 35'	5' or greater		
Phoenix canariensis	Canary Isl Date Palm		Evergreen - Up to 65'	5' or greater		
Phoenix dactylifera	Date Palm		Evergreen - Up to 65'	5' or greater		
Photinia serrulata	Chinese Photinia		Evergreen - Up to 35'	5' or greater		
Pinus canariensis	Canary Island Palm		Evergreen - Up to 65'	6' or greater		
Pinus eldarica	Mondell Pine		Evergreen - Up to 65'	6' or greater		
Pinus halepensis	Aleppo Pine		Evergreen - Up to 65'	6' or greater		
Pinus patula	Jelecote Pine		Evergreen - Up to 65'	7' or greater		
Pistacia chinensis	Chinese Pistache		Deciduous - Up to 50'	6' or greater		
Pittosporum rhombifolium	Queensland Pittusporum		Evergreen - Up to 35'	5' or greater		
Pittosporum undulatum	Vitorian Box		Evergreen - Up to 35'	5' or greater		
Platanus acerifolia	London Plane Tree		Deciduous - Up to 60'	6' or greater		
Podocarpus gracilior	African Fern Pine		Evergreen - Up to 60'	8' or greater		
Prunus cerasifera	Purple Leaf Flowering Plum		Deciduous - Up to 30'	4' or greater		
Pyrus calleryana	Callery Pear - Aristrocrat		Deciduous - Up to 30'	4' or greater		
Pyrus kawakamii	Evergreen Pear		Evergreen - Partly deciduous - Up to 30'	5' or greater		
Quercus chrysolepis	Canyon Live Oak		Evergreen - Up to 60'	7' or greater		
Quercus coccinea	Scarlet Oak		Evergreen - Up to 60'	6' or greater		
Quercus douglasii	Blue Oak		Evergreen - Up to 60'	6' or greater		

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Street Tree List 2012

Botanical Name	Common Name	California Native	Type	Parkway Size	AQMD	Drought Tolerant
Quercus ilex	Holly Oak		Evergreen - Up to 50'	6' or greater		
Quercus suber	Cork Oak		Evergreen - Up to 70'	8' or greater		
Quercus tomentella	Island Oak		Evergreen - Up to 50'	6' or greater		
Quercus virginana	Southern Live Oak		Evergreen - Partly deciduous - Up to 50'	5' or greater		
Quillaja saponaria	Soapbark Tree		Evergreen - Up to 50'	6' or greater		
Rhus lancea	African Sumac		Evergreen - Up to 25'	4' or greater		
Robinia ambigua idahoensis	Idaho Locust		Deciduous - Up to 50'	8' or greater		
Robinia pseudoacacia	Black Locust		Deciduous - Up to 50'	6' or greater		
Sapium sebiferum	Chinese Tallow Tree		Deciduous - Up to 35'	5' or greater		
Schinus molle	California Pepper		Evergreen - Up to 50'	7' or greater		
Schinus terebinthifolius	Brazilian Pepper Tree		Evergreen - Up to 35'	6' or greater		
Sophora japonica (regent)	Pagoda Tree		Deciduous - Up to 60'	7' or greater		
Stenocarpus sinatus	Firewheel Tree		Evergreen - Up to 30'	4' or greater		
Tabebuia avellanedae	Lavender Trumpet Tree		Evergreen - Partly deciduous - Up to 30'	4' or greater		
Tabebuia chrysotricha	Golden Trumpet Tree		Deciduous - Up to 25'	4' or greater		
Taxodium mucronatum	Montzuma Cypress		Evergreen - Partly deciduous - Up to 65'	8' or greater		
Tilia americana	American Linden		Deciduous - Up to 60'	7' or greater		
Tilia cordata	Littleleaf Linden		Deciduous - Up to 50'	7' or greater		
Tipuana tipu	Tipu Tree		Deciduous to partly deciduous - Up to 50'	7' or greater		
Tristania conferta	Brisbane Box		Evergreen - Up to 50'	5' or greater		
Ulmas parvifolia	Chinese Elm		Evergreen - Partly deciduous - Up to 50'	6' or greater		
Washingonia robusta	Mexican Fan Palm		Evergreen - Up to 100'	4' or greater		
Zelkova serrata	Sawleaf Zelkova		Deciduous - Up to 50'	7' or greater		

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