



**City of Austin  
Parks and Recreation Department  
Urban Forestry Program**



**URBAN FOREST  
MANAGEMENT PLAN**



# **Urban Forest Management Plan**

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## **1) Operational Goals**

- 1) Respond to emergency situations within 1 hour
- 2) Respond to routine requests within 10 days
- 3) Review and return utility vegetation work plans within 5 days
- 4) Stay informed of current events within the department using weekly work order progress updates, weekly forestry staff meetings and monthly accomplishment reports
- 5) Assign work to in-house crew and contractor crews with set timelines and measures of efficiency

## **2) Agencies, Personnel and Budget**

The diverse and varied tree related responsibilities of different city departments is outlined by the Tree Coordination Efforts Organizational Chart (1).

The Forestry Personnel Organizational Chart (2) shows the structure of the Urban Forestry Program, and provides names and titles.

The budget (3) of the Urban Forestry Program includes actual spending from fiscal year 2010 and projected budget for fiscal year 2011. The fiscal year for the City of Austin is October 1 – September 30.

## **3) Designation of Trees for which the City of Austin is Responsible**

The Urban Forestry Program is responsible for the care of an estimated 300,000 trees along city streets and within developed parkland. City of Austin municipal code defines a public tree as ‘a tree with at least two-thirds of its trunk diameter on public property’ as described below in the excerpt from the City of Austin Trees and Vegetation Ordinance (4).

### **§ 6-3-1 DEFINITIONS.**

In this chapter:

(6) PUBLIC PROPERTY means real property owned or controlled by the city with unrestricted public access, excluding a utility or drainage easement on private property.

(7) PUBLIC TREE means a tree with at least two-thirds of its trunk diameter on public property.

*Source: 1992 Code Sections 10-6-4, 15-10-3, and 16-7-1 ; Ord. 031023-10; Ord. 031211-11.*

#### **4) Continuing Care of Municipally Owned Trees**

The Urban Forestry Program hired two additional professional staff foresters in the spring of 2010 and is currently hiring three forestry crew members to fill existing vacancies. The Parks and Recreation Department is currently considering reorganization of divisions which would place the Urban Forestry Program within a new Natural Resources Division. The Urban Forestry Program budget (3) includes a projection for fiscal year 2011.

The Urban Forestry Program spends the majority of its time responding to and addressing concerns and complaints from citizens. However, the Program performs proactive inspections and maintenance work whenever resources allow and is actively implementing a system of documenting tree maintenance in parks. The Documenting Park Maintenance SOP (12) shows how we will maintain records until we acquire a tree management software program.

#### **5) Identification and Removal of Hazardous Trees**

The Urban Forestry Program removes approximately 700 – 1000 trees every year. The Program's Fiscal Year 2009 Accomplishment Report (5) provides statistics for tree removals and pruning. A Public Tree Notice (11) is used as a door hanger to inform homeowners of removals or pruning work to be performed in their neighborhood before it happens.

The Program's Hazard Evaluation Form (6) shows the criteria used to evaluate potentially hazardous trees. The decision to remove, as opposed to prune and/or closely monitor, is guided by this form. There are currently 65 trees whose health are closely monitored and are inspected on a regular rotation; every 3 months, 6 months or 1 year.

#### **6) Planting New and Replacement Trees**

The Program's Fiscal Year 2009 Accomplishment Report (5) includes numbers of trees planted during the 2009-10 planting season. A more detailed description including numbers and locations can be found in the Planting Site Details spreadsheet (7). For the 2010-11 planting season, professional forestry staff will be visiting each nursery in the area and selecting individual trees in an effort to acquire the highest quality stock available.

Comprehensive planting plans are developed months before the trees are installed and often involve at least one public relations element such as signage or a large event. First, existing trees and potential planting locations are inventoried using handheld GPS/data collectors. This information is uploaded to GIS software to create a plan which shows existing trees and proposed trees, as well as other significant site characteristics. Longhorn Shores Planting Plan (10) is an example of a planting plan.

Planners, park managers and neighborhood groups are always involved to ensure planting designs are sustainable and to avoid future site conflicts. Trees are usually planted by

volunteers overseen by forestry staff or urban forest stewards. After planting new trees, supplemental water is provided for a minimum of two years by newly installed irrigation or by water truck.

## **7) Public Education and Outreach**

The Urban Forestry Program utilizes its own website as the main conduit for conveying information to the general public, other city departments and commercial tree care companies. The Program strives to keep the most current and relevant information on the website regarding on-going projects, volunteer opportunities and tree care practices. Information on the website also includes tree ordinance Chapter 6-3 Trees and Vegetation. The Program updates information in-house.

City of Austin, Urban Forestry Program Website  
<http://www.ci.austin.tx.us/parks/forestry.htm>

In the fall of 2008, the Urban Forestry Program launched the Urban Forest Steward Class, a 20 hour classroom program designed to teach concerned citizens about basic tree care and urban forestry. Urban Forest Stewards are encouraged to assume leadership roles in tree planting or tree maintenance volunteer projects.

Leaf for a Leaf is a partnership between the City of Austin Library System and the Urban Forestry Program to promote the idea that borrowing books from a library instead of purchasing books is a form of recycling, which conserves forest products.

## **8) Enforcement of Ordinances**

The Urban Forestry Program is responsible for the enforcement of ordinances intended to protect trees on public property. The City Arborist Program is responsible for enforcement of tree ordinances on private property – their website is listed below. The Program's Fiscal Year 2009 Accomplishment Report (5) includes a total of paid claims for illegal damage to public trees. The Illegal Damage spreadsheet (8) is an example of the system we use to track illegal damage to public trees. The Trees and Vegetation ordinance (4) includes language concerning illegal damage to public trees.

City of Austin, The City Arborist Program  
<http://www.ci.austin.tx.us/trees/>

## **9) Inventory of Public Trees**

In 2008, the City of Austin hired a private firm to perform a sample inventory. The data was used to infer conclusions about the entire street tree population. A conservative figure is estimated to be approximately 125,000 street trees. An estimation of park trees in developed areas is currently under way and expected to be completed by the end of 2010. The result of their work can be viewed in their report (9) to the City of Austin.

## **10) Goals and Objectives for the Future**

Parks and Recreation Department management is currently working in conjunction with the Urban Forestry Board to establish a city wide canopy coverage goal as well as a proactive maintenance routine. These are both goals shared by the Urban Forestry Program.

The Urban Forestry Program is currently reviewing tree management software programs to assist in maintaining and updating the tree inventory as well as tracking the maintenance records of individual trees.

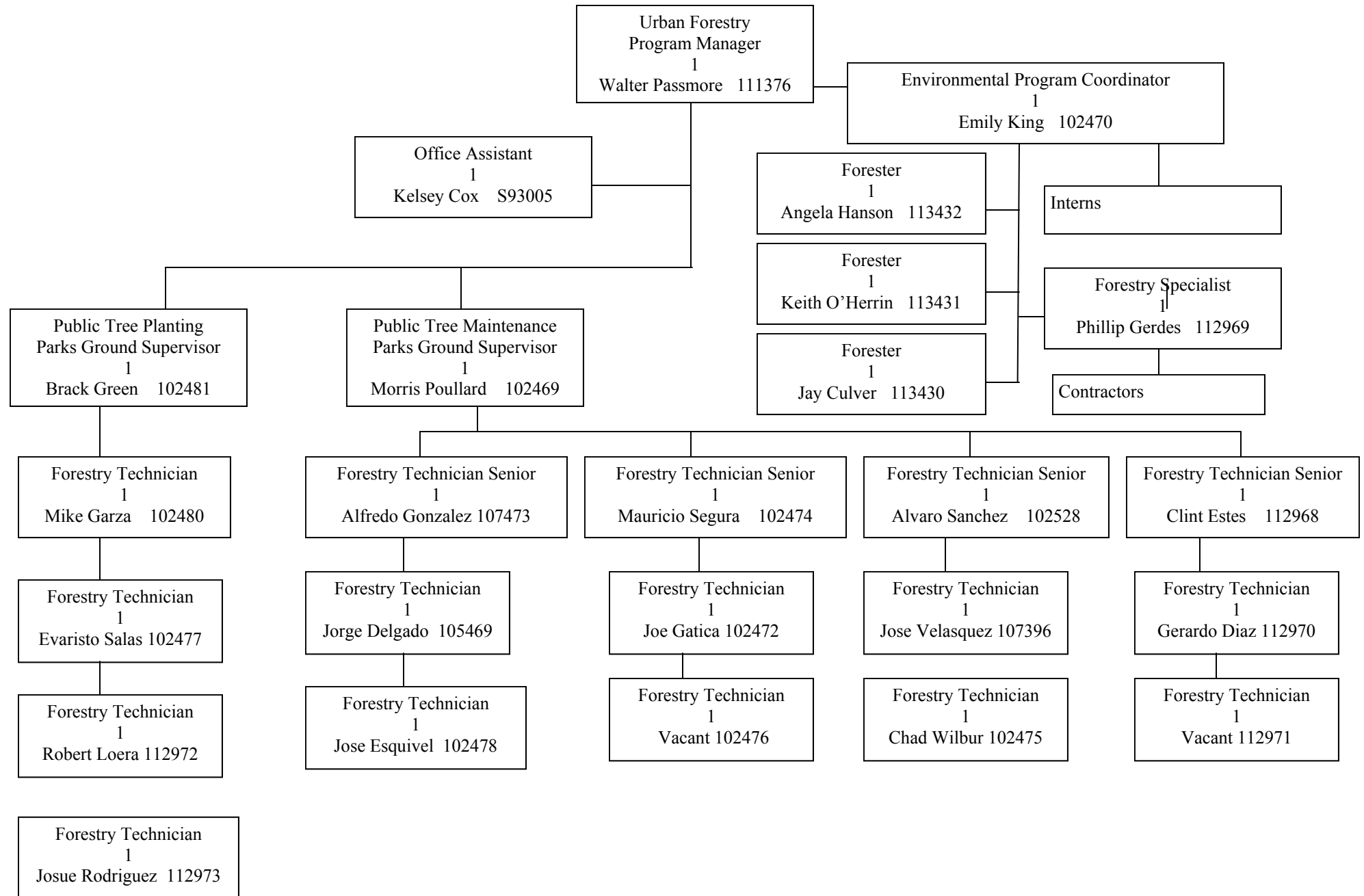
The Urban Forestry Program strives to forge new partnerships with other organizations each year including non-profit groups such as The Trail Foundation and neighborhood associations. The Program also collaborates on new projects with existing partners such as Austin Energy, our municipal electrical utility. One such project planned for the 2010-11 planting season is the creation of an arboretum of small sized trees suitable for planting beneath power lines.

