REPORT FROM

OFFICE OF THE CITY ADMINISTRATIVE OFFICER

Date: October 21, 2016

CAO File No. 0220-05220-0000
Council File No. 15-0467-S3
Council District: ALL

To: Mayor
Council

From: Miguel A. Santana, City Administrative Officer

Reference: Motion (Buscaino/O'Farrell) – Council File No. 15-0467-S3

SUBJECT: CITY TREE ISSUES AND CONCERNS PENDING BEFORE THE PUBLIC WORKS AND GANG REDUCTION COMMITTEE

RECOMMENDATIONS

That the City Council, subject to the approval of the Mayor:

1. Instruct the Bureau of Street Services to report back to Committee on the status of hiring the additional tree pruning crew and the level of productivity attained by the crew during the 2016-17 Fiscal Year;
2. Instruct the Bureau of Street Services to report back to Committee in 60 days on the results of the most recent multi-year tree pruning contract bid and award process;
3. Instruct the Bureau of Street Services to establish a maximum allowable year-to-year cost increase for tree pruning, tied to the Consumer Price Index, in all future Request for Bids;
4. Instruct the Bureau of Street Services to report back with a plan to implement metrics that would more closely track and assess overall contractor performance, that include tracking how often a contractor does not meet performance standards;
5. Instruct the Bureau of Street Lighting to increase its current tree trimming contract from $25,000 to $50,000; and,
6. Instruct the Bureau of Street Services to adopt a tree maintenance policy that includes dead tree removal in future grids that are bid out for tree pruning.

SUMMARY

On November 18, 2016, the City Council and the Public Works and Gang Reduction (PWRG) Committee requested that the Office of the City Administrative Officer (CAO) coordinate a response to the various City street tree issues and concerns pending before the PWRG Committee. This report covers these issues and is divided into topical sections.

The motions included in this report are as follows:

Council File	Source
12-0600-S139	Perry/Krekorian
14-0019	Bonin/Buscaino
14-0224	LaBonge/Buscaino

14-0224-S2	Krekorian/Buscaino
14-0600-S59	Budget Instruction
14-0600-S184	Budget Instruction
15-0467-S1	Huizar/Koretz/Buscaino
15-0467-S2	Huizar/Koretz/Buscaino
15-0467-S3	Buscaino/O'Farrell

Two motions, not listed above, will have separate reports submitted under separate covers. These are Council Files 03-1459-S2 and 15-0467-S4. These Council Files are relative to tree removal permits, removal of three or more protected trees on private property, and inspection of tree pruning/removal permits, and the enforcement of illegal street tree pruning/removal.

Council File 14-0600-S182, relative to the 2015-16 Adopted Budget and the $2.5 million allocated within the Unappropriated Balance for tree trimming, was addressed in past budgetary actions and should be closed out.

The majority of the information presented in this report is for discussion purposes and is included in the Discussion Section of this Report. Our recommendations focus on select areas as follows:

Contract Tree Trimming Versus City Forces
As a result of the recession, budgetary resources allocated to the Urban Forestry Division were reduced between 2008 and 2012. Before the recession, the Bureau pruned trees proactively with a combination of City forces and contractors. Tree trimming frequency increased from eight to 50 years. In the years since then, funding has been provided from year-to-year for the work to be done by contractors. However, the City has seen the average per tree cost from tree pruning increase from $56 in 2010-11 to $162 in 2015-16. For this report, this Office has prepared a comparative analysis of the tree pruning costs using contractors versus City forces. Based on this analysis, it is estimated that City forces are $1,175,251 (direct and indirect costs) or 18 percent more expensive than contractors to perform the same amount of work.

The Council modified the Mayor's 2016-17 Proposed Budget by adding resolution authority and six-months funding for one tree pruning crew. Contractual services funding was reduced by $476,000 from $5.0 million to $4.5 million. Additionally, a total of $1,874,000 was included in the Municipal Improvement Corporation of Los Angeles financing program for associated one-time vehicle and equipment acquisition costs for the tree pruning crew.

At this time, adding additional City staff to perform pro-active tree pruning would not reduce the costs to the City for this service. It is recommended that the Bureau report back to Committee on the status of hiring the additional tree pruning crew and the level of productivity attained by the crew during the 2016-17 Fiscal Year.

Contracting Process
Fiscal Year 2015-16 represents the first year that the Bureau implemented changes to the previous practice of awarding tree pruning contracts each year based on a grids of pre-identified trees. The Bureau will be awarding one year contracts with two one year options, to be awarded at the City's discretion. The multi-year model will allow tree trimming to begin sooner in 2016-17, increase administrative efficiency, and provide increased flexibility.

However, it is important to note that the Bureau has seen sporadic and significant increases in per tree average cost for tree pruning services. Cost increases have been as high as 67 percent in 2013-14. An option that the Bureau could pursue to stabilize annual price increases, would be to include a requirement in future Request for Bids that caps year-to-year cost increases that are allowable with a set percentage that could be tied to the Consumer Price Index. It is recommended that the Bureau implement this option in the next Request for Bids that is issued for tree pruning.

Contractor Performance and Quality Management
There have been concerns regarding the quality of pruning performed by the City's tree trimming contractors and compliance with the Migratory Bird Treaty Act. Poor pruning techniques can negatively impact the aesthetics, benefits, and health of trees. Therefore it is important that the Bureau continually measure the performance of the City's tree trimming contractors to ensure the delivery of high quality tree trimming services throughout the City.

The City's existing tree trimming contracts include specifications for standards to be used when trimming trees. For example, all street trees must be trimmed in accordance with the International Society of Arboriculture (ISA) "Tree Pruning Guidelines" and a certified arborist is required to be present during hours of operation for each worksite. The City's existing contracts also include disciplinary action that the Bureau will take if contractors fail to comply with the City's specifications. Failure by the Contractor to comply with the City's standards can result in suspension of work, non-payment for unacceptable work, and cancellation of the contract.

The Bureau has indicated that contractors generally comply with the City's standards for tree trimming and that the Urban Forestry Division investigates and discusses instances when improper tree pruning is performed by contractors. Additionally, in 2015-16 five full-time inspectors for contract tree trimming were added to the Bureau. The additional staffing resources to provide oversight of the City's contractors is expected to improve the overall quality assurance and control processes.

However, there are currently no specific metrics for assessing the overall system. The Bureau does not currently track how often a contractor does not meet the City's standards. For example, the Bureau could establish a baseline percentage of acceptability, and track how often a contractor is not in compliance against this baseline. Any contractor who performs below the baseline would be disqualified from bidding on future contract for a period of one year. It is recommended that the Bureau report back with a plan to implement metrics that would more closely track and assess overall contractor performance, such as tracking how often a contractor does not meet performance standards.

FISCAL IMPACT STATEMENT

There is no fiscal impact.

MAS:SMS/LLE:06160105h

Attachments

The following chart illustrates funding allocations for tree pruning from 2009-10 to 2015-16:

Historical Funding for Pro-Active Tree Pruning

	Fiscal Year						
	2009-10	**2010-11**	**2011-12**	**2012-13**	**2013-14**	**2014-15**	**2015-16**
City Forces - BSS Staffing	**60**						
Funding	**$ 4,300,000**	**$ 1,000,000**	**$ 1,425,000**	**$ 1,500,000**	**$ 5,000,000**	**$ 5,000,000**	**$ 7,739,768**
City Forces	$ 3,300,000	$ -	$ -	$ -	$ -	$ 500,000	$ 500,000
Contract - GF	$ -	$ -	$ 500,000	$ 500,000	$ 4,000,000	$ 3,000,000	$ 5,500,000
QA/QC for Contracts	$ -	$ -	$ -	$ -	$ -	$ 500,000	$ 500,000
Contract - SLMAF	$ 1,000,000	$ 1,000,000	$ 925,000	$ 1,000,000	$ 1,000,000	$ 1,000,000	$ 1,000,000
Contract - Great Streets	$ -	$ -	$ -	$ -	$ -	$ -	$ 239,768
Tree Trimming Cycle (Yrs.)	12.7	50	50	32.5	16.25	24.1	14
Trees Trimmed	55,000	13,000	17,889	14,023	38,154	28,442	42,396
City Forces	45,000	0	0	0	0	2,273	2,273
Contract - General Fund	0	0	4,484	5,456	32,788	23,142	33,951
Contract - SLMAF	10,000	13,000	13,405	8,567	5,366	3,027	6,173

Notes: GF = General Fund SLMAF = Street Lighting Maintenance Assessment Fund

The 2016-17 Adopted Budget includes resolution authority and six-months funding for one tree pruning crew. General Fund contractual services funding was reduced to $4.5 million versus the $5.5 million that was funded in 2015-16. Additionally a total of $1,874,000 was included in the Municipal Improvement Corporation of Los Angeles financing program for associated one-time vehicle and equipment acquisition costs for the tree pruning crew.

Tree pruning funding for 2016-17 consists of the following:

	2016-17
City Forces - BSS Staffing	
Funding	**$ 7,611,413**
City Forces	$ 1,489,418
Contract - GF	$ 4,500,000
QA/QC for Contracts	$ 382,227
Contract - SLMAF	$ 1,000,000
Contract - Great Streets	$ 239,768
Tree Trimming Cycle (Yrs.)	17.65
Trees Trimmed	39,662
City Forces	7,500
Contract - General Fund	26,315
Contract - SLMAF	5,847

The approximate tree pruning cycle currently funded is 18 years.

For this report, this Office has prepared a comparative analysis of the tree pruning costs using contractors or City forces using the same methodology that is used when making a Charter Section 1022 economic finding. This analysis was prepared with information on workload and resources required by BSS to perform the same amount of tree pruning as proposed to be performed by contract. The total proposed contractor labor costs are $5,500,000 (General Fund). It is assumed that the average per tree cost for tree pruning is $162, based upon the most recent bids received for 2015-16. Therefore, approximately 34,000 trees are proposed to be pruned by contract. Based on discussions with the Bureau, it was determined that a total of seven positions would be necessary to perform optimum oversight and administration of the tree pruning contracts. Therefore, a total of seven BSS positions are included in the cost analysis to provide contract administration and perform quality assurance and control and to more accurately estimate the cost difference between contract and in-house crews. However, for 2015-16, only six positions were provided for these tasks due to staffing availability. While this slightly decreases the actual total cost to the City for contracting out this function, it increases the cost difference gap. This Office determined that the total cost to the City for the proposed tree pruning contracts is $6,476,791. This amount includes associated expenses, equipment, overhead rates, and benefits for City forces.

BSS estimates that a total of six mechanized tree crews would be required to prune an equivalent of 34,000 trees. Each crew is composed of nine people who would trim approximately 6,000 trees per year. The cost of City forces to perform the proposed contracted work is $7,684,876. This amount includes hourly equipment[2], overhead rates, and benefits for City forces.

Based on this analysis, it is estimated that City forces are $1,175,251 or 18 percent more expensive than contractors to perform the same amount of work during the 2015-16 fiscal year.

However, based on the recent and anticipated increases to contract pricing the gap begins to narrow. By Fiscal Year 2017-18, it is projected that the cost difference between City forces and contractors will decrease to 15 percent. This assumes that a total of 34,000 trees are trimmed each year. The methodology used for this comparison was consistent with standard practices used in the Charter 1022 Determination process when performing a contract cost analysis. The chart on the following page illustrates this trend:

[2] Hourly equipment rates are calculated by the Bureau of Street Services and audited by the Federal government to be used to directly bill grants for equipment costs. These rates include depreciation, fuel, and maintenance.

level of productivity attained by the crew during the 2016-17 Fiscal Year. Additional crews may be considered once the Bureau's tree pruning productivity has been verified.

Please see Attachment A for a copy of the Contract Cost Analysis forms.

B. CURRENT TREE TRIMMING PRACTICES

C.F. Number(s): **14-0600-S59 (Budget Instruction)**
Instruction(s): ***Report back on:***

- ***potential efficiencies to in-house tree trimming activities***

No Attachment
No Recommendation

Currently, the Bureau trims trees by contract according to a geographic grid. This has been the most productive and effective method for the Bureau to maintain a safe and accessible public right-of-way. Using a grid allows the Bureau to keep an inventory of which trees are located within each section of the grid; this inventory is not computerized. Palm trees are currently pruned along with the other trees within the grid. There are approximately 100,000 palm trees in the urban forest. The Bureau previously held separate contracts for palm tree maintenance due to their unique care needs, but the practice was discontinued about 10 years ago. Due to the City's contracting process, trees have recently been pruned according to when a contract is awarded rather than when is best for the tree. Different tree species should be ideally trimmed during varying times of the year, but this has been challenging to address in practice. Additionally, since there are currently no dedicated City crews for proactive tree trimming, there are no metrics for measuring their quality of work. For this reason, it is difficult to draft recommendations for improving efficiency amongst City tree trimming crews.

C. STREET TREES AND SIDEWALKS

C.F. Number(s): **15-0467-S1 (Huizar/Koretz/Buscaino)**
Instruction(s): ***Report back on:***

- ***guidelines for tree removal due to sidewalk repair:***
- ***guidelines for tree wells and the accommodation of trees in the practice of sidewalk repair and construction; and,***
- ***recommendations for how the sidewalk repair program can anticipate and enable tree plantings and future growth of the urban forest while lessening conflict with sidewalk infrastructure***

No Attachment
No Recommendation

Street trees grow and change over time. As a result, street trees often come into conflict with the sidewalk system due to the confined spaces in which trees are planted. Resolving these conflicts between street trees and sidewalk infrastructure is important to the City's long-term sustainability of a

The current Sidewalk Repair Program is following the City's Standard Plan for basic tree well installation. The Standard Plan specifies that tree wells be built to a four foot width by a six foot length, provided that this allows for a sidewalk pathway with a minimum width of four feet. The policy also allows for increasing the size of a tree well if this is recommended by the arborist for the project and there is sufficient space in the public right-of-way. The Bureau of Street Services dictates where the well is placed. Specific guidelines for well placement are still pending.

Current guidelines state that if a tree is at least 50% dead, it should be removed. In terms of root pruning within tree wells, the Bureau maintains a rule of not pruning roots any closer than three times the diameter of the tree to avoid destabilizing the tree and causing it to fall over. Due to the size of most trees compared to the size of tree wells, this means that root pruning is almost never recommended, since root pruning within the tree well would be too close to maintain the health of the tree. In these cases, the best decision is sometimes to remove the tree.

The Sidewalk Repair Program anticipates future tree plantings and will enable the future growth of the urban forest that will reduce conflicts with sidewalk infrastructure. The Program will utilize planting methods, locations, and species selection that will be least likely to cause future sidewalk damage. This will allow the Program to avoid repeating the same issues that are currently facing the City.

D. CONTRACTING PROCESS

C.F. Number(s): **15-0467-S3 (Buscaino/O'Farrell)**
Instruction(s): ***Report back with a comprehensive review of various street tree issues and concerns pending before the PW Committee including:***

- ***using multi-year contracts and/or pre-qualified "on-call" contractors to ensure timeliness and flexibility;***

C.F. Number(s): **14-0600-S59 (Budget Instruction)**
Instruction(s): ***Report back on:***

- ***recommendations to improve the flexibility of contracts;***

C.F. Number(s): **14-0019 (Bonin/Buscaino)**
Instruction(s): ***Report back on:***

- ***procedures for issuing contracts for tree trimming work***

C.F. Number(s): **14-0224-S2 (Krekorian/Buscaino)**
Instruction(s): ***Report back on:***

- ***Recommendations on changing the City tree trimming program to reduce the per-tree cost to deliver tree-trimming services***

E. CONTRACTOR PERFORMANCE AND QUALITY MANAGEMENT

C.F. Number(s): **14-0600-S59 (Budget Instruction)**
Instruction(s): ***Report back on:***

- ***the quality of tree trimming by contractors; and,***
- ***the Bureau's quality control processes for contract tree trimming activities.***

C.F. Number(s): **15-0467-S3 (Buscaino/O'Farrell)**
Instruction(s): ***Report back with a comprehensive review of various street tree issues and concerns pending before the PW Committee including:***

- ***the quality of work from City tree trimming crews vs contractors;***

C.F. Number(s): **14-0019 (Bonin/Buscaino)**
Instruction(s): ***Report back on:***

- ***measures that are in place to ensure trimming and pruning work done by contractors and permitted residents complies with the City's established street tree guidelines and policies.***

Attachment B
Recommendations

In recent years, there have been concerns regarding the quality of pruning performed by the City's tree trimming contractors. For example, a Bonin-Buscaino Motion (C.F. 14-0019) cited reports from residents in West Los Angeles that contractors were using improper pruning procedures, such as topping for Jacaranda and Koelreuteria trees. There have also been concerns expressed by Council Members relative to contractor's non-compliance with the Migratory Bird Treaty Act. Poor pruning techniques can negatively impact the aesthetics, benefits and health of trees. Therefore, it is important that the Bureau continually measure the performance of the City's tree trimming contractors to ensure the delivery of high quality tree trimming services throughout the City.

Both quality assurance and control processes are critical to ensuring that all work is completed to the satisfaction of the City and its constituents. Quality assurance is process-oriented and focuses on defect prevention, while quality control is product oriented and focuses on defect identification.

Currently, the City's contracts provide specifications for standards to be used when trimming trees. Please refer to Attachment B for a copy of the Specifications for Work that are included in standard tree trimming contracts. Below is a partial list of quality assurance specifications included in current tree trimming contracts:

- Practices such as topping should be avoided;

Additional actions the City should consider with regards to quality control are as follows:

- Request the Bureau to modify or adjust the Bureau's current process for regularly tracking contractor performance to track how often a contractor is not paid for unacceptable work
- Establish metrics that are aligned with constituent expectations
- Develop processes and systems to measure and report on performance
- Develop an escalation process for measures that do not meet goals on a consistent basis

It is recommended that the Bureau report back with a plan to implement metrics that would more closely track and assess overall contractor performance, such as tracking the frequency a contractor does not meet performance standards.

F. FUNDING FOR TREE TRIMMING

C.F. Number(s): **14-0224 (LaBonge/Buscaino)**
Instruction(s): ***Report back on:***

- ***possible funding sources to pay for necessary tree trimming to ensure public safety on the City's roads;***

No Attachment
No Recommendation

Currently, the City's tree trimming needs exceed available special funds. This contributes to the need to provide funding from the General Fund for tree pruning. Below is a list of special funds eligible to fund tree trimming with notes regarding funding restrictions and challenges.

Special Gas Tax Street Improvement Fund
The Special Gas Tax Street Improvement Fund receives monies from the State's Excise Tax on the sale of gasoline and from federal reimbursements through the Surface Transportation Program – Local (STP). These funds are generally used for the City's Capital Improvement Expenditure Program (CIEP) and for the repair and maintenance of the City's streets. Maintenance activities are defined as the preservation and upkeep of a street or road constructed condition, including all of its elements in as nearly as practicable its original condition or subsequently improved condition. Tree trimming is an eligible activity as long as the trees are located within the street right-of-way. However, Gas Tax revenues are declining. In 2014-15 Gas Tax revenue was approximately $113 million. For 2015-16, revenue was approximately $87 million. Revenue is currently estimated to be $80 million for 2016-17. The steep decline in revenue began in 2013-14.

Street Lighting Maintenance Fund
The Street Lighting Maintenance Assessment Fund (SLMAF) receives revenue from annual assessments for the maintenance or improvement of street lighting in or along public streets, alleys or other public places in the City. Tree trimming is an eligible activity if the tree is obstructing the street light. The annual budget for tree trimming in Street Lighting Assessment Districts is $1,000,000. This

restores functionality to the street light. The funding allocated from the SLMAF is paid for by the benefitting property owners through assessments that have not been adjusted or increased since 1996. The BSS is responsible for tree selection and managing the tree trimming contracts. BSL reviews the trees selected, and will request removal of streets that have no street lights.

Historically, the amount budgeted for this purpose is $1.0 million annually. Below is a chart of current appropriations for tree trimming for the last five years with actual expenditures through August 4, 2016:

SLMAF - Tree Trimming Expenditures as of August 4, 2016

Fiscal Year	Adopted Budget	Current Budget	Actual Expenditures	Uncommitted	Percent Expended
2011-12	$ 925,000	$ 889,347	$ 889,347	$ -	100%
2012-13	$ 1,000,000	$ 296,448	$ 296,448	$ -	100%
2013-14	$ 1,000,000	$ 465,174	$ 465,174	$ -	100%
2014-15	$ 1,000,000	$ 987,600	$ 23,475	$ 964,125	2%
2015-16	$ 1,000,000	$ 1,000,000	$ -	$ 1,000,000	0%
Total	$ 4,925,000	$ 3,638,569	$ 1,674,444	$ 1,964,125	46%

The Bureau of Street Lighting (BSL) reports that they manage $25,000 in tree trimming contracts to directly use for trees that are obstructing street lights. These contracts are paid for from the $1.0 million allocated annually through the budget process for tree trimming. These locations are identified by calls from constituents, council offices, and BSL staff field visits. BSL also indicated that their contract amount of trees should be increased to $50,000, and eventually up to $100,000 to address these problem sites.

Recommendations:

- Request BSL to increase its current contract from $25,000 to $50,000.

H. ASSESSMENT DISTRICTS

C.F. Number(s): **12-0600-S139 (Perry/Krekorian)**
Instruction(s): ***Report back on:***

- ***combining street lights, sidewalk repair and tree trimming into one assessment district for on-going maintenance districts.***

C.F. Number(s): **15-0467-S3 (Buscaino/O'Farrell)**
Instruction(s): ***Report back with a comprehensive review of various street tree issues and concerns pending before the PW Committee including:***

- ***establishing combined street lighting, tree and sidewalk repair assessment districts for long-term maintenance of these resources; and,***

I. CITY'S STREET TREE POLICY

C.F. Number(s): **14-0224 (LaBonge/Buscaino)**
Instruction(s): ***Report back on:***

- ***the status of the City's Street Tree Policy;***
- ***provide recommendations on possible revisions of this policy to more closely conform to the City's changing street tree needs and challenges;***

No Attachment
Recommendation

The Bureau of Street Services was requested to report back on the status of the City's Street Tree Policy and to provide recommendations on possible revisions to the policy to more closely conform to the City's changing street tree needs and challenges.

Tree Pruning
The 2015 State of the Street Trees Report sets forth the Bureau's position regarding the optimum trim cycle for the City's 700,000 street trees. Best management practices recommend a trim cycle of five to seven years, depending on the tree species. The tree pruning cycle can be determined by dividing the total number of street trees by the number of trees pruned within any one fiscal year.

Per the State of the Street Trees Report, the Bureau proposes a grading system for its Tree Maintenance Performance Metric. The proposed grading system is as follows:

Tree Maintenance Grading Metric

Grade	Pruning Cycle in Years
A	3-5
B	5-8
C	8-12
D	12-15
F	>15

To receive an "A" rating, the City would need to trim at least 140,000 street trees annually, representing a five year trim cycle. To receive a "B" rating, the city would need to trim approximately 100,000 street trees annually, representing a seven year trim cycle. According to the metric, the City's estimated tree pruning cycle for 2016-17 is 18 years, which is equivalent to an "F" rating.