# TREE COORDINATION EFFORTS

NEIGHBORHOOD PLANNING & ZONING	ECONOMIC GROWTH & REDEVELOPMENT SERVICES	PLANNING & DEVELOPMENT REVIEW	WATERSHED PROTECTION	PARKS & RECREATION	SOLID WASTE SERVICES	PUBLIC WORKS	FIRE	AUSTIN WATER UTILITY	AUSTIN ENERGY
GREAT STREETS	DOWNTOWN REDEVELOPMENT	CITY ARBORIST PROGRAM	STREAM RESTORATION	ROW MAINTENANCE	LARGE BRUSH COLLECTION	CAPITAL IMPROVEMENT PROJECTS	DEVELOPME T REVIEW	CLEAN WATER PROGRAM	GREEN BUILDING
NEIGHBORHOOD PLANNING	BIG BOX RETAIL	ENVIRONMENTAL REVIEW	CREEK & POND MAINTENANCE	PRESERVES	YARD TRIMMINGS PICK-UP	SUBDIVISION INFRASTRUCTURE CONSTRUCTION	WILDLAND FIRE INTERFACE	DILLO DIRT	TREE PLANTING
GIS/DATA ANALYSIS	ROBERT MUELLER AIRPORT REDEVELOPMENT	ENVIRONMENTAL INSPECTION	GROW GREEN	TREE PLANTING	CODE COMPLIANCE	ROAD IMPROVEMENTS		WILDLAND CONSERVATION	URBAN HEAT ISLAND
LONG RANGE TRANSPORTATION	SMALL BUSINESS DEVELOPMENT	LANDSCAPE INSPECTION	FLOOD CONTROL	TREATY OAK PROJECT	DILLO DIRT	INSPECTION		WATER CONSERVATION	UTILITY FORESTRY
URBAN DESIGN		GENERAL PERMITS		CHRISTMAS TREE RECYCLING		SIDEWALK EASEMENTS		FIRE MANAGEMENT	CLEAN AIR
ANNEXATION		OAK WILT PROGRAM		PARK MAINTENANCE		ROW & ALLEY: DEBRIS REMOVAL		BALCONES CANYONLAND PRESERVE	LARGE TREE PROGRAM
AUSTIN COMMUNITY TREES				MEMORIAL DEDICATION TREE PLANTING		TRAFFIC SIGNS/SIGNALS CLEARANCE		WATER QUALITY PROTECTION LANDS	NEIGHBORWOODS
				PARK PLANNING				CENTER FOR ENVIRONMENTAL RESEARCH	
				TRAIL PLANNING & MAINTENANCE				AUSTIN -BASTROP RIVER CORRIDOR PARTNERSHIP PROJECT	

# Forestry Personnel Organizational Chart

Operations - Forestry  
2009  
86G070 86G080 86G610





# C.O.A. Urban Forestry Program Budget

**Figure 3.1 Budget by Fiscal Year**

BFY	Proposed	Amended	CYE	Actual	Balance	% of Budget
<a href="#">2006</a>	\$700,192	\$800,032	\$707,528	<a href="#">\$792,013.37</a>	\$8,018.63	99.00%
<a href="#">2007</a>	\$965,071	\$1,098,053	\$1,054,720	<a href="#">\$1,237,370.85</a>	(\$139,317.85)	112.69%
<a href="#">2008</a>	\$1,192,991	\$1,192,991	\$1,108,601	<a href="#">\$1,346,708.61</a>	(\$153,717.61)	112.89%
<a href="#">2009</a>	\$1,488,700	\$1,488,700	\$1,489,371	<a href="#">\$1,590,018.36</a>	(\$101,318.36)	106.81%
<a href="#">2010</a>	\$1,382,989	\$1,391,461	\$1,393,034	<a href="#">\$1,176,021.26</a>	\$215,439.74	84.52%
<a href="#">2011</a>	\$1,451,414	\$0	\$0	<a href="#">\$0.00</a>	\$0.00	0.00%

**Figure 3.2 Itemized Program Budget**

Object Desc	Amended	Encumb	YTD Exp	Actual	CYE	% of Budget	Balance
Regular wages - full-time	\$763,940.00	\$0.00	\$537,288.88	\$537,288.88	\$547,627.00	70.33%	\$226,651.12
Overtime	\$34,428.00	\$0.00	\$39,284.41	\$39,284.41	\$64,428.00	114.11%	(\$4,856.41)
Temporary employees	\$0.00	\$0.00	\$24,138.33	\$24,138.33	\$20,000.00	0.00%	(\$24,138.33)
Vacation pay	\$0.00	\$0.00	\$30,264.09	\$30,264.09	\$29,000.00	0.00%	(\$30,264.09)
Holiday pay	\$0.00	\$0.00	\$25,665.05	\$25,665.05	\$25,000.00	0.00%	(\$25,665.05)
Accident pay	\$0.00	\$0.00	\$3,313.60	\$3,313.60	\$3,500.00	0.00%	(\$3,313.60)
Sick pay	\$0.00	\$0.00	\$17,462.51	\$17,462.51	\$15,000.00	0.00%	(\$17,462.51)
Stability pay	\$9,333.00	\$0.00	\$9,330.94	\$9,330.94	\$9,333.00	99.98%	\$2.06
Terminal pay	\$0.00	\$0.00	\$875.26	\$875.26	\$1,000.00	0.00%	(\$875.26)
On call hours	\$0.00	\$0.00	\$10,723.50	\$10,723.50	\$18,944.00	0.00%	(\$10,723.50)
Personal holiday pay	\$0.00	\$0.00	\$3,318.77	\$3,318.77	\$4,000.00	0.00%	(\$3,318.77)
Administrative leave	\$0.00	\$0.00	\$1,422.08	\$1,422.08	\$600.00	0.00%	(\$1,422.08)
Emergency leave	\$0.00	\$0.00	\$1,333.44	\$1,333.44	\$1,300.00	0.00%	(\$1,333.44)
Call back time	\$0.00	\$0.00	\$28,247.13	\$28,247.13	\$15,000.00	0.00%	(\$28,247.13)
Personnel savings	(\$30,000.00)	\$0.00	\$0.00	\$0.00	\$0.00	0.00%	(\$30,000.00)
Furlough savings	(\$4,219.00)	\$0.00	\$0.00	\$0.00	\$0.00	0.00%	(\$4,219.00)
Phone allowance	\$2,940.00	\$0.00	\$2,706.51	\$2,706.51	\$2,940.00	92.06%	\$233.49
Allowances/other pay	\$0.00	\$0.00	\$1,202.40	\$1,202.40	\$300.00	0.00%	(\$1,202.40)
Insurance-health/life/dental	\$198,237.00	\$0.00	\$153,276.69	\$153,276.69	\$198,237.00	77.32%	\$44,960.31
FICA tax	\$48,126.00	\$0.00	\$43,307.06	\$43,307.06	\$48,126.00	89.99%	\$4,818.94
Medicare tax	\$11,256.00	\$0.00	\$10,128.27	\$10,128.27	\$11,256.00	89.98%	\$1,127.73
Contribution to employees ret	\$61,114.00	\$0.00	\$49,669.53	\$49,669.53	\$61,114.00	81.27%	\$11,444.47
Services-other	\$5,000.00	\$0.00	\$17,255.62	\$17,255.62	\$20,000.00	345.11%	(\$12,255.62)
Rental-other equipment	\$10,000.00	\$0.00	\$3,453.00	\$3,453.00	\$10,000.00	34.53%	\$6,547.00
Water service	\$16,701.00	\$0.00	\$7,649.58	\$7,649.58	\$16,701.00	45.80%	\$9,051.42
Object Desc	Amended	Encumb	YTD Exp	Actual	CYE	% of Budget	Balance

Fleet-equip.preventative maint	\$128,877.00	\$0.00	\$125,219.36	\$125,219.36	\$128,877.00	97.16%	\$3,657.64
Transportation-city veh fuel	\$73,102.00	\$0.00	\$64,367.70	\$64,367.70	\$73,102.00	88.05%	\$8,734.30
Telephone-base cost	\$650.00	\$0.00	\$118.97	\$118.97	\$650.00	18.30%	\$531.03
Telephone-cellular phones	\$350.00	\$0.00	\$0.00	\$0.00	\$350.00	0.00%	\$350.00
Postage	\$100.00	\$0.00	\$22.93	\$22.93	\$100.00	22.93%	\$77.07
Priority mail/parcel services	\$50.00	\$0.00	\$0.00	\$0.00	\$50.00	0.00%	\$50.00
Printing/binding/photo/repr	\$300.00	\$0.00	\$53.75	\$53.75	\$300.00	17.92%	\$246.25
Mileage reimbursements	\$0.00	\$0.00	\$753.17	\$753.17	\$1,000.00	0.00%	(\$753.17)
Professional registration	\$200.00	\$0.00	\$1,196.00	\$1,196.00	\$1,000.00	598.00%	(\$996.00)
Memberships	\$750.00	\$0.00	\$350.00	\$350.00	\$750.00	46.67%	\$400.00
Agricultural/horticultural	\$43,000.00	\$0.00	\$8,685.74	\$8,685.74	\$43,000.00	20.20%	\$34,314.26
Const/repair material-other	\$302.00	\$0.00	\$0.00	\$0.00	\$302.00	0.00%	\$302.00
Sand/gravel/stone	\$0.00	\$0.00	\$223.22	\$223.22	\$500.00	0.00%	(\$223.22)
Street/traff signs/mrkr/pos	\$500.00	\$0.00	\$0.00	\$0.00	\$500.00	0.00%	\$500.00
Hardware/wire/steel	\$200.00	\$0.00	\$2,062.49	\$2,062.49	\$2,100.00	1031.25%	(\$1,862.49)
Building material	\$300.00	\$0.00	\$19.79	\$19.79	\$300.00	6.60%	\$280.21
Paint/painting supplies	\$300.00	\$0.00	\$864.35	\$864.35	\$1,000.00	288.12%	(\$564.35)
Electrical/lighting	\$0.00	\$0.00	\$432.76	\$432.76	\$300.00	0.00%	(\$432.76)
Pipes and fittings	\$100.00	\$0.00	\$5,142.49	\$5,142.49	\$4,500.00	5142.49%	(\$5,042.49)
Chemicals	\$0.00	\$0.00	\$205.20	\$205.20	\$0.00	0.00%	(\$205.20)
Household/cleaning supplies	\$0.00	\$0.00	\$227.62	\$227.62	\$150.00	0.00%	(\$227.62)
Gasoline/oil/grease	\$500.00	\$0.00	\$203.82	\$203.82	\$500.00	40.76%	\$296.18
Parts for vehicles	\$1,000.00	\$0.00	\$217.42	\$217.42	\$1,000.00	21.74%	\$782.58
Medical/dental supplies	\$150.00	\$0.00	\$123.78	\$123.78	\$150.00	82.52%	\$26.22
Clothing/clothing material	\$5,000.00	\$0.00	\$4,587.80	\$4,587.80	\$5,000.00	91.76%	\$412.20
Food/ice	\$300.00	\$0.00	\$793.31	\$793.31	\$300.00	264.44%	(\$493.31)
Books-library	\$250.00	\$0.00	\$229.85	\$229.85	\$250.00	91.94%	\$20.15
Office supplies	\$0.00	\$0.00	\$3,284.02	\$3,284.02	\$2,900.00	0.00%	(\$3,284.02)
Small tools/minor equipment	\$7,312.00	\$0.00	\$4,677.79	\$4,677.79	\$9,497.00	63.97%	\$2,634.21
Safety equipment	\$0.00	\$0.00	\$4,020.51	\$4,020.51	\$3,000.00	0.00%	(\$4,020.51)
Indirect costs-FMC 74-4	\$0.00	\$0.00	\$2,774.05	\$2,774.05	\$2,100.00	0.00%	(\$2,774.05)
Intradepartmental reimbursemnt	\$0.00	\$0.00	(\$34,084.82)	(\$34,084.82)	\$0.00	0.00%	\$34,084.82
Interdepartmental charges/r	\$0.00	\$0.00	(\$15,899.89)	(\$15,899.89)	(\$6,000.00)	0.00%	\$15,899.89
Grant reimbursement	\$0.00	\$0.00	(\$12,466.62)	(\$12,466.62)	(\$900.00)	0.00%	\$12,466.62
Reimbursement of CIP charge	\$0.00	\$0.00	(\$14,713.95)	(\$14,713.95)	(\$12,000.00)	0.00%	\$14,713.95
Computer Hardware	\$1,012.00	\$1,012.00	\$0.00	\$1,012.00	\$0.00	100.00%	\$0.00
	\$1,391,461.00	\$1,012.00	\$1,175,009.26	\$1,176,021.26	\$1,393,034.00	84.52%	\$215,439.74

## **Title 6 Environmental Control and Conservation**

### **Chapter 6-3 Trees and Vegetation**

#### ***ARTICLE 1. GENERAL PROVISIONS.***

##### **§ 6-3-1 DEFINITIONS.**

In this chapter:

- (1) BOARD means the Urban Forestry Board.
- (2) CURBLINE means the boundary of a street or alley used for vehicular traffic.
- (3) DAMAGE means injury to a tree including: uprooting; severance of the root system or main trunk; storage of material or compaction of surrounding soil; a substantial change in the natural grade above a root system or around a trunk; pruning or removal of more than 25 percent of the living tissue; or surrounding with impervious paving materials.
- (4) OWNER means the record owner of real property or the occupant or a person with the right to exercise control over the property.
- (5) PLAN means the Comprehensive Urban Forest Plan.
- (6) PUBLIC PROPERTY means real property owned or controlled by the city with unrestricted public access, excluding a utility or drainage easement on private property.
- (7) PUBLIC TREE means a tree with at least two-thirds of its trunk diameter on public property.
- (8) TREE means a self-supporting woody perennial plant, excluding a bush or shrub, with a trunk diameter measured at four and one-half feet above grade of:
  - (a) not less than three inches; or
  - (b) not less than two inches if planted by or on behalf of the city.
- (9) TREE VALUE means the appraised value of a tree based on the latest edition of the Guide for Plant Appraisal by the Council of Tree and Landscape Appraisers.
- (10) URBAN FORESTER means a city employee qualified as a forester.

*Source: 1992 Code Sections 10-6-4, 15-10-3, and 16-7-1 ; Ord. 031023-10; Ord. 031211-11.*

##### **§ 6-3-2 URBAN FORESTER.**

The city manager shall designate an urban forester.

*Source: 1992 Code Section 15-10-4; Ord. 031023-10; Ord. 031211-11.*

##### **§ 6-3-3 ADMINISTRATION AND ENFORCEMENT.**

Except as otherwise specified, the urban forester shall administer and enforce this chapter.

*Source: 1992 Code Sections 10-6-3 and 15-10-4(E) and (H); Ord. 031023-10; Ord. 031211-11.*

#### **§ 6-3-4 DUTIES OF URBAN FORESTER.**

The urban forester shall:

- (1) manage the city's urban forest;
- (2) administer the plan;
- (3) supervise and coordinate with responsible city departments to plant, maintain, or remove trees on public property;
- (4) grant or deny administrative approval to maintain or remove a public tree, and establish conditions of performance;
- (5) supervise and inspect work performed under an administrative approval granted under this article; and
- (6) remove a tree or plant planted in violation of this chapter.

*Source: 1992 Code Sections 15-10-4(A), (B), (F), and (G), and 15-10-5(C); Ord. 031023-10; Ord. 031211-11.*

#### **§ 6-3-5 COMPREHENSIVE URBAN FOREST PLAN.**

- (A) With the assistance of the urban forester, the board shall develop and revise the plan.
- (B) The Environmental Board and Parks and Recreation Board shall review the plan and make recommendations to the board.
- (C) The urban forester shall provide administrative staff services to the board in connection with the plan.

*Source: 1992 Code Sections 15-10-4(A) and (C); Ord. 031023-10; Ord. 031211-11.*

#### **§ 6-3-6 STANDARDS OF CARE FOR A TREE OR PLANT ON PUBLIC PROPERTY.**

(A) The urban forester shall develop a standard of care for trees or plants on public property. Standards developed under this section shall be based on the current edition of the National Arborists Association's Standards for Tree Care or other nationally recognized standard.