The State of the Street Trees Report recommends that the City adopt a Best Management Practice pruning cycle of five years. However, a significant amount of additional resources would have to be identified if the City chooses to adopt and to improve this metric. The Bureau recommends the restoration of two tree pruning and removal crews as a step towards accomplishing this goal. It should be noted that the City could also provide additional funding for tree pruning contracts to

C.F. Number(s): **15-0467-S2 (Huizar/Koretz/Buscaino)**
Instruction(s): ***Report back on:***

- ***A review and update of the City's approved street tree selection list, considering the aims of drought resilience, increased diversity and disease resistance, sidewalk compatibility, and expanded use of native species.***

Attachment C
No Recommendation

Once a property owner submits an application to plant a street tree, an arborist from the Bureau will make a recommendation based on several factors:

- Size of the area in which the tree is planted;
- Presence of other infrastructure;
- Predominate existing tree species on that block;
- Type of street;
- Type of planting; and/or
- Proximity of structures.

Input of residents is important and also taken into consideration. The arborist will make their recommendation using a list of approved street trees. An updated Street Tree Planting Guide can be found on Urban Forestry section of the Bureau's website. The guide contains a list of 150 recommended tree species; more than 100 are drought tolerant. Furthermore, about 20 species are native to the region. Please refer to Attachment C for a copy of the complete list.

K. CONSOLIDATION OF TREE TRIMMING ACROSS CITY DEPARTMENTS

C.F. Number(s): **14-0224 (LaBonge/Buscaino)**
Instruction(s): ***Report back on:***

- ***the feasibility of consolidating all tree trimming, including tree trimming currently performed by the Department of Recreation and Parks, the Harbor Department and the Department of Water and Power, into the Urban Forestry Division of the Bureau of Street Services***

C.F. Number(s): **15-0467-S3 (Buscaino/O'Farrell)**
Instruction(s): ***Report back with a comprehensive review of various street tree issues and concerns pending before the PW Committee including:***

- ***consolidating City tree trimming activities conducted by various City departments.***

high voltage, which Bureau crews are not. Overall, the unique nature of tree trimming within the Department of Water and Power requires a specialized method of tree maintenance.

Summary of DWP tree trimming needs:

- Power line clearance;
- Specialized training;
- High voltage considerations; and
- Tree trimmers often use spikes to climb trees rather than going up in buckets due to the locations of trees.

Fire Department

The Los Angeles Fire Department (LAFD) is not directly involved in tree trimming. However, LAFD administers contracts for brush clearance in heavy grass and brush areas. The Department bids out specific brush clearance projects to its list of qualified contractors. The bid can be for a single property or for a package of several properties. While tree trimming is not specifically addressed in the contracts, it may be involved if it is part of abatement and safety measures on a particular project. For this reason, the cost of tree trimming for the Department is not called out in brush clearance program guidelines. Rather, costs are determined on the basis of an entire project, such as brush clearance or debris removal. Contracts are awarded to the most favorable bid for that project. Additionally, the Department has sometimes carried out projects on the tree canopy in high vegetation areas, such as for the Zoo, but this only happens occasionally. Overall, there is a clear distinction between the kind of tree trimming that is performed by other City departments and the brush maintenance facilitated by LAFD.

Summary of LAFD tree trimming needs:

- Focus on all vegetation for brush clearance and fire prevention, not just trees

Harbor Department

Tree trimming for the Harbor Department is performed in-house by City employees. The Department was using a contractor for these services until approximately eight years ago, when it switched to City staff for financial reasons. When the Harbor was initially moving away from using a contractor, it contacted the Department of Recreation and Parks to examine the possibility of that Department taking over tree trimming services, but due to understaffing, they were unable to do so. In response, the Harbor Department hired a crew for tree trimming. The crew consists of five positions: one Tree Surgeon Supervisor I, two Tree Surgeons, and two Assistant Tree Surgeons. As of March 2016, one of the Assistant Tree Surgeon positions is currently vacant, but it is in the process of being filled. The Harbor Department has about 8,000 trees, at least 60 percent of which are palm trees. Their current average tree trimming cycle is one year, but some trees do not need to be trimmed this often and are put on a longer cycle. Most of the palms are trimmed in the spring and summer, and most of the other trees, such as sycamores and coastal live oaks, are trimmed in the fall and winter. These trees are typically given more care than the palm trees, as they are more easily damaged. A priority for this Department is to maintain trees to ensure that they do not become too top heavy so they are less

administrative burden, and service efficiencies are unlikely. Also, DWP, the Harbor Department, and the Department of Parks and Recreation use their own funding sources for tree trimming, which is another challenge in terms of consolidation. Furthermore, due to the level of budgetary reductions during the recession, increasing routine pro-active tree trimming to the industry standard will require additional budgetary resources, and cannot be attained through efficiencies or consolidation of resources across City departments.

ATTACHMENTS

Attachment A

CONTRACT COST ANALYSIS
Standard Form

DEPARTMENT/BUREAU: Bureau of Street Services	**CONTACT:**
DIVISION / SECTION: Urban Forestry	**PHONE: 213-847-3065**
WORK TO BE PERFORMED: **Tree pruning in parkways.**	**CONTRACT START & END DATES (include info on options to renew):** **December 2015**
TYPE OF CONTRACT: NEW (X) AMENDMENT ( ) If amending contract, please provide the following: **Orig. Contract Start Date: End Date:** **Amount of Orig Contract (Labor Component Only) & All Prior Amendments:**	**SOURCE OF FUNDS:** **General Fund**

1. COST OF CITY FORCES REQUIRED TO *PERFORM* PROPOSED CONTRACTED WORK

a. Positions Required (list all)

A **Position Title** (Unhide formatted rows below/attach sheets as necessary)	B **No. of Positions**	C **Monthly Salary of Each Position** (Step 5)	D **Total Monthly Salary Cost** [D = B x C]	E **Overhead Rates** [E = D x from Table 1] [Insert rate from Table 1 in box below]	F **FLEX Costs** [F = (B x from Table 1)] [Insert monthly amount from Table 1 in box below]	G **Duration** (in mos.)	H **TOTALS** [H = (D + E + F) x G]
				30.1%	$ 1,017.42		
Tree Surgeon Supervisor (3117-1)	6	$7,021	42,125.40	12,679.75	6,104.50	12	$ 730,916
Tree Surgeon (3114)	24	$5,568	133,632.00	40,223.23	24,418.00	12	$ 2,379,279
Equipment Operator (3525)	6	$7,517	45,100.80	13,575.34	6,104.50	12	$ 777,368
Heavy Duty Truck Operator (3584)	6	$5,443	32,656.50	9,829.61	6,104.50	12	$ 583,087
Tree Surgeon Assistant (3151)	12	$4,352	52,221.00	15,718.52	12,209.00	12	$ 961,782
Total Salary & Overhead Costs							**$5,432,432**

b.	**Total Other Pertinent Costs** (if applicable; attach separate sheet with $ amount for each item)	**$ 2,219,610**
	Crew Cab Pickup ($5.14/hr)	**$ 64,394**
	Truck Tractor ($9.18/hr)	**$ 115,007**
	40' End Dump Trailer ($4.91/hr)	**$ 61,512**
	Case Loader ($17.04/hr)	**$ 213,477**
	Aerial Towers ($19.83/hr)	**$ 993,721**
	Expense Funding	**$ 771,498**
TOTAL ESTIMATED IN-HOUSE COSTS (a + b)		**$7,652,041**
	Total Estimated Revenue Generated by City Forces (if applicable)	$ -
NET IN-HOUSE COSTS (COSTS MINUS REVENUE)		**$ 7,652,041**

Attachment A

CONTRACT COST ANALYSIS
Standard Form

2. CONTRACTOR LABOR COSTS AND CITY COST TO *ADMINISTER* THE PROPOSED CONTRACT

a. Total Proposed Contractor Labor Costs — **$ 5,500,000**

b. Total City Contract Administration Costs (Totals from 2.b.1) — **$ 847,384**

1. Positions Required (list all)

A Position Title (Unhide formatted rows below/attach sheets as necessary)	B No. of Positions	C Hourly Rate of Each Position (Use highest step)	D Est.Avg. # of Hrs. per Position per Month to Admin. Contract	E Total Monthly Salary Cost [E = B x C x D]	F Overhead Rates [F = E x Table 1] [Insert rate from Table 1 in box below]	G Monthly FLEX Costs [G=(B x D x from Table 1)] [Insert hourly amount from Table 1 in box below]	H Duration (in mos.)	I TOTALS [I = (E + F + G) x H]
					30.1%	$ 5.85		
Tree Surgeon Supervisor	6	$ 40.35	174	$ 42,125	$ 12,680	$ 6,105	12	$ 730,916
Management Analyst I	1	$ 38.38	174	$ 6,678	$ 2,010	$ 1,017	12	$ 116,468
Total Salary & Overhead Costs								**$ 847,384**

c. Total Other Contract Costs (if needed; attach separate sheet with $ amount for each item) — **$ 129,407**

Crew Cab Pickup ($5.14/hr)	**$ 64,394**
Expense Funding	**$ 65,013**

TOTAL PROPOSED CONTRACT COSTS (a + b + c) — **$ 6,476,791**

Total Estimated Revenue Generated by Contractor — **$ -**

NET COST OF CONTRACT (COSTS MINUS REVENUE) — **$ 6,476,791**

ESTIMATED COST DIFFERENCE CONTRACT VS. CITY FORCES — **$ 1,175,251**

COMMENTS:

a) Contract Tree Trimming = $165/tree for approx. 33,333 trees

b) Equivalent production by City Crews would require approximately 6 Mechanized Crews. Each crew is composed of 9 members.

c) 2088 hours in one year for equipment charges

d) 2015-16 Add/Delete Rates used

Attachment A

CONTRACT COST ANALYSIS
Standard Form

DEPARTMENT/BUREAU: Bureau of Street Services	**CONTACT:**
DIVISION / SECTION: Urban Forestry	**PHONE: 213-847-3065**
WORK TO BE PERFORMED: **Tree pruning in parkways.**	**CONTRACT START & END DATES (include info on options to renew): FY 2016-17**
TYPE OF CONTRACT: NEW (X) AMENDMENT ( ) If amending contract, please provide the following: **Orig. Contract Start Date: End Date:** **Amount of Orig Contract (Labor Component Only) & All Prior Amendments:**	**SOURCE OF FUNDS:** **General Fund**

1. COST OF CITY FORCES REQUIRED TO *PERFORM* PROPOSED CONTRACTED WORK

a. Positions Required (list all)

A **Position Title** (Unhide formatted rows below/attach sheets as necessary)	B **No. of Positions**	C **Monthly Salary of Each Position** (Step 5)	D **Total Monthly Salary Cost** [D = B x C]	E **Overhead Rates** [E = D x from Table 1] [Insert rate from Table 1 in box below]	F **FLEX Costs** [F = (B x from Table 1)] [Insert monthly amount from Table 1 in box below]	G **Duration** (in mos.)	H **TOTALS** [H = (D + E + F) x G]
				29.7%	$ 1,093.00		
Tree Surgeon Supervisor (3117-1)	6	$7,021	42,125.40	12,494.39	6,558.00	12	$ 734,134
Tree Surgeon (3114)	24	$5,568	133,632.00	39,635.25	26,232.00	12	$ 2,393,991
Equipment Operator (3525)	6	$7,517	45,100.80	13,376.90	6,558.00	12	$ 780,428
Heavy Duty Truck Operator (3584)	6	$5,443	32,656.50	9,685.92	6,558.00	12	$ 586,805
Tree Surgeon Assistant (3151)	12	$4,352	52,221.00	15,488.75	13,116.00	12	$ 969,909
Total Salary & Overhead Costs							**$ 5,465,267**

b.

Total Other Pertinent Costs (if applicable; attach separate sheet with $ amount for each item)	**$ 2,219,610**
Crew Cab Pickup ($5.14/hr)	**$ 64,394**
Truck Tractor ($9.18/hr)	**$ 115,007**
40' End Dump Trailer ($4.91/hr)	**$ 61,512**
Case Loader ($17.04/hr)	**$ 213,477**
Aerial Towers ($19.83/hr)	**$ 993,721**
Expense Funding	**$ 771,498**
TOTAL ESTIMATED IN-HOUSE COSTS (a + b)	**$ 7,684,871**
Total Estimated Revenue Generated by City Forces (if applicable)	$ -
NET IN-HOUSE COSTS (COSTS MINUS REVENUE)	**$ 7,684,871**

CONTRACT COST ANALYSIS
Standard Form

Attachment A

2. CONTRACTOR LABOR COSTS AND CITY COST TO *ADMINISTER* THE PROPOSED CONTRACT

a. Total Proposed Contractor Labor Costs — **$ 5,700,000**

b. Total City Contract Administration Costs (Totals from 2.b.1) — **$ 855,083**

1. Positions Required (list all)

A **Position Title** (Unhide formatted rows below/attach sheets as necessary)	B **No. of Positions**	C **Hourly Rate of Each Position** (Use highest step)	D **Est.Avg. # of Hrs. per Position per Month to Admin. Contract**	E **Total Monthly Salary Cost** [E = B x C x D]	F **Overhead Rates** [F = E x Table 1] [Insert rate from Table 1 in box below]	G **Monthly FLEX Costs** [G=(B x D x from Table 1)] [Insert hourly amount from Table 1 in box below]	H **Duration** (in mos.)	I **TOTALS** [I = (E + F + G) x H]
					29.7%	$ 6.28		
Tree Surgeon Supervisor	6	$ 40.35	174	$ 42,125	$ 12,494	$ 6,558	12	$ 734,134
Management Analyst I	1	$ 39.83	174	$ 6,931	$ 2,056	$ 1,093	12	$ 120,950
Total Salary & Overhead Costs								**$ 855,083**

c. Total Other Contract Costs (if needed; attach separate sheet with $ amount for each item) — **$ 129,407**

Crew Cab Pickup ($5.14/hr)	**$ 64,394**
Expense Funding	**$ 65,013**

TOTAL PROPOSED CONTRACT COSTS (a + b + c) — **$ 6,684,491**

Total Estimated Revenue Generated by Contractor — **$ -**

NET COST OF CONTRACT (COSTS MINUS REVENUE) — **$ 6,684,491**

ESTIMATED COST DIFFERENCE CONTRACT VS. CITY FORCES — **$ 1,000,386**

COMMENTS:

a) Contract Tree Trimming = $175/tree for approx. 33,333 trees
b) Equivalent production by City Crews would require approximately 6 Mechanized Crews. Each crew is composed of 9 members.
c) 2088 hours in one year for equipment charges
d) 2016-17 Add/Delete Rates used
e) Assumes 3.78% salary increase for MOU 1 and change in Overhead and Monthly Flex Costs. No changes to coalition salaries.

CONTRACT COST ANALYSIS
Standard Form

Attachment A

DEPARTMENT/BUREAU: Bureau of Street Services	**CONTACT:**
DIVISION / SECTION: Urban Forestry	**PHONE: 213-847-3065**
WORK TO BE PERFORMED: **Tree pruning in parkways.**	**CONTRACT START & END DATES (include info on options to renew): FY 2017-18**
TYPE OF CONTRACT: NEW (X) AMENDMENT ( ) If amending contract, please provide the following: **Orig. Contract Start Date: End Date:** **Amount of Orig Contract (Labor Component Only) & All Prior Amendments:**	**SOURCE OF FUNDS:** **General Fund**

1. COST OF CITY FORCES REQUIRED TO *PERFORM* PROPOSED CONTRACTED WORK

a. Positions Required (list all)

A **Position Title** (Unhide formatted rows below/attach sheets as necessary)	B **No. of Positions**	C **Monthly Salary of Each Position** (Step 5)	D **Total Monthly Salary Cost** [D = B x C]	E **Overhead Rates** [E = D x from Table 1] [Insert rate from Table 1 in box below]	F **FLEX Costs** [F = (B x from Table 1)] [Insert monthly amount from Table 1 in box below]	G **Duration** (in mos.)	H **TOTALS** [H = (D + E + F) x G]
				29.7%	$ 1,188.00		
Tree Surgeon Supervisor (3117-1) - MOU 12	6	$7,251	43,503.48	12,920.53	7,128.00	12	$ 762,624
Tree Surgeon (3114) - MOU 4	24	$5,838	140,104.80	41,611.13	28,512.00	12	$ 2,522,735
Equipment Operator (3525) - MOU 4	6	$7,878	47,269.71	14,039.10	7,128.00	12	$ 821,242
Heavy Duty Truck Operator (3584) - MOU 4	6	$5,709	34,253.64	10,173.33	7,128.00	12	$ 618,660
Tree Surgeon Assistant (3151) - MOU 4	12	$4,566	54,789.12	16,272.37	14,256.00	12	$ 1,023,810
Total Salary & Overhead Costs							**$ 5,749,071**

b.	**Total Other Pertinent Costs** (if applicable; attach separate sheet with $ amount for each item)	**$ 2,219,610**
	Crew Cab Pickup ($5.14/hr)	**$ 64,394**
	Truck Tractor ($9.18/hr)	**$ 115,007**
	40' End Dump Trailer ($4.91/hr)	**$ 61,512**
	Case Loader ($17.04/hr)	**$ 213,477**
	Aerial Towers ($19.83/hr)	**$ 993,721**
	Expense Funding	**$ 771,498**
TOTAL ESTIMATED IN-HOUSE COSTS (a + b)		**$ 7,968,680**
	Total Estimated Revenue Generated by City Forces (if applicable)	$ -
NET IN-HOUSE COSTS (COSTS MINUS REVENUE)		**$ 7,968,680**

Attachment A

CONTRACT COST ANALYSIS
Standard Form

2. CONTRACTOR LABOR COSTS AND CITY COST TO *ADMINISTER* THE PROPOSED CONTRACT

a. Total Proposed Contractor Labor Costs — **$ 5,933,274**

b. Total City Contract Administration Costs (Totals from 2.b.1) — **$ 887,174**

1. Positions Required (list all)

A **Position Title** (Unhide formatted rows below/attach sheets as necessary)	B **No. of Positions**	C **Hourly Rate of Each Position** (Use highest step)	D **Est.Avg. # of Hrs. per Position per Month to Admin. Contract**	E **Total Monthly Salary Cost** [E = B x C x D]	F **Overhead Rates** [F = E x Table 1] [Insert rate from Table 1 in box below]	G **Monthly FLEX Costs** [G=(B x D from Table 1)] [Insert hourly amount from Table 1 in box below]	H **Duration** (in mos.)	I **TOTALS** [I = (E + F + G) x H]
					29.7%	$ 6.83		
Tree Surgeon Supervisor (MOU 12	6	$ 41.67	174	$ 43,503	$ 12,921	$ 7,128	12	$ 762,624
Management Analyst I (MOU 1)	1	$ 40.73	174	$ 7,086	$ 2,105	$ 1,188	12	$ 124,550
Total Salary & Overhead Costs								**$ 887,174**

c. Total Other Contract Costs (if needed; attach separate sheet with $ amount for each item) — **$ 129,407**

Crew Cab Pickup ($5.14/hr)	**$ 64,394**
Expense Funding	**$ 65,013**
TOTAL PROPOSED CONTRACT COSTS (a + b + c)	**$ 6,949,855**
Total Estimated Revenue Generated by Contractor	**$ -**
NET COST OF CONTRACT (COSTS MINUS REVENUE)	**$ 6,949,855**
ESTIMATED COST DIFFERENCE CONTRACT VS. CITY FORCES	**$ 1,018,825**

COMMENTS:

a) Contract Tree Trimming = $187/tree for approx. 33,333 trees

b) Equivalent production by City Crews would require approximately 6 Mechanized Crews. Each crew is composed of 9 members.

c) 2088 hours in one year for equipment charges

d) Estimated Future Add/Delete Rates used

e) Assumes 2.25% salary increase for MOU 1 and change in Overhead and Monthly Flex Costs. Step 12 for coalition salaries.

Project: De Soto Av
W.O. #014462

SPECIAL SPECIFICATIONS FOR TREE TRIMMING

A mandatory pre-bid meeting to discuss tree trimming requirements will be held on **Wednesday, December 10, 2014 at 10:00 a.m.** at 1149 South Broadway, 4th floor Conference Room, Los Angeles, CA, 90015.

A sign-in sheet will be circulated at the start of the meeting. **No late sign-ins** will be accepted. This meeting must be attended if you are to be considered a responsive bidder. Bid documents are only available on BAVN.

In addition to the Standard Specifications for Public Works Construction, work performed shall be in accordance with the following:

I. INSPECTION

For information and inspections as required, call the Urban Forestry Division at (213) 847-3077.

II. PAYMENT

The payment reports required for payment will be prepared by the Urban Forestry Division once a month after each month's work has been completed and accepted by the Bureau of Street Services, Urban Forestry Division.

III. WORK

The work contained in this contract shall begin upon execution of the contract.

All trees listed in this contract, **except native Oak trees,** shall receive maximum trimming according to the specifications in section IV below. Such trimming, including crown reduction and trimming to lighten and balance, is to provide for the general health of the tree and for public safety as may be required by the Inspector. Practices such as topping and stub cuts create hazards, lower the tree's value, and shall be avoided. Any trimming should avoid reduction in excess of 25% of the trees over all size **and foliage** unless specified by the Contract Inspector. The finished trees shall have a symmetrical and aesthetic form with the weight evenly distributed.

Native Oak trees shall receive minimum tree trimming to provide street and sidewalk clearance, and to remove dead, broken, damaged, or hazardous branches.

IV. SPECIFICATIONS FOR WORK

Tree Trimming

1. **All street trees must be trimmed in accordance with the International Society of Arboriculture (ISA) "Tree Pruning Guidelines" and the American National Standards Institute (ANSI A-300) "Tree, Shrub and Other Woody Plant Maintenance Standard Practices".**

2. Low branches overhanging residential streets shall be removed to a height above the street grade of eleven feet (11'), and to a height of thirteen feet six inches (13'6") on Select System Streets. Low branches overhanging sidewalks and parkways shall be removed to a height of nine feet (9'). Trees fifteen (15) feet in height and under are to be raised at the Inspector's discretion. The above height requirements may be raised at the Inspector's discretion when required for optimum street lighting illumination of streets and sidewalks. Extra attention shall be provided for clearance of street lights to ensure street light illumination. See figures 1-3 attached.

3. Pruning shall include the removal of all dead, broken, diseased, insect-infested, crossing, and rubbing branches. Stubs larger than one inch (1") in diameter shall be removed throughout the tree.

4. Prune to a lateral bud about 1/3 the diameter of the parent limb to shorten the length of limbs which extend beyond the natural perimeter of an otherwise symmetrical form. Avoid producing "lion's tails", i.e., removing all inner branches and foliage, which would result in tufts of foliage at the ends of branches.