(B) Before a standard is adopted by the board, the board shall review the standard at a public hearing.

(C) The urban forester shall make a copy of the standards and related rules available to the public.

*Source: 1992 Code Section 15-10-4(D); Ord. 031023-10; Ord. 031211-11.*

#### **§ 6-3-7 INTERFERENCE WITH URBAN FORESTER.**

A person may not hinder or obstruct the urban forester in the performance of the urban forester's official duties.

*Source: 1992 Code Section 15-10-11; Ord. 031023-10; Ord. 031211-11.*

#### **§ 6-3-8 PENALTY.**

A person who violates this article commits a Class C misdemeanor and is subject to the penalty prescribed by Section 1-1-99 (*Offenses; General Penalty*) not to exceed \$100 for each offense. Each occurrence of a violation of this article is a separate offense.

*Source: 1992 Code Section 15-10-99(B) and (C); Ord. 031023-10; Ord. 031211-11.*

## **ARTICLE 2. RESTRICTIONS ON TREE OR PLANT MAINTENANCE.**

### **§ 6-3-21 PLANTING RESTRICTED AT STREET CORNER.**

(A) This section only applies to property located at a street corner intersection within a ten-foot setback from the curblin and 40 feet along the curblin from the intersection.

(B) A person may not place, maintain, or permit a plant:

(1) more than two feet taller than the level of the ground surrounding the plant; or

(2) on property more than one foot above the level of an adjacent street.

*Source: 1992 Code Section 16-7-40 ; Ord. 031023-10; Ord. 031211-11.*

### **§ 6-3-22 PLANTING RESTRICTED BY FIRE HYDRANT.**

A person may not place, maintain, or permit a tree or plant within five feet of a fire hydrant.

*Source: 1992 Code Section 16-7-42 ; Ord. 031023-10; Ord. 031211-11.*

### **§ 6-3-23 PLANTING RESTRICTED BY SIDEWALKS.**

(A) A person may not place, maintain, or permit a tree or plant to overgrow or obstruct a sidewalk to prevent public use of the area.

(B) A person shall trim tree limbs growing over a sidewalk at a minimum clearance of 14 feet above the street level measured at the nearest curblin.

*Source: 1992 Code Sections 16-7-41 and 16-7-43; Ord. 031023-10; Ord. 031211-11.*

### **§ 6-3-24 STANDARD OF MAINTENANCE.**

A person shall maintain a tree or plant under this article to be compatible with the aesthetic character of the public right-of-way.

*Source: 1992 Code Section 16-7-44 ; Ord. 031023-10; Ord. 031211-11.*

### **§ 6-3-25 NOTICE OF OBSTRUCTION OF PUBLIC RIGHT-OF-WAY.**

(A) The urban forester may issue written notice of obstruction of public right-of-way by a tree or plant to an owner. Notice under this section must include:

(1) a description of the corrective action required; and

(2) a statement that the corrective action must be complete not later than the 10th day after receipt of the notice.

(B) An owner shall remove an obstruction to the public right-of-way not later than the 10th day after receipt of a notice of obstruction.

Source: 1992 Code Section 15-10-6(A); Ord. 031023-10; Ord. 031211-11.

#### **§ 6-3-26 AUTHORITY TO MAINTAIN PUBLIC RIGHT-OF-WAY.**

(A) If an owner fails to comply with a notice issued under Section 6-3-25 (*Notice of Obstruction of Public Right-of-Way*), the urban forester may trim or remove a tree or plant over a street or an adjacent sidewalk or public easement to:

- (1) provide a minimum clearance of 14 feet above the street level;
- (2) provide an unobstructed view for traffic; or
- (3) remove overgrowth or obstructions to public use.

(B) The city manager may determine when a tree or plant requires trimming or removal under this section.

Source: 1992 Code Sections 15-10-6(A) and (C), 16-7-41, and 16-7-45; Ord. 031023-10; Ord. 031211-11.

### **ARTICLE 3. NUISANCE TREE OR PLANT.**

#### **§ 6-3-41 DISEASED TREE OR PLANT.**

A tree or plant infected by a lethal disease communicable to another tree or plant is a public nuisance. A tree under this section includes firewood.

Source: 1992 Code Section 10-6-1; Ord. 031023-10; Ord. 031211-11.

#### **§ 6-3-42 OWNER'S DUTY TO ABATE NUISANCE.**

A person may not knowingly permit or maintain a tree or plant that is a public nuisance on land owned by or under the supervision or control of the person. A person must remove a diseased tree or plant, or abate the nuisance created by the tree or plant on property owned by or under the person's supervision or control as required by the urban forester.

Source: Section 10-6-2; Ord. 031023-10; Ord. 031211-11.

#### **§ 6-3-43 INSPECTION BY URBAN FORESTER.**

The urban forester may inspect private property to determine if a tree or plant located on the property is a nuisance.

Source: 1992 Code Section 10-6-3; Ord. 031023-10; Ord. 031211-11.

#### **§ 6-3-44 RIGHT OF ENTRY AND REMOVAL.**

Except as provided in Section 6-3-45 (*Owner's Consent to Entry*), the urban forester may:

- (1) enter property during regular business hours to inspect a tree or plant; and
- (2) remove a specimen to analyze for the existence of infection.

Source: 1992 Code Section 10-6-3; Ord. 031023-10; Ord. 031211-11.

**§ 6-3-45 OWNER'S CONSENT TO ENTRY.**

(A) Except as provided in Subsection (C), the urban forester may not enter property without the permission of the owner.

(B) Before entering private property to conduct an inspection, the urban forester must:

- (1) locate the owner of property that is occupied or make a reasonable effort to locate the owner of unoccupied property;
- (2) inform the owner that the urban forester has a right of entry; and
- (3) request permission to enter the property.

(C) If the owner of private property refuses to permit inspection by the urban forester, the city may exercise any available legal remedy to secure entry.

Source: 1992 Code Section 10-6-3; Ord. 031023-10; Ord. 031211-11.

**§ 6-3-46 NOTICE OF ABATEMENT.**

(A) Subject to the provisions of Section 6-3-48 (*Review of Recommendation to Remove Protected Tree*), the urban forester shall send written notice of abatement to the owner of property containing a nuisance tree or plant. Notice under this section must include:

- (1) a statement identifying the nuisance tree or plant;
- (2) a description of the required corrective action to abate the nuisance;
- (3) a statement that the owner must abate the nuisance not later than the 10th business day after the date of the notice; and
- (4) a statement that any cost incurred by the city to abate the nuisance will be assessed against the owner as a lien against the property.

(B) Except as provided in Subsection (C), the urban forester must serve notice of abatement by registered mail or personal delivery.

(C) If the urban forester cannot locate the owner of property containing a nuisance tree or plant, the urban forester may post notice under this section on the nuisance tree or plant.

Source: 1992 Code Sections 10-6-4, 10-6-6, and 10-6-7; Ord. 031023-10; Ord. 031211-11.

**§ 6-3-47 APPEAL OF NOTICE OF ABATEMENT.**

(A) The owner of property containing a nuisance tree or plant may appeal a notice of abatement to the board in writing delivered to the urban forester within the time allowed to complete abatement of the nuisance.

(B) If an owner requests an appeal of a notice of abatement within the time allowed to complete abatement of the nuisance, the urban forester shall schedule a meeting of the board to consider the appeal.

(C) An appeal under this section shall stay the urban forester's decision and notice of abatement.

(D) The board may overrule, sustain, or modify the urban forester's decision. If the board determines that a tree or plant constitutes a nuisance, the board shall determine the date by which the action necessary to abate the nuisance must be completed.

*Source: 1992 Code Section 10-6-5; Ord. 031023-10; Ord. 031211-11.*

#### **§ 6-3-48 REVIEW OF RECOMMENDATION TO REMOVE PROTECTED TREE.**

(A) Not later than the 10th business day before delivery of owner notification under Section 6-3-46 (*Notice of Abatement*), the urban forester shall submit to the city arborist a written request for review of removal of a protected tree under the jurisdiction of Subchapter B, Article 1 (*Tree and Natural Area Protection*) of Chapter 25-8 (*Environment*) of the Code.

(B) The city arborist shall respond to the urban forester with written comments not later than the 10th day after the date the request for review was submitted.

*Source: 1992 Code Section 10-6-8; Ord. 031023-10; Ord. 031211-11.*

#### **§ 6-3-49 PUBLIC RIGHT TO ABATE NUISANCE.**

(A) If an owner fails to abate a nuisance by the date specified by the urban forester or board, the urban forester may take corrective action to abate the nuisance.

(B) The City shall assess costs incurred under this section against the owner and as a lien against the property.

*Source: 1992 Code Section 10-6-6; Ord. 031023-10; Ord. 031211-11.*

#### **§ 6-3-50 NOTICE OF COST OF PUBLIC ABATEMENT.**

If the city has incurred an expense under Section 6-3-49 (*Public Right to Abate Nuisance*), the urban forester shall deliver a statement of expense to an owner by certified mail or personal delivery.

*Source: 1992 Code Section 10-6-6; Ord. 031023-10; Ord. 031211-11.*

#### **§ 6-3-51 OWNER'S DUTY TO REIMBURSE COST OF PUBLIC ABATEMENT.**

(A) The owner shall reimburse the City for the cost of abatement of a nuisance under this article.

(B) Not later than the 30th day after the date a statement of expense is mailed under Section 6-3-50 (*Notice of Cost of Public Abatement*), an owner must:

(1) pay the full amount of the statement to the Parks and Recreation Department; or

(2) execute a written agreement with the Parks and Recreation Department to pay the full amount of the statement of expense not later than the expiration of six months after the date the statement was mailed.

*Source: 1992 Code Section 10-6-6; Ord. 031023-10; Ord. 031211-11.*

#### **§ 6-3-52 NOTICE OF LIEN.**

(A) If the City has incurred an expense under Section 6-3-49 (*Public Right to Abate Nuisance*), the urban forester shall file a certified notice of lien with the county clerk in the county in which the property containing a nuisance tree or plant is located. A notice of lien under this section must include:

(1) a description of the property;



- (2) a statement of expenses incurred by the City;
- (3) a description of the work performed by the City; and
- (4) the name of the owner of the property.

(B) A lien under this section is superior to a lien against the property, except a lien for ad valorem taxes or street improvements.

(C) Interest on the lien amount accrues at the rate of 10 percent annually.  
*Source: 1992 Code Section 10-6-7(A); Ord. 031023-10; Ord. 031211-11.*

#### **§ 6-3-53 EXECUTION OF JUDGMENT AND FORECLOSURE.**

(A) The City may file suit against the owner of property subject to costs incurred under Section 6-3-49 (*Public Right to Abate Nuisance*) to:

- (1) obtain a personal judgment against the owner; and
- (2) foreclose on the lien against the property established under Section 6-3-52 (*Notice of Lien*).

(B) Not later than the 60th day before the date of a foreclosure sale under this section, the City shall mail notice to each record mortgage holder on the property by certified mail. Notice under this section shall state that the city has a priority lien for costs incurred to abate a public nuisance.  
*Source: 1992 Code Sections 10-6-6, and 10-6-7(B) and (C); Ord. 031023-10; Ord. 031211-11.*

#### **§ 6-3-54 PENALTY.**

A person who violates this article commits a Class C misdemeanor and is subject to the penalty prescribed by Section 1-1-99 (*Offenses; General Penalty*).

*Source: 1992 Code Section 10-6-4; Ord. 031023-10; Ord. 031211-11.*

### **ARTICLE 4. PUBLIC TREES.**

#### **Division 1. General Provisions.**

#### **§ 6-3-61 DUTY TO PROTECT PUBLIC TREE.**

(A) Except as provided in Section 6-3-77 (*Exceptions to Requirement for Administrative Approval*) a person on public property may not:

- (1) damage, top, cut, carve, transplant, or remove a public tree;
- (2) allow a harmful substance to contact a public tree;
- (3) set fire to a tree or permit a fire to burn that could injure a public tree; or
- (4) place or store impervious cover or material that impedes the passage of water, air, or nutrients to the roots of a public tree.

(B) Except as provided by ordinance or rule, a person who excavates or performs construction on public property shall surround each public tree in the work area with a fence built at least four feet tall and at least two feet distant from the perimeter of the tree trunk. A person may not allow building material, dirt, or other debris to accumulate inside the fence.

*Source: 1992 Code Section 15-10-7; Ord. 031023-10; Ord. 031211-11.*

#### **§ 6-3-62 RESTRICTION ON LOCATION OF TREE ON PUBLIC PROPERTY.**

A person may not plant a tree on public property within:

(1) 10 lateral feet of an overhead utility line if the tree may reach a height of 20 feet; or

(2) five lateral feet of an underground utility line.

*Source: 1992 Code Section 15-10-6(B); Ord. 031023-10; Ord. 031211-11.*

#### **§ 6-3-63 LIABILITY FOR DAMAGE TO A PUBLIC TREE.**

(A) A person who damages a public tree is liable to the City for the loss of tree value.

(B) If the damage to a public tree results in treatment or removal of the tree, a person who damages the tree is liable for the cost of treatment or removal.

(C) The urban forester may determine the tree value of a public tree and assess the cost against the person who caused the damage.

(D) As prescribed by Section 6-3-91 (*Appeal of Action of Urban Forester*), a person may appeal the urban forester's determination of the tree value to the board.

(E) The damages authorized by this section are cumulative of other remedies available to the City.

(F) The urban forester shall deposit damages recovered under this section to the Planting for the Future Trust in Agency Fund to plant public trees.

*Source: 1992 Code Section 15-10-8; Ord. 031023-10; Ord. 031211-11.*

#### **§ 6-3-64 TREE USE IN CAPITAL IMPROVEMENTS.**

(A) The city manager shall:

(1) dedicate one percent of actual construction cost of a new roadway or capacity expansion project that increases the total lane miles in the city's road system to plant trees; and

(2) create an additional fund to tend trees planted under this section for two years from the date the trees are planted.

(B) The city manager may only fund tree use or care from general obligation road project bond proceeds authorized by ordinance.

(C) The urban forester shall consult with the city manager on the inclusion of trees in the development, planning, and design of a capital improvement to the city's road system.

*Source: 1992 Code Section 15-10-9; Ord. 031023-10; Ord. 031211-11; Ord. 20060504-039.*

#### **§ 6-3-65 COOPERATIVE AGREEMENT TO PLANT TREES.**

Except as prescribed by Chapter 14-11 (*Use of Right-of-Way*), the urban forester may enter into an agreement with a non-profit organization to allow the organization to plant trees on public property.

Source: 1992 Code Section 15-10-5(G); Ord. 031023-10; Ord. 031211-11.

## **Division 2. Administrative Approvals.**

### **§ 6-3-71 ADMINISTRATIVE APPROVAL REQUIRED.**

(A) Except as provided in Section 6-3-77 (*Exceptions to Requirement for Administrative Approval*), a person must obtain approval from the urban forester to maintain, remove or damage a tree on public property.

(B) A person must complete work on a tree on public property:

(1) in compliance with the terms of the administrative approval; and

(2) within the time period prescribed by the administrative approval.

Source: 1992 Code Sections 15-10-5(A)(1) and (3); Ord. 031023-10; Ord. 031211-11.

### **§ 6-3-72 APPLICATION FOR ADMINISTRATIVE APPROVAL.**

A person must file an application with the urban forester on a form approved by the urban forester not less than the fifth business day before the person intends to begin work on public property that may affect a public tree.

Source: 1992 Code Section 15-10-5(A)(2); Ord. 031023-10; Ord. 031211-11.

### **§ 6-3-73 PROCEDURE FOR ADMINISTRATIVE APPROVAL.**

(A) If the urban forester determines that an application for administrative approval demonstrates that proposed work on a tree on public property is in compliance with Section 6-3-6 (*Standards of Care for a Tree or Plant on Public Property*), the urban forester shall grant an administrative approval. An administrative approval granted under this section must contain an expiration date.

(B) If the urban forester fails to act on an application for administrative approval on or before the 15th business day, an administrative approval based on the terms of the application is granted.

(C) The urban forester may not charge a fee for processing an application for administrative approval.

Source: 1992 Code Sections 15-10-5(A)(1), (2), and (3); Ord. 031023-10; Ord. 031211-11.

### **§ 6-3-74 ANNUAL ADMINISTRATIVE APPROVAL.**

(A) The urban forester may grant an annual administrative approval, effective from January 1st to December 31st to an applicant who regularly maintains trees on public property.

(B) An administrative approval granted under this section:

(1) must require compliance with Section 6-3-6 (*Standards of Care for a Tree or Plant on Public Property*); and

(2) may not permit removal of a public tree.

(C) The urban forester may refuse to grant an annual administrative approval to a person who has violated the terms of this article.

(D) A person granted an annual administrative approval must file quarterly reports with the urban forester describing the work completed during the reporting period.

*Source: 1992 Code Section 15-10-5(B); Ord. 031023-10; Ord. 031211-11.*

#### **§ 6-3-75 REQUIREMENT TO REPLACE TREE.**

(A) The urban forester may require a person who requests administrative approval to remove a tree on public property to plant a replacement tree or make a payment equal to the value of a replacement tree.

(B) The urban forester may waive the requirements of this section if the urban forester determines that the applicant cannot afford to plant a replacement tree.

(C) If a person fails to plant a replacement tree required under this section, the urban forester may plant the replacement tree and collect all charges incurred by the city from the person.

(D) The urban forester shall deposit funds collected under this section in the Planting for the Future Trust in Agency Fund to plant public trees.

*Source: 1992 Code Section 15-10-5(D); Ord. 031023-10; Ord. 031211-11.*

#### **§ 6-3-76 REVOCATION OF APPROVAL FOR NON-COMPLIANCE.**

(A) The urban forester may revoke an administrative approval if the applicant fails to comply with the terms of this article, the application, the administrative approval, or a rule.