5. Prune end branches to lighten end weight where such overburden appears likely to cause breakage of limbs four inches (4") or more in diameter. Remove water sprouts (suckers).

6. **Native Oak trees with large laterals over 2" in diameter require visual inspection by the Inspector prior to their removal. No live green growth shall be trimmed without prior authorization from the Inspector.**

7. Final pruning cuts shall be made outside the branch bark ridge without leaving a stub. They shall be made in a manner to favor the earliest covering of the wound by callous growth. This requires that the wound be as small as practicable, and the cut be reasonably flush within the shoulder ring area and that the cambium tissues at the edge of the cut be alive and healthy. Flush cuts which produce large wounds and weaken the tree at the cut shall not be made.

8. All trees on which vines are growing shall have said vines removed. Vine tendrils shall be removed **by hand** in a manner which will not injure trees or cause scarring of low branches, tree trunks, or bark.

9. Pruning of the tree should also provide adequate clearance as determined by the project Engineer or Inspector for any obstructed street standard, mast-arm or globe, power lines, telephone lines, street light, traffic control device, etc.

10. Prune to clear all adjacent structures by five (5) feet.

11. Pruning and cutting tools shall be kept sharpened to a condition that will permit leaving an unabraised cambium edge on final cuts. Such tools shall also be kept clean and free from infectious materials.

12. **Before and after trimming each Oak tree, all tools used for trimming must be disinfected by dipping them into a solution of one part liquid sodium hydrochloride - 5% (bleach) to nine parts of water. The solution must be mixed fresh daily. Chain saws shall not be used to trim Oak trees except to cut off limbs larger than 4" in diameter provided prior approval has been given by the Inspector.**

13. The use of climbing spurs or spike shoes will not be permitted.

14. **The contractor shall be responsible for contracting an appropriately licensed person to eradicate bee hives located in native Oak trees.**

15. All metal tree stakes in the ground adjacent to each five (5) inch diameter (DBH) or larger trunk tree, or (3) inch diameter (DBH) or larger for Crape Myrtle, Podocarpus, and Bottle Brush, listed in this contract shall be removed as required by the Contract Inspector and delivered to the Urban Forestry Division at 503 N. San Fernando Road, Los Angeles. Contact the Tree Surgeon Supervisor at (213) 485-6619 for coordination of delivery. Stakes will not be accepted if prior delivery arrangements have not been made. All stakes shall be removed within five (5) days from the completion of all trimming or by the contract completion date, whichever occurs first.

16. Contractor shall use an approved stake puller to remove all stakes and no cutting torch or heating apparatus shall be used to heat or cut any stakes.

17. In the event a stake breaks during removal, the remaining parts must be cut off or driven below ground level. No portion of the stake shall remain above ground level. Additionally, the contractor shall note same on daily crew report documents and shall report same to the Urban Forestry Division Inspector in charge of the contract.

18. Due to unforeseen circumstances, the actual number of trees to be trimmed may vary from the number indicated on the location listing.

19. Those trees not listed for trim on the contract are not to be trimmed unless specified by the Urban Forestry Division Inspector.

Tree Removal

Felling Tree:

1. Trees being removed shall be stripped (side limbs and top limbs cut back to trunk) before being felled, unless permission to cut down entire tree is granted by the Urban Forestry Division Inspector.

2. This work is to be done in a safe manner by use of ropes when necessary to prevent damage to public and private property as stated in conduct of operations.

Stump Removal:

1. The remaining tree stumps shall be ground (power type stump grinder) to a minimum of eighteen (18) inches below grade.

2. Remove all lateral surface roots to a depth of twelve (12) inches below average soil grade, as indicated to ten (10) feet from the base of the stump.

3. When sidewalk is present, remove all surface roots between the curb and sidewalk to ten (10) feet of both sides of the stump.

4. When there is no sidewalk present, remove surface roots to a ten-foot radius of the stump on the parkway area.

5. The top twelve (12) inches of the hole is to be backfilled with class A topsoil, as defined in the Standard Specifications for Public Works Construction, Section 212. Backfill at all sites shall be mounded to approximately three (3) inches above adjacent undisturbed soil to compensate for future soil settlement.

   The contractor shall plant the appropriate lawn seed over parkway area where stump has been removed, as applicable.

6. The contractor shall be responsible for the location of all underground utilities and sprinkler systems that may be disturbed.

7. In conjunction with work being performed, the contractor shall be responsible for the immediate repair of damage to underground utilities and sprinkler systems caused by the performance of his work. No additional compensation shall be allowed therefore.

Palm Tree Trimming

1. The Contractor shall remove all dead fronds and parts thereof along the entire length of the trunk of each palm tree growing in the parkways of streets within limits of the contract, except as noted in Paragraphs a-d below. The Contractor shall leave only the full green fronds remaining at the crown of the tree within the limits of a 45 degree arc measured from the centerline of the tree trunk produced (upwardly) except as noted in paragraphs b & c below. All seed pods and flower shells shall be removed from the heads of palms. Precautions shall be taken so that no live fronds are partially cut and left hanging.

   a. Washingtonia Palms

      All dead fronds or parts thereof shall be removed from the surface of the trunk of the tree, leaving a clean, unscathed appearance throughout the entire length of the palm trunk from the base to approximately 60" from green fronds at the top of the tree.

b. Phoenix Date

All dead fronds or parts thereof shall be removed from the surface of the trunk of the tree, leaving a clean, unscathed appearance throughout the entire length of the palm. The immediate area below the green fronds shall be trimmed to a symmetrical (pineapple) appearance. The shape shall hot exceed a minimum of 48" or a maximum of 60" length below the green fronds. The fronds shall be trimmed to a 50 degree angle.

c. Cocos Palm

All dead fronds or parts thereof shall be removed from the surface of the trunk of the tree, leaving a clean, unscathed appearance throughout the entire length of palm. These palms shall be trimmed to a 30 degree angle.

d. Windmill Palm

All dead fronds or parts thereof shall be removed to within two inches of the trunk of the tree throughout the entire length of palm.

2. Palms with eight (8) feet of trunk shall not be slicked. However all dead fronds must be trimmed close to the trunk. Windmill Palms shall be trimmed but not slicked.

3. All fronds and frond sheaths shall be removed from the trunks of the trees in the manner selected by the Contractor and approved by the Inspector of Public Works or his duly authorized representative.

4. All trees on which vines are growing shall have vines removed in accordance with Paragraph 1 above. Vine tendrils shall be removed without injury to the tree.

5. All volunteer or sucker growth with a five (5) foot or less brown trunk height must be removed.

a. Washingtonia robusta, filifera, and all other Fan Palms, remove all volunteers (growing within the street/parkway dedicated area) from the base of the tree out to a ten (10) foot radius around the tree trunk.

b. For Phoenix canariensis, reclinata, dactylifera, and all other Date Palms, remove all volunteers (growing within the street/parkway dedicated area) from the base of the tree out to a fifteen (15) foot radius around the tree trunk base.

6. Climbing spurs shall not be permitted on palm trees other than the Phoenix Date Palm and Washingtonia Fan Palm trees. Contractor shall not use hooks or knives on Guadalupe Palms (Erythea edulis).

7. Before and after trimming each palm tree, all tools used for trimming must be disinfected by dipping them into a solution of one (1) part of liquid sodium hydrochloride - 5% (Bleach) to nine (9) parts of water. The solution should be mixed fresh daily.

8. All fronds, frond sheaths, plant structures and debris shall be removed from the job site each day. Disposal away from the job site shall be at the Contractor's expense.

9. The street, parkway, sidewalk, utility wires, rooftops, and yard areas of all property shall be left free of all debris at the close of each day's operation.

10. The Contractor shall be required to remove and dispose of any fallen or hanging fronds for a period of 30 calendar days after completion of trimming.

11. There shall be no trimming of palm trees during the bird nesting season of April, May and June unless otherwise designated by the Director of the Bureau of Street Services.

V. CONDUCT OF OPERATION

1. At all times, work must conform to **ISA Guidelines, ANSI A-300 Standard Practices and the California Arboriculture Law Government Code Tree Trimming Standards.** The contractor shall also conform to Article 12, Tree Work, Maintenance, or Removal, of the General Industry Safety Orders, Title 8, California Administrative Code. Head protection shall be worn by all employees engaged in tree operations and shall conform to Article 10, Section 3381 of the General Industry Safety Orders, Title 8, California Administrative Code.

2. Cooperation with others: The contractor shall endeavor to maintain good public relations at all times. The work shall be conducted in a manner which will cause the least possible interference with or annoyance to the public.

3. An English speaking supervisor **who is a Certified Arborist with the Western Chapter of the ISA** shall be present and readily available to City personnel and the public during hours of operation for each working site. Any instruction or communication given to the supervisor shall be deemed as delivered to the Contractor. The supervisor shall submit to the Urban Forestry Division the general order in which the contractor intends to complete the contract before starting the work required. **The same is required of any subcontractor.**

   The supervisor shall report to an Urban Forestry Contract Inspector each daily work schedule between the hours of 7:00 a.m. and 8:30 a.m. on the preceding morning. Pursuant to the conditions of this contract, the contractor will be fined $100.00 per day for each day work locations of the contractor and/or sub-contractor are not reported to a contract inspector between the specified times.

   The Urban Forestry Division may require the contractor to temporarily change locations without prior notice.

4. Contractors working hours must coincide with those of the Urban Forestry Division. (Monday-Friday, 7:00 a.m. - 5:00 p.m. excluding City holidays. Hours subject to change). Any deviation from these hours and/or work on weekends and/or holidays must first be approved by the Urban Forestry Division.

5. Inclement weather: Work in trees shall be suspended during periods of inclement weather. The Contractor, at his/her expense, shall be responsible for contacting a licensed Pest Control Applicator to eradicate bee hives when they are located in the tree/s to be trimmed.

6. Preservation of property: The contractor shall carefully protect from damage all existing trees, shrubs, plants and other growth and features which remain. The Contractor shall be liable for any and all damages caused by contract operations to such trees, shrubs, plants, other growth and features or property; and, all damaged trees, shrubs, plants, other growth and features and property shall be replaced or restored to their original condition to the satisfaction of the Contract Inspector.

7. Notification of resident: The contractor shall notify all affected residents and businesses of impending tree trimming operations at least 48 hours before work at a particular location is to begin. The City will provide the necessary copies of the "Notice: Parkway Tree Trimming" door hangers. **Nothing shall be added to a door hanger except the anticipated trim date and the contractor's name.** No work on any street shall begin unless notification has been made. **No sign of any kind shall be nailed to trees. The Contractor shall not use unauthorized "No Parking" and/or "Tow Away" signs.**

8. Traffic control: Pedestrian and vehicular traffic shall be allowed to pass through the work area only under conditions of safety and with as little inconvenience and delay as possible. The contractor shall provide and maintain adequate barricades and warning devices. Flagmen shall be stationed as reasonably necessary for the safety of persons and vehicles.

   The contractor shall supply each crew of workers with a sign of 48 inches (48" X 48"), with an appropriate stand, for each work site. The sign shall be in good condition and have yellow background with black letters which shall read as follows: "We regret this inconvenience. Trees being trimmed by a Contractor for the Department of Public Works, City of Los Angeles." This sign must be approved by the Contract Inspector prior to the start of work. At all times traffic control measures shall conform to the Work Area Traffic Control Handbook, latest edition, published by Building News, Inc.

9. The Urban Forestry Division will require the contractor to work within a specified time-frame on certain heavily traveled roads, suspending operations during peak hours of travel on such roads.

10. Removal of brush and debris: All trimmings, debris, and other vegetation resulting from tree trimming operations shall be promptly removed from the work site and properly disposed of **either** at the contractor's expense **or as described below**. All laws and ordinances applicable to and governing such disposal shall be fully complied with.

    Contractors will be required, upon direction by the Inspector, to dispose of greenwaste, free of charge, at the City's Van Norman Dam Recycling Center. When the Center is not accepting greenwaste, contractors will dispose of all trimming and debris at their own expense.

Vouchers will be issued by the Inspector which will allow the contractor to transport to the center and dispose of, greenwaste generated as a result of work performed on the specific contract only. (The appropriate action will be taken for the misuse of vouchers).

The Center, which is operated by the Urban Forestry Division, is located in Sylmar and will be accessed at 11701 Blucher Ave between 6:30 am and 3:00 pm only, on Mondays through Fridays, excluding City holidays. Contractors will be required to sign-in prior to unloading and provide information such as the driver's name, company's name, truck number, load size, contract name, date, and time. There will be no pull-offs available at the Center.

11. Daily Clean-Up: The street, parkway, sidewalk, and yard areas of all property shall be left free of debris at the close of each day's operation.

12. The contractor shall notify the Contract Inspector at least 16 hours prior to starting the work required by the contract.

13. If the contractor or sub-contractor, after having officially started said contract, should discontinue work for any cause, the contractor shall notify the Contract Inspector of intent to do so and shall further notify the Inspector of the date of restarting operations.

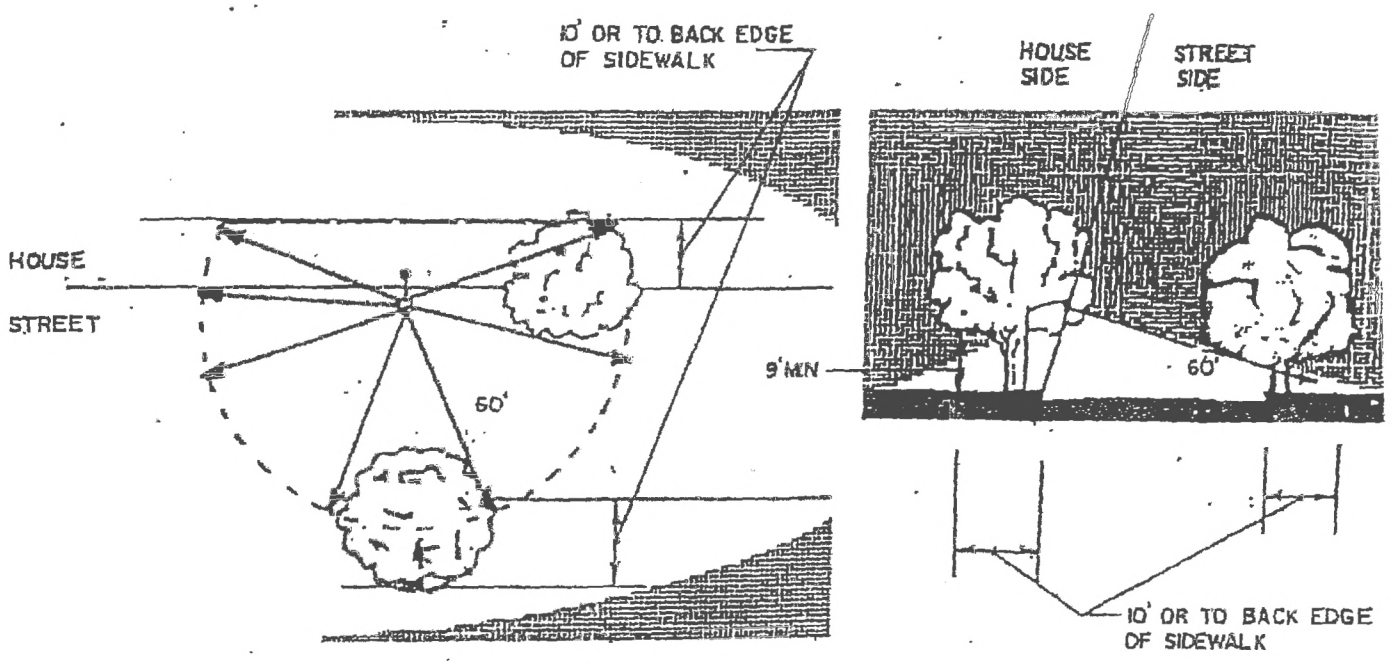
14. All work shall be completed to the satisfaction of and under the supervision of the Project Engineer or Contract Inspector.

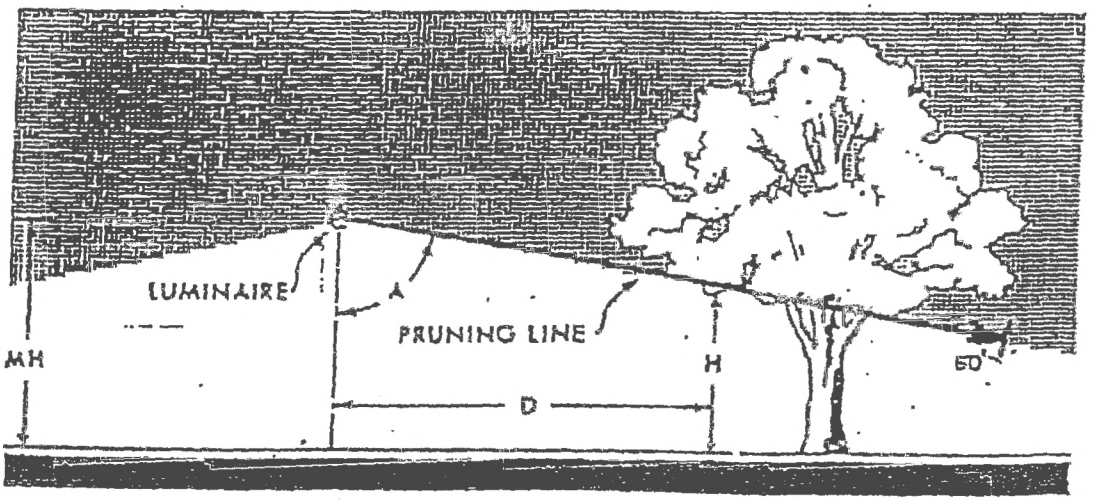
15. **Please be advised, as indicated in the "Green Book"**, failure to comply with any requirement contained herein may result in the appropriate disciplinary action being taken including suspension of work without time extension, **non payment for unacceptable work, assessment of liquidated damages, a notice to comply served upon the Contractor and the Surety on its performance bond, and/or cancellation of the contract.**

VI. SUPPLEMENTAL WORK

1. The City reserves the right not to award any supplemental work bid for this project.
2. The unit prices bid will be used as the basis to determine payment for supplemental work.
3. Upon agreement, the contractor shall not perform any supplemental work without written notification from the City and shall agree in writing to perform the supplemental work. Written notification shall include a detailed listing of the tree trimming locations, additional working days allowed, and the change in contract cost for the supplemental work.