(B) The urban forester shall send written notice to the applicant before approval is revoked. Notice under this section must include a statement that the applicant may request a hearing under Section 6-3-91 (*Appeal of Action of Urban Forester*) before approval is withdrawn.

*Source: 1992 Code Sections 15-10-5(A)(3) and (E); Ord. 031023-10; Ord. 031211-11.*

#### **§ 6-3-77 EXCEPTIONS TO REQUIREMENT FOR ADMINISTRATIVE APPROVAL.**

(A) A city department or city contractor may maintain public trees in compliance with Section 6-3-6 (*Standards of Care for a Tree or Plant on Public Property*).

(B) A person may remove a tree or limb if a hazardous or dangerous condition exists because the tree or limb has fallen or is in imminent danger of falling.

(C) A person may remove a fallen tree or limb that blocks pedestrian or vehicular travel on a street or sidewalk.

(D) A public utility may remove a fallen tree or limb or a tree or limb that is in danger of falling to restore service or prevent damage to a utility line or facility.

(E) A person who complies with Section 6-3-62 (*Restriction of Location of Tree on Public Property*) or Section 6-3-64 (*Tree Use in Capital Improvements*) may perform work authorized by a site plan, subdivision development, or other development permit issued by the City.

(F) The urban forester may permit a person to perform minor maintenance on a public tree in compliance with Section 6-3-6 (*Standards of Care for a Tree or Plant on Public Property*).

Source: 1992 Code Sections 15-10-5(F) and 15-10-7 ; Ord. 031023-10; Ord. 031211-11.

### **Division 3. Appeal Process and Penalty**

#### **§ 6-3-91 APPEAL OF ACTION OF URBAN FORESTER.**

As prescribed by Section 6-3-93 (*Procedure for Appeal to Board*), a person may appeal to the board the urban forester's:

- (1) determination of conditions in an administrative approval;
- (2) denial of an application for an administrative approval; or
- (3) revocation of an administrative approval.

Source: 1992 Code Section 15-10-10(A); Ord. 031023-10; Ord. 031211-11.

#### **§ 6-3-92 APPEAL OF TREE VALUE.**

As prescribed by Section 6-3-93 (*Procedure for Appeal to Board*), a person may appeal the urban forester's determination of tree value under Section 6-3-63 (*Liability for Damage to a Public Tree*) or Section 6-3-75 (*Requirement to Replace Tree*) to the board.

Source: 1992 Code Sections 15-10-5(D), 15-10-8(A), and 15-10-10(A) and (B); Ord. 031023-10; Ord. 031211-11.

#### **§ 6-3-93 PROCEDURE FOR APPEAL TO BOARD.**

(A) A person must file a written notice of appeal under Section 6-3-91 (*Appeal of Action of Urban Forester*) or Section 6-3-92 (*Appeal of Tree Value*) not later than the 10th day following the urban forester's determination.

(B) The board shall hold a hearing not later than the 30th day following receipt of a notice of appeal, or at the earliest available date. The appellant shall be permitted to present evidence and testimony at the hearing. The board may overrule, sustain, or modify the urban forester's determination.

(C) The board shall send written notice of a hearing to the appellant, including the date and time of the hearing and a statement that the person may present evidence and testimony.

Source: 1992 Code Sections 15-10-5(D), 15-10-8(A), and 15-10-10(A) and (B); Ord. 031023-10; Ord. 031211-11.

#### **§ 6-3-94 APPEAL OF BOARD DECISION.**

(A) A person may appeal a decision of the board to the Planning Commission.

(B) The Planning Commission shall hold a hearing not later than the 30th day following receipt of a notice of appeal, or at the earliest available date. The appellant shall be permitted to present evidence and testimony at the hearing. The Planning Commission may overrule, sustain, or modify the board's decision.

(C) The Planning Commission shall send written notice of a hearing to the appellant, including the date and time of the hearing and a statement that the person may present evidence and testimony.

(D) An appeal under this section shall stay the board's decision and work is suspended.  
*Source: 1992 Code Section 15-10-10(C); Ord. 031023-10; Ord. 031211-11.*

**§ 6-3-95 PENALTY.**

A person who violates this article commits a Class C misdemeanor and is subject to the penalty prescribed by Section 1-1-99 (*Offenses; General Penalty*) not to exceed \$100 for each offense. Each occurrence of a violation of this article is a separate offense.

*Source: 1992 Code Section 15-10-99(B) and (C); Ord. 031023-10; Ord. 031211-11.*

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## **FY 2009 Accomplishments of the PARD Urban Forestry Program**

October 2008 through September 2009 has been a busy year!  
Notable accomplishments of the Urban Forestry Program include the following:

- 26 tree planting projects installed more than 2300 trees, more than doubling the greatest number planted in the history of the program
- Storm response in Austin and assistance to Houston through “Project We Care”
- External funding secured totaling \$1,251,402 to support major initiatives including:
  - \$1,000,000 from Austin Energy for street tree maintenance through Unity contractual
  - \$130,000 from Austin Energy bill donations to Planting for the Future for tree planting
  - \$89,374 from Watershed Protection and Development Review (WPDR) Urban Forest Grant Program (UFGP) for tree planting
  - \$25,580 in two grants from WPDR UFGP for interns and GPS units for forest inventory and analysis
  - \$1,959 in cash donations from the Christmas Tree Recycling event, deposited into Planting for the Future
  - \$2,999 deposited into Planting for the Future from paid claims compensating for illegal tree damage
  - \$1490 for memorial tree plantings
- Planned and hosted tree planting events for Arbor Day, Veteran’s Day, and Martin Luther King
- Advised, planned, and participated in a tree planting event at Pleasant Hill Elementary School in conjunction with the National Arbor Day Association. This school was one of the top ten awarded grants in the Nation chosen from a large competitive pool of applicants
- Facilitated Christmas tree recycling
- Improved web based informational services
- Partnered with a multitude of departments, groups, organizations, and individuals who contributed approximately \$609,560 worth of leveraged contribution
  - 3,000 hours of volunteer service (valued at \$60,750)
  - 4,200 cubic yards of mulch (valued at \$226,800)
  - Irrigation systems at Pease Park, Northwest Park, and Northstar Greenbelt (valued at \$27,500)
  - 360 cubic yards of Dillo Dirt (valued at \$29,160)
  - Professional services at Treaty Oak, Commons Ford, Givens, Brush Square, and Palmer Events Center (valued at more than \$12,000)
  - 8 transplanted pecans to Butler Ball Fields (valued at \$9,450)
  - 36 transplanted crape myrtles, mountain laurels, yaupon hollies, and red buds to Zilker Elementary School Park (valued at \$18,000 moving service and \$36,000 tree value for a total of \$54,000)
  - 1 transplanted live oak to Town Lake Park (valued at \$20,000 moving service and \$20,000 tree value for a total of \$40,000)
  - Participated on a re-design of Republic Square centered around the revitalization of the historic Auction Oaks
  - Financial commitments for tree planting and care by Austin Parks Foundation for Barton Springs Pool and Zilker Park exceeding \$150,000
- Created, facilitated, and hosted an Urban Forest Steward training class series for citizens
- Defended the City of Austin against 21 damage claims involving trees
- Investigated and appraised 22 cases involving illegal damage to public trees and worked with the City of Austin Legal Department, Claims Division to facilitate deposit of \$3,649.05 from 6 of the cases into the

- Provided multiple training sessions and presentations to City of Austin staff and citizens
- Provided consultation and professional services to numerous city departments and city staff on a multitude of projects and initiatives including Austin Community Trees and Austin Tree of the Year.
- Completed work orders as illustrated below:

Requested	Completed
-----------	-----------

After Hours - Emergency	340	300
Blind Corner	26	24
Brush Removal	164	135
Dead Wood Trim	17	11
Down Limb	21	18
Down Tree	146	134
Inspection - Blind Corner	183	171
Inspection - Park	190	174
Inspection - Tree	767	699
Limb Hanger	151	134
Limb Low	26	22
Mulching	43	26
Pruning	67	36
Special Events	6	6
Tree-Stump Removal	146	107
Miscellaneous	9	6
<b>TOTAL Work Orders (9/1/09)</b>	<b>2302</b>	<b>2003</b>

Total number of trees removed	351
Total number of trees pruned	1892

Unity = Tree Maintenance	Estimated for FY	Avg/Month
Work Orders Completed	492	41
Trees Removed	732	61
Trees Pruned	3324	277





# PARKS & RECREATION FORESTRY

## TREE EVALUATION FORM

Protected size tree? Y / N

Permit secured? Y / N

AE assistance needed? Y / N

Date AE worked:

**Location:** ROW / COA property / Parkland

**Property address:** \_\_\_\_\_

**Date:** \_\_\_\_\_ **Inspector:** \_\_\_\_\_

### 1. TREE CHARACTERISTICS

**DBH:** \_\_\_\_\_ **Species:** \_\_\_\_\_

**Estimated height & canopy spread:** \_\_\_\_\_

**Age class:** young / mature / over-mature / dead (if dead, there is no need to fill out section 2)

**Percent deadwood:** \_\_\_\_\_%

**Form:** generally symmetric / minor asymmetry / major asymmetry / stump sprout

**Pruning history:** crown cleaned / excessively thinned / topped / crown raised  
pollarded / crown reduced / utility clearance / storm damage cleaning / none

**Crown class:** dominant / co-dominant / intermediate / suppressed

### 2. TREE DEFECTS

Defect	Root crown	Trunk	Scaffolds	Branches	Other notes
Poor taper					
Codominants/forks					
Multiple attachments					
Included bark					
Excessive end weight					
Cracks/splits					
Hangers					
Girdling					
Wounds					
Decay					
Cavity					
Conks/Mushrooms					
Bleeding					
Loose/cracked bark					
Nesting hole/bee hive					
Deadwood/stubs					
Borers/termites/ants					
Cankers/galls					
Previous failure					

### 3. TARGET

**Use under tree:** building / parking / traffic / pedestrian / recreation / landscape / hardscape

**Occupancy:** occasional use / medium, intermittent use / frequent use **Can target be moved?** Y / N

### 4. RISK RATING

**Failure potential:** 1 2 3 4 **Size of Part:** 1 2 3 **Target:** 1 2 3 **Other Risk Factors:** 0 1 2

**Risk rating:** Low: 3 4 Moderate: 5 6 High: 7 8 9 Extremely high: 10 11 12

### 5. RISK ABATEMENT

**Action:** prune / remove **Comments:** \_\_\_\_\_

## TREE EVALUATION FORM CONTINUED

**\*THIS SIDE TO BE USED AS NEEDED\***

### 1. TREE HEALTH

**Foliage color:** normal / chlorotic / necrotic

**Foliage density:** normal / sparse

**Annual shoot growth:** excellent / average / poor

**Callus development:** excellent / average / poor / none

**Vigor class:** excellent / average / fair / poor

**Major pests/diseases:** \_\_\_\_\_

**Epicormics?** Y / N

**Leaf size:** normal / small

**Twig dieback?** Y / N

### 2. TREE DEFECTS

Levels of defect severity: S = severe defect, high potential for failure

M = defect of moderate severity

L = defect of low severity

#### *Lean*

**Lean:** \_\_\_\_\_ degrees from vertical natural or unnatural

**Decay in plane of lean?** Y / N

**Roots exposed?** Y / N

**Soil heaving?** Y / N

**Soil cracking?** Y / N

**Lean severity:** S / M / L

**Compounding factors:** \_\_\_\_\_

#### *Root Defects*

**Suspect root rot?** Y / N

**Mushroom/conk present?** Y / N ID: \_\_\_\_\_

**Exposed roots:** S / M / L

**Undermined:** S / M / L

**Root pruned:** \_\_\_\_\_ feet from trunk

**Root area affected:** \_\_\_\_\_%

**Buttress wounded?** Y / N

**Restricted root area:** S / M / L

**Potential for root failure:** S / M / L

### 3. SITE CONDITIONS

**Site character:** residence / commercial / industrial / park / open space / natural / other: \_\_\_\_\_

**Landscape type:** parkway / raised bed / container / open / other: \_\_\_\_\_

**Irrigation:** none / adequate / inadequate / excessive / trunk wetted

<b>% dripline paved:</b>	0%	10-25%	25-50%	50-75%	75-100%
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<b>% dripline w/ fill soil:</b>	0%	10-25%	25-50%	50-75%	75-100%
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<b>% dripline grade lowered:</b>	0%	10-25%	25-50%	50-75%	75-100%
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**Soil problems:** drainage / shallow / compacted / small volume / other: \_\_\_\_\_

**Obstructions:** lights / signage / line of sight / view / overhead lines / traffic / other: \_\_\_\_\_

**Wind (tree position):** single tree / below canopy / above canopy / recently exposed / canopy edge

### 4. OTHER FACTORS

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[illegible]

[illegible]

# Planting Site Details for the 2009-2010 Planting Season

Location	Bartholomew	Civitan PLANTED 10-24	Pease Park	Walnut Creek Metro	Crestmont	Austin Nature and Science Center	Gus Garcia	51st St (183 to Springdale)	North Loop Street trees	Austin Memorial Cemetery	Barton Springs Pool	Town Lake Park at Cesar Chavez and Congress	Mary Moore Searight	Morris Williams	Zilker ES	Jester Blvd. Median	Terrazas Branch Library	University Hills Library	Keeling (Leaf for Leaf)	Yarborough Library	Windsor Library	Ruiz Library	Midwood Parkway Median	Millenium Youth Complex
Oak, Live 15 gal				8								10							7					
Oak, Live 30 gal										6														
Oak, Live (Escarpment) 15 gal			10																					
Oak, Live (Escarpment) 30 gal																								
Oak, Live (Escarpment) 45 gal			1																					
Oak, Shumard 5 gal																								
Oak, Shumard 15 gal								12																
Oak, Mexican white 5 gal																								
Oak, Mexican white 15 gal	2	7	11	7				14											3					
Oak, Mexican white 30 gal										5				24										1
Oak, Mexican white 100 gal																								
Oak, Texas Red (buckleyi) 5 gal																								
Oak, Texas Red (buckleyi) 15 gal			13					12						14										
Oak, Texas Red (buckleyi) 30 gal										6														7
Oak, Texas Red (buckleyi) 45 gal											2							1						
Pecan bare root seedling													50											
Pecan 5 gal																								
Pecan 15 gal		19	8			1						8					1		1					
Pecan 30 gal		4																						
Pecan (native) 45 gal											1													
*Persimmon, Common 15 gal																								
Red cedar, eastern 5 gal																								
Red cedar, eastern 15 gal								25																
*Soapberry, Western 5 gal																								
*Soapberry, Western 15 gal																								
Sycamore, American 45 gal											2													
Sycamore, Mexican 5 gal																								
Sycamore, Mexican 15 gal				14																				
Sycamore, Mexican 20 gal																								
Sycamore, Mexican 45 gal											8													
*Walnut, Black 5 gal																								
*Walnut, Texas or Little or AZ 15 gal			6	9																				
*Walnut, Black 15 gal																								
total large trees	8	43	109	52	17	6	0	164	17	17	34	31	150	80	0	0	2	1					29	8

# Planting Site Details for the 2009-2010 Planting Season

Planting Site Details for the 2009-2010 Planting Season																								
Location	Bartholomew	Civitan PLANTED 10-24	Pease Park	Walnut Creek Metro	Crestmont	Austin Nature and Science Center	Gus Garcia	51st St (183 to Springdale)	North Loop Street trees	Austin Memorial Cemetery	Barton Springs Pool	Town Lake Park at Cesar Chavez and Congress	Mary Moore Searight	Morris Williams	Zilker ES	Jester Blvd. Median	Terrazas Branch Library	University Hills Library	Keeling (Leaf for Leaf)	Yarborough Library	Windsor Library	Ruiz Library	Midwood Parkway Median	Millenium Youth Complex
Buckeye, Mexican 5 gal																								
Buckeye, Mexican 15 gal	1																							
*Buckeye, Red 5 gal																								
*Buckeye, Red 15 gal																								
Buckthorn, Carolina 5 gal																								
Buckthorn, Carolina 15 gal																								
Crape myrtle white 15 gal		19					30			17													5	
Crape myrtle lavendar 30 gal									15															
*Dogwood, Roughleaf 5 gal																								
*Dogwood, Roughleaf 15 gal					5																			
Eve's necklace 5 gal																								
Eve's necklace 15 gal	3											6												
Holly, possumhaw 5 gal																								
Holly, possumhaw 15 gal	2			10	6	2																		
Holly, possumhaw 30 gal											1													
Holly, possumhaw 45 gal											2													
Holly, Yaupon 5 gal																								
Holly, Yaupon 15 gal		5																						
Holly, Yaupon 45 gal											1													
Jerusalem thorn 5 gal																								
Jerusalem thorn 15 gal																								
Kidneywood, Texas 5 gal																								
Kidneywood, Texas 15 gal	3					2																		
Kidneywood, Texas 30 gal											10													
Lead tree, goldenball 5 gal																								
Lead tree, goldenball 15 gal	4				5																			
*Madrone, Texas 5 gal																								
*Madrone, Texas 15 gal																								
Mountain Laurel, Texas 5 gal																								
Mountain Laurel, Texas 15 gal			7	15	7			9				7				1			2					
Mountain Laurel, Texas 30 gal											5													
Mountain Laurel, Texas 45 gal											5													
Orchid tree, Anacacho 5 gal																								
Orchid tree, Anacacho 15 gal	3															1				1		30		