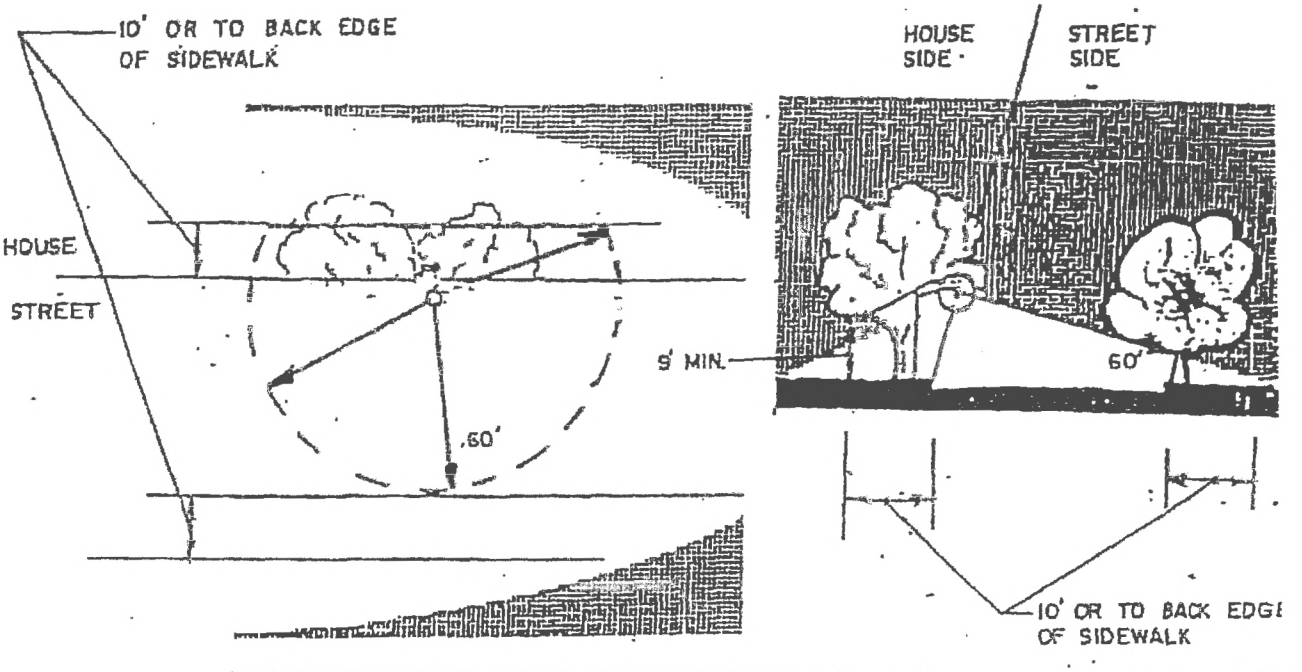
Revised: 11/09 pivspecs.bh

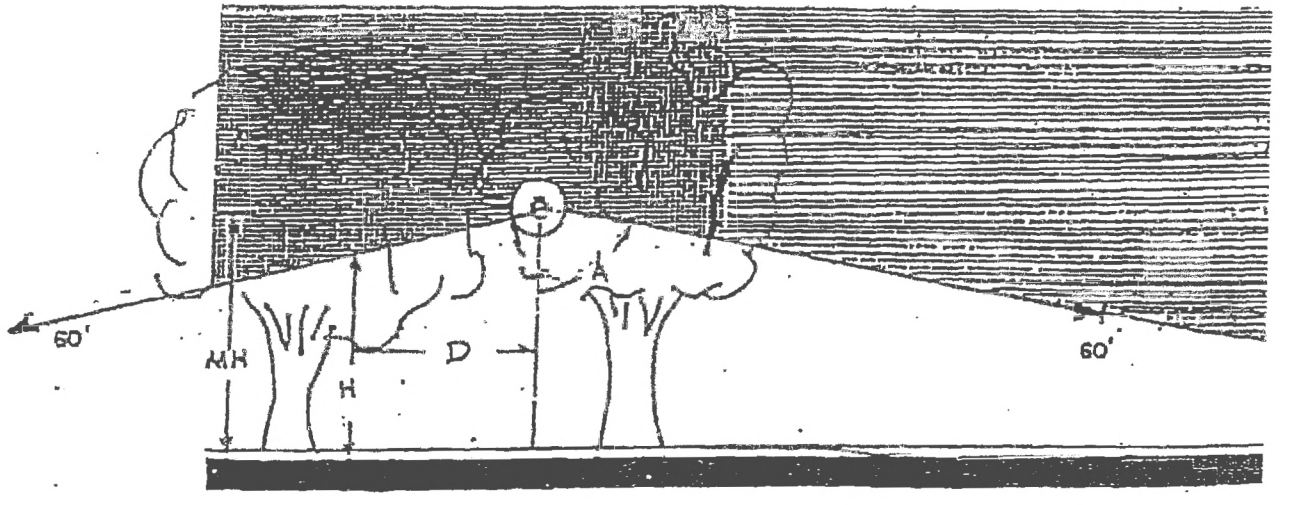




PRUNING LINE AT ANGLE "A" ABOVE "USEFUL BEAM"	TREE PRUNING HEIGHT "H"
80°	MH - .17D

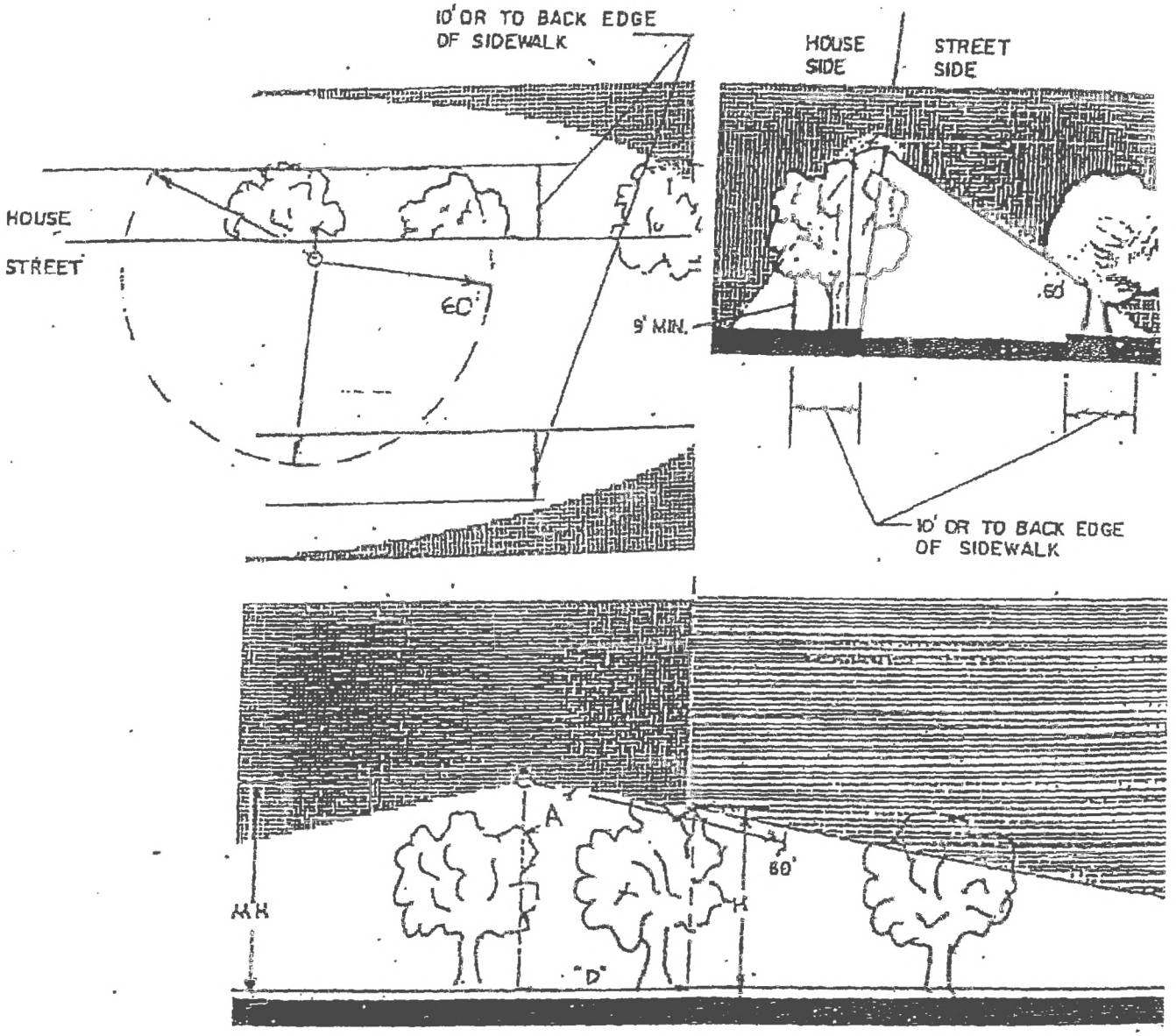
FIGURE 1
(NO SCALE)





PRUNING LINE AT ANGLE "A" ABOVE "USEFUL BEAM"	TREE PRUNING HEIGHT "H"
80°	.MH-.17D

FIGURE 2
(NO SCALE)



PRUNING LINE AT ANGLE "A" ABOVE "USEFUL BEAM"	TREE PRUNING HEIGHT "H"
60°	MH-.17D

FIGURE 3
(NO SCALE)

Street Tree Selection Guide

The following list of trees are acceptable for planting in public right-of-way.

LEGEND	
=Click on camera for Tree image and additional specifications.	
Links designated as INFO, are links to pages provided by the SelecTree website, uwhich is maintained by the Urban Forest Ecosystems Institute at Cal Poly State University, San Luis Obispo, is an interactive program designed to match specific tree species to particular sites based on compatible characteristics. It is funded by CDF (California Department of Forestry and Fire Protection) through Urban and Community Forestry Funds. All photos on the site were taken by Walter Mark and Jeff Reimer unless noted otherwise.	
T=Type	H=Height
C.=Conifer	CS=Crown Spread
D.=Deciduous	S=Spacing
E.=Evergreen	PS=Parkway Size
P.=Palm	DT=Drought Tolerant
	N=Native

	Botanical Name/ Common Name	Image/Specs Available	T	H	CS	S	PS	DT	N
1	Acacia Baileyana/ Bailey Acacia		E.	20-40	20-40	30-35	4-6	Yes	
2	Acacia Melanoxylon/ Black Acacia	INFO	E.	40+	40+	35-40	6-8	Yes	
3	Acer Macrophyllum/ Bigleaf Maple	INFO	D.	40+	40+	35-40	8+		Yes
4	Acer Negundo/ Box Elder	INFO	D.	40+	40+	35-40	6-8		Yes
5	Agonis FIexuosa/ Peppermint Tree		E.	20-40	20-40	35-40	4-6	Yes	
6	Albizia Julibrissin/ Silk Tree		D.	20-40	20-40	35-40	4-6	Yes	
7	Alnus Cordata/ ItaIian Alder		D.	40+	20-40	35-40	6-8		
8	Alnus Rhombifolia/ White Alder		D.	40+	40+	35-40	8+		Yes
9	Angophora Costata/ Gum Myrtle	INFO	E.	20-40	20-40	35-40	4-6	Yes	
10	Araucaria Heterophylla/ Norfolk Island Pine	INFO	C.	40+	20-40	30-35	4-6	Yes	

11	Arbutus Menziesii/ Madrone	INFO	E.	40+	40+	35-40	6-8	Yes	Yes
12	Archontophoenix Cunninghamiana/ King Palm		P.	40+	20-30	25-30	3-4	Yes	
13	Arecastrum Romanzoffianum/ Queen PaIm		P.	40+	40+	25-30	3-4	Yes	
14	Bauhinia Purpurea/ Purple Orchid Tree	INFO	D.	20-40	-20	25-30	3-4	Yes	
15	Bauhinia V. Candida/ White Orchid Tree	INFO	D.	20-40	-20	25-30	3-4	Yes	
16	Betula Nigra/ River Birch		D.	40+	20-40	35-40	4-6		
17	Betula Pendula/ European White Birch	INFO	D.	20-40	20-40	30-35	3-4		
18	Bisohofia Javanica/ Toog Tree		E.	40+	20-40	35-40	6-8		
19	Brahea Armata/ Mexican Blue Palm		P.	20-40	-20	25-30	4-6	Yes	
20	Brahea Edulis/ Guadalupe Palm		P.	20-40	-20	25-30	4-6	Yes	
21	Broussonetia Papyrifera/ Paper Mulberry	INFO	D.	20-40	20-40	35-40	6-8	Yes	
22	Butia Capitita/ Pindo Palm	INFO	E.	-20	-20	25-30	3-4	Yes	
23	Callistemon Salignus/ White Bottle Brush	INFO	E.	20-40	20-40	30-35	3-4	Yes	
24	Calistemon Viminalis/ Weeping Bottle Brush		E.	20-40	20-40	30-35	3-4	Yes	
25	Calocedrus Decurrens/ Incense Cedar		C.	40+	20-40	30-35	6-8	Yes	Yes
26	Calodendrum Capense/ Cape Chestnut		D.	20-40	40+	35-40	8+	Yes	
27	Cassia Excelsa/ Crown of Gold		E.	20-40	20-40	30-35	4-6		
28	Cassia Leptophylla/ Gold Medallion Tree		E.	20-40	20-40	30-35	4-6		
29	Castanea Mollissima/ Chinese Chestnut	INFO	D.	40+	40+	35-40	8+		
30	Castanea Sativa/ Spanish Chestnut	INFO	D.	40+	40+	35-40	8+		
31	Castanospermum Australe/ Moreton Bay Chestnut	INFO	E.	40+	40+	35-40	8+		
32	Casuarina Cunninghamiana/ River She-oak		C.	20-40	20-40	35-40	6-8	Yes	
33	Catalpa Bignonioides/ Common Catalpa	INFO	D.	20-40	20-40	30-35	6-8	Yes	
34	Catalpa Speciosa/ Western Catalpa	INFO	D.	40+	40+	35-40	6-8	Yes	

35	Cedrela Fissilis/ Brazilian Cedar Wood		D.	40+	40+	35-40	8+	Yes	
36	Cedrus Atlantica/ Atlas Cedar	INFO	C.	40+	40+	35-40	8+	Yes	
37	Cedrus Deodara/ Deodar Cedar	INFO	C.	40+	40+	35-40	8+	Yes	
38	Cedrus Libani/ Cedar of Lebanon	INFO	C.	40+	40+	35-40	8+	Yes	
39	Celtis Occidentalis/ Common Hackberry	INFO	D.	20-40	20-40	30-35	4-6	Yes	
40	Celtis Reticulata/ Western Hackberry	INFO	D.	20-40	20-40	30-35	4-6	Yes	Yes
41	Cercis Canadensis/ Eastern Redbud		D.	-20	-20	25-30	3-4		
42	Cercis Occidentalis/ Western Redbud		D.	-20	-20	25-30	3-4	Yes	Yes
43	Chilopsis Linearis/ Desert Willow	INFO	D.	20-40	20-40	30-35	4-6	Yes	Yes
44	Chionanthus Retusus/ Chinese Fringe Tree		D.	-20	-20	25-30	4-6		
45	Chitalpa Tashkentensis/ Chitalpa		D.	20-40	20-40	25-30	4-6	Yes	
46	Cinnamomum Camphora/ Camphor Tree		E.	20-40	40+	35-40	8+	Yes	
47	Crinodendron Patagua/ Lily OfValley Tree	INFO	E.	20-40	20-40	30-35	6-8		
48	Cryptocarya Rubra/ Cryptocarya		E.	20-40	40+	35-40	6-8		
49	Crytomeria Japonica/ Japanese Cryptomeria	INFO	C.	40+	40+	35-40	8+		
50	Cupressus Glabra/ Smooth Arizona Cypress	INFO	C.	40+	40+	35-40	6-8	Yes	
51	Cupressus Macrocarpa/ Monterey Cypress	INFO	C.	40+	40+	35-40	6-8	Yes	Yes
52	Eriobotrya Deflexa/ Bronze Loquat		E.	-20	-20	25-30	3-4		
53	Erythrina Crista-Galli/ Cockspur Coral Tree	INFO	D.	20-40	20-40	30-35	6-8	Yes	
54	Erythrina Coralloides/ Naked Coral	INFO	D.	20-40	20-40	30-35	6-8	Yes	
55	Erythrina Humeana/ Natal Coral	INFO	D.	20-40	20-40	30-35	6-8	Yes	
56	Eucalyptus Camaldulensis/ Red Gum	INFO	E.	40+	40+	35-40	8+	Yes	
57	Eucalyptus Citriodora/ Lemon Scented Gum		E.	40+	20-40	30-35	6-8		
58	Eucalyptus Cornuta/ Yate	INFO	E.	20-40	20-40	30-35	6-8	Yes	

59	Eucalyptus Erythrocorys/ Red-Cap Gum		E.	20-40	20-40	30-35	6-8	Yes	
60	Eucalyptus Ficifolia/ Red-Flowering Gum		E.	20-40	20-40	30-35	6-8		
61	Eucalyptus Lehmannii/ Bushy Yate	INFO	E.	20-40	20-40	35-40	6-8	Yes	
62	Eucalyptus Leucoxylon/ White Ironbark		E.	20-40	20-40	35-40	6-8	Yes	
63	Eucalyptus Nicholii/ Willowleaf Peppermint		E.	20-40	20-40	30-35	4-6	Yes	
64	Eucalyptus Polyanthemos/ Silver Dollar Gum	INFO	E.	40+	20-40	35-40	6-8	Yes	
65	Eucalyptus Rudis/ Desert Gum		E.	40+	40+	35-40	8+	Yes	
66	Eucalyptus Sideroxylon/ Red Ironbark		E.	40+	40+	35-40	8+	Yes	
67	Eucalyptus Torquata/ Coral Gum		E.	20-40	20-40	30-35	4-6	Yes	
68	Ficus Macrophylla/ Moreton Bay Fig	INFO	E.	40-60	60-100	40+	8+	Yes	
69	Ficus Rubigenosa/ Rustyleaf Fig		E.	20-40	20-40	35-40	6-8	Yes	
70	Geijera Parviflora/ Australian Willow		E.	20-40	20-40	30-35	6-8	Yes	
71	Ginkgo Biloba/ Maidenhair Tree		D.	40+	20-40	30-35	4-6		
72	Gleditsia Triacanthos Inermis Honey Locust		D.	20-40	20-40	30-35	4-6		
73	Harpephyllum Caffrum/ Kaffir Plum	INFO	E.	20-40	20-40	35-40	6-8	Yes	
74	Hymenosporum Flavum/ Sweet Shade		E.	20-40	-20	25-30	3-4		
75	Ilex Altaclarensis Wilsonii/ Wilson Holly	INFO	E.	-20	-20	25-30	3-4	Yes	
76	Jacaranda Mimosifolia/ Jacaranda		D.	20-40	20-40	35-40	6-8		
77	Jubaea Chilensis/ Chilean Wine Palm	INFO	P.	40+	20-40	30-35	4-6		
78	Koelreuteria Bipinnata/ Chinese Flame Tree		D.	20-40	20-40	30-35	6-8		
79	Koelreuteria Paniculata/ Golden Rain		D.	20-40	20-40	30-35	6-8	Yes	
80	Lagerstroemia Indica/ Crape Myrtle		D.	-20	-20	25-30	3-4	Yes	
81	Lagunaria Patersonii/ Primrose Tree	INFO	E.	40+	20-40	30-35	6-8	Yes	
82	Laurus Nobilis/ Sweet Bay		E.	20-40	-20	25-30	4-6	Yes	

83	Ligustrum Japonicum/ Japanese Privet	INFO	E.	20-40	20-40	30-35	4-6	Yes	
84	Liriodendron Tulipifera/ Tulip Tree		D.	40+	20-40	35-40	6-8		
85	Lithocarpus Densiflorus/ Tan Bark Oak	INFO	E.	40+	20-40	30-35	6-8	Yes	Yes
86	Liquidambar Orientalis/ Oriental Sweetgum	INFO	D.	20-40	20-40	25-35	4-6	Yes	
87	Lyonathamnus Floribondus/ Catalina Ironwood	INFO	E.	40+	20-40	30-35	4-6	Yes	Yes
88	Macadamia Integrifolia/ Smooth-Shell Macadamia	INFO	E.	20-40	20-40	30-35	4-6	Yes	
89	Magnolia Grandiflora/ Southern Magnolia		E.	20-40	20-40	35-40	6-8		
90	Magnolia Grandiflora/ St. Mary Magnolia	INFO	E.	-20	-20	25-30	3-4		
91	Magnolia Grandiflora/ Majestic Beauty Southern Magnolia	INFO	E.	20-40	20-40	25-30	4-6		
92	Melaleuca Linariifolia/ Flaxleaf Paperbark		E.	20-40	20-40	30-35	4-6	Yes	
93	Melaleuca Quinquenervia/ Cajeput		E.	20-40	20-40	30-35	4-6	Yes	
94	Melia Azedarach/ Chinaberry	INFO	D.	20-40	40+	35-40	6-8	Yes	
95	Metrosideros Excelsus/ New Zealand Christmas Tree		E.	-20	-20	25-30	3-4	Yes	
96	Myoporum Laetum/ Myoporum		E.	-20	20-40	30-35	6-8		
97	Nyssa Sylvatica/ Sour Gum	INFO	D.	40+	-20	30-35	4-6	Yes	
98	Olea Europae/ Olive		E.	20-40	-20	30-35	6-8	Yes	
99	Phoenix Canariensis/ Canary Island Date Palm		P.	40+	40+	35-40	6-8	Yes	
100	Phoenix Dactylifera/ Date Palm	INFO	P.	40+	40+	35-40	6-8	Yes	
101	Photinia Serrulata/ Chinese Photinia	INFO	E.	-20	-20	25-30	3-4	Yes	
102	Photinia Fraseri/ Photinia		E.	-20	-20	25-30	3-4	Yes	
103	Pinus Canariensis/ Canary Island Pine		C.	40+	20-40	35-40	6-8	Yes	
104	Pinus Eldarica/ Mondell Pine	INFO	C.	40+	20-40	35-40	6-8	Yes	
105	Pinus Halepensis/ Aleppo Pine	INFO	C.	40+	40+	35-40	6-8	Yes	
106	Pinus Muricata/ Bishop Pine	INFO	C.	40+	40+	35-40	6-8	Yes	Yes

107	Pinus Patula/ Jelecote Pine	INFO	C.	40+	40+	35-40	6-8	Yes	
108	Pinus Pinea/ Italian Stone Pine		C.	40+	40+	35-40	6-8	Yes	
109	Pinus Radiata/ Monterey Pine		C.	40+	40+	35-40	6-8	Yes	Yes
110	Pinus Torreyana/ Torrey Pine	INFO	C.	40+	40+	35-40	6-8	Yes	Yes
111	Pistacia Chinensis/ Chinese Pistache		D.	40+	40+	35-40	6-8	Yes	
112	Pittosporum Rhombifolium/ Queensland Pittosporum		E.	20-40	20-40	30-35	4-6	Yes	
113	Pittosporum Undulatum/ Victorian Box		E.	20-40	20-40	30-35	4-6	Yes	
114	Platanus X Acerifolia/ London Plane		D.	40+	40+	35-40	6-8		
115	Platanus Racemosa/ California Sycamore	INFO	D.	40+	40+	35-40	6-8		Yes
116	Podocarpus Gracilior/ African Fern Pine		E.	40+	20-40	30-35	6-8		
117	Podocarpus Macrophyllus/ Shrubby Yew Pine		E.	20-40	-20	25-30	4-6		
118	Prosopis Glandulosa/ Mesquite	INFO	D.	20-40	40+	35-40	6-8	Yes	Yes
119	Prunus Caroliniana/ Carolina Laurel Cherry	INFO	E.	20-40	20-40	30-35	4-6	Yes	
120	Prunus Cerasifera/ Purple-leaf Flowering Plum		D.	20-40	20-40	25-30	3-4		
121	Prunus Ilicifolia/ Hollyleaf Cherry	INFO	E.	20-40	20-40	30-35	4-6	Yes	Yes
122	Pyrus Calleryana/ Ornamental Pear		D.	20-40	-20	30-35	3-4		
123	Pyrus Kawakamii/ Evergreen Pear		E.	20-40	20-40	30-35	4-6		
124	Quercus Agrifolia/ Coast Live Oak	INFO	E.	40+	40+	35-40	8+	Yes	Yes
125	Quercus Coccinea/ Scarlet Oak	INFO	D.	40+	40+	35-40	8+	Yes	
126	Quercus Engelmannii/ Mesa Oak	INFO	E.	40+	40+	35-40	6-8	Yes	Yes
127	Quercus Lobata/ Valley Oak	INFO	D.	40+	40+	35-40	8+	Yes	Yes
128	Quercus Suber/ Cork Oak		E.	20-40	20-40	30-35	6-8	Yes	
129	Quercus Virginiana/ Southern Live Oak		E.	40+	40+	35-40	6-8		
130	Quillaja Saponaria/ Soapbark Tree	Image/Specs not available	E.	20-40	20-40	30-35	6-8	Yes	

131	Rhus Lancea/ African Sumac		E.	20-40	20-40	30-35	4-6	Yes	
132	Robinia Pseudoacacia/ Black Locust	INFO	D.	20-40	20-40	30-35	4-6	Yes	
133	Robinia Ambigua Idahoensis/ Idaho Locust	INFO	D.	20-40	20-40	30-35	3-4	Yes	
134	Sapium Sebiferum/ Chinese Tallow Tree		D.	20-40	20-40	30-35	4-6		
135	Schinus Molle/ California Pepper		E.	20-40	20-40	30-35	4-6	Yes	
136	Schinus Terebinthifolius/ Brazilian Pepper		E.	20-40	20-40	30-35	4-6	Yes	
137	Sequoiadendron Giganteum/ Giant Sequoia	INFO	C.	40+	40+	35-40	8+	Yes	Yes
138	Sequoia Sempervirens/ Redwood		C.	40+	40+	35-40	8+		Yes
139	Stenocarpus Sinuatus/ Firewheel Tree		E.	20-40	20-40	30-35	4-6		
140	Tabebuia Avellanedae/ Lavender Trumpet Tree		D.	20-40	20-40	30-35	3-4		
141	Tabebuia Chrysotricha/ Golden Trumpet Tree		D.	20-40	20-40	30-35	3-4		
142	Taxodium Mucronatum/ Montezuma Cypress	INFO	C.	40+	40+	35-40	8+		
143	Tilia Americana/ American Linden	INFO	D.	40+	40+	35-40	6-8		
144	Tilia Cordata/ Littleleaf Linden	INFO	D.	40+	40+	35-40	6-8		
145	Tipuana Tipu/ Tipu Tree		D.	40+	40+	35-40	8+		
146	Tristania Conferta/ Brisbane Box		E.	20-40	20-40	30-35	4-6	Yes	
147	Ulmus Parvifolia Sempervirens/ Chinese Elm		E.	20-40	20-40	35-40	6-8	Yes	
148	Umbellularia Californica/ California Laurel		E.	40+	20-40	35-40	6-8	Yes	Yes
149	Washingtonia Filifera/ California Fan Palm		P.	40+	20-40	30-35	6-8	Yes	Yes
150	Washingtonia Robusta/ Mexican Fan Palm		P.	40+	20-40	30-35	4-6	Yes	