# Planting Site Details for the 2009-2010 Planting Season

Location	Bartholomew	Civitan PLANTED 10-24	Pease Park	Walnut Creek Metro	Crestmont	Austin Nature and Science Center	Gus Garcia	51st St (183 to Springdale)	North Loop Street trees	Austin Memorial Cemetery	Barton Springs Pool	Town Lake Park at Cesar Chavez and Congress	Mary Moore Searight	Morris Williams	Zilker ES	Jester Blvd. Median	Terrazas Branch Library	University Hills Library	Keeling (Leaf for Leaf)	Yarborough Library	Windsor Library	Ruiz Library	Midwood Parkway Median	Millenium Youth Complex
Orchid tree, Anacacho 45 gal											6													
*Persimmon, Texas 5 gal																								
*Persimmon, Texas 15 gal																								
*Pistache, Texas 5 gal																								
*Pistache, Texas 15 gal																								
Plum, Mexican 5 gal																								
Plum, Mexican 15 gal			11		5	1						8												
Redbud, Mexican 5 gal																								
Redbud, Mexican 15 gal		5			5																			
Redbud, Mexican 45 gal											2													
Redbud, Texas 5 gal																								
Redbud, Texas 15 gal			16													1								
Redbud, Texas 30 gal						4					3													
Smoke tree, American 5 gal																								
Smoke tree, American (Purple) 15 gal		14						38						20										
Smoke tree, American (Purple) 30 gal		1																						5
Smoke tree, American 45 gal											2													
Sumac, Evergreen 5 gal																								
Sumac, Evergreen 15 gal				14	7																			
Sumac, Prairie Flame Leaf 5 gal																								
Sumac, Prairie Flame Leaf 15 gal																								
Sweetwood, Arroyo 5 gal																								
Sweetwood, Arroyo 15 gal																								
*Viburnum, Rusty blackhaw 5 gal																								
*Viburnum, Rusty blackhaw 15 gal		7																						
*Viburnum, Sandankwa 5 gal																								
*Viburnum, Sandankwa 15 gal		6																						
Wax-myrtle, southern 5 gal																								
Wax-myrtle, southern 15 gal																								
Willow, desert 5 gal																								
Willow, desert 15 gal		6																						
Willow, desert 30 gal											2													
<i>total small trees</i>	16	63	34	39	40	9	30	47	15	17	39	21	0	20	0	3	0	0					5	5
<b>Total large and small trees</b>	<b>24</b>	<b>106</b>	<b>143</b>	<b>91</b>	<b>57</b>	<b>15</b>	<b>30</b>	<b>211</b>	<b>32</b>	<b>34</b>	<b>73</b>	<b>52</b>	<b>150</b>	<b>100</b>	<b>0</b>	<b>3</b>	<b>2</b>	<b>1</b>				<b>31</b>	<b>5</b>	<b>13</b>

Planting Site Details for the 2009-2010 Planting Season									
Location	Planting Date	Planting Time	Planting Method	Planting Species	Planting Quantity	Planting Notes	Planting Status	Planting Contact	Planting Cost
Bartholomew									
Civitan PLANTED 10-24									
Pease Park									
Walnut Creek Metro									
Crestmont									
Austin Nature and Science Center									
Gus Garcia									
51st St (183 to Springdale)									
North Loop Street trees									
Austin Memorial Cemetery									
Barton Springs Pool									
Town Lake Park at Cesar Chavez and Congress									
Mary Moore Searight									
Morris Williams									
Zilker ES									
Jester Blvd. Median									
Terrazas Branch Library									
University Hills Library									
Keeling (Leaf for Leaf)									
Yarborough Library									
Windsor Library									
Ruiz Library									
Midwood Parkway Median									
Millenium Youth Complex									
Planting Season Total	1142								



## Illegal Damage Report Spreadsheet

Report #	Address	DATE OF DAMAGE	INSPECTOR	DATE INSPECTED	TOTAL \$ ASSESSED	STATUS	DATE Claims	FURTHER ACTION?	Claim paid in full	Date paid	Last date paid
	1600 Barton Springs Rd	n/a		4/25/2008	37550	Complete					
08-0790211	2100 Barton Hills Dr	3/19/2008	EK & LM	5/1/2008	N/A	No action					
08-0790200	3616 1st St S	3/19/2008	EK & LM	5/1/2008	N/A	No action					
08-5022965	1806 Riverside Dr. E	2/3/2008	WP, PG, EK	5/5/2008	6350	Claims	7/10/2008	No			
07-2020859	1004 Daniel St	7/21/2007	EK	5/6/2008	9700	Claims	5/6/2008				
08-0320962	400 1st St S	2/1/2008	EK & LM	5/6/2008	508.12	Claims	6/6/2008	no	5/22/1901	7/3/2008	
08-0880762	2020 Congress Ave S	3/28/2008	EK & LM	5/8/2008	608.12	Claims	6/13/2008	no	608.12	8/5/2008	
08-0461650	10140 Old San Antonio Rd	2/15/2008	EK & LM	5/8/2008	N/A	No action					
08-0842211	8200 Old Bee Caves Rd	3/24/2008	EK & LM	5/8/2008	N/A	No action					
08-5022968	111 Cesar Chavez E	4/14/2008	EK & WP	5/9/2008	12865.29	Claims	11/24/2008	Pruning treatment; remove			
08-0951987	2200 Stassney Ln E	4/4/080	EK & LM	5/13/2008	1210	Claims	5/13/2008	Remove			
08-0470995	1100 Cesar Chavez W	2/16/2008	EK & LM	5/13/2008	1790	Claims	5/13/2008	Remove	1790	7/1/2008	
08-0661173	8100 Cross Park Dr	3/6/2008	EK	5/23/2008	708.12	Claims	6/13/2008	no	708.12	8/20/2008	
08-0330521	15100 Avery Ranch Blvd	2/2/2008	EK	5/23/2008	N/A	No action					
08-0481190	800 Howard Ln E	2/17/2008	EK	5/23/2008	N/A	No action					
08-0890386	2900 Lamar Blvd N	3/29/2008	EK	6/2/2008	N/A	No action					
08-1020124	2900 Lamar Blvd N	4/11/2008	EK	6/2/2008	N/A	No action					
08-0621723	6300 City Park Dr	3/2/2008	EK	6/3/2008	1571.93	Claims	7/11/2008	Remove			12/18/2009
08-5032408	1000 Melissa Ln	~4/15/08	EK	6/13/2008	8505	No action					
08-1450995	7200 Rialto Blvd	5/24/2008	EK	6/20/2008	1300	Claims	6/20/2008				
08-1311427	1200 Cesar Chavez W	5/10/2008	EK	6/20/2008	N/A	No action					
08-160113	1300 Rundberg Ln E	6/8/2008	EK	7/24/2008	1901.93	Claims	7/25/2008	Remove			
08-1671938	2400 Pleasant Valley S	6/15/2008	EK	7/24/2008	2550.36	Claims	7/25/2008	Remove			7/29/2010
08-1941359	4500 E Stassney Ln	7/12/2008		8/25/2008	1100	Claims	8/26/2008		1100	12/1/2008	
81990223	2300 IH-35 service rd	7/17/2008	EK	8/25/2008	N/A	No action					
	Mex. Amer. Cultural Center	9/1/2008	EK	9/10/2008	165.93	Claims	10/6/2008	prune	165.93	12/1/2008	
08-2361229	2700 Guadalupe St	8/23/2008	EK	10/7/2008	782.97	Claims	10/10/2008	Remove			
08-2350788	5600 West Gate	8/22/2008	EK	10/22/2008		No action					
08-2770439	9800 Aberdeen Way	10/3/2008	EK	11/4/2008	N/A	No action					
08-3051906	15300 Avery Ranch Blvd	10/31/2008	EK	11/18/2008	650	Claims	11/20/2008		650	1/12/2009	
08-2130329	2200 W Braker Ln	7/31/2008	EK/PG	11/24/2008	1083.12	Claims	12/3/2008		1083.12	2/23/2009	
08-3110459	2100 E Riverside Dr	11/6/2008	EK	12/1/2008	3653.44	Claims	12/15/2008				
08-2226392	1100 Cesar Chavez W	8/9/2008	EK	12/8/2008	1300	Claims	12/9/2008				
08-0991009	5000 Mopac N	4/8/2008				No action					
08-2342645	20 S 1st	8/21/2008	EK		N/A	No action					
08-3391492	5200 Berkett Dr	12/4/2008	EK	1/13/2009	N/A	No action					
08-3610440	6000 City Park Dr	12/26/2009	EK	2/1/2009	N/A	No action					
09-0611724	Research south bound	3/2/2009	EK		N/A	No action					

Report #	Address	DATE OF DAMAGE	INSPECTOR	DATE INSPECTED	TOTAL \$ ASSESSED	STATUS	DATE Claims	FURTHER ACTION?	Claim paid in full	Date paid	Last date paid
08-83250086	Oliver Loving @ Escarpment	11/20/2008	EK	4/13/2009	152.6	Claims	4/13/2009				
09-1070244	2800 Pearl St ALLEY	4/17/2009	EK	7/7/2009	n/a	No action					
09-1530469	7400 Slaughter Ln W	6/2/2009	EK	6/19/2009		No action					
09-1180130	5000 Stassney Ln E	4/28/2009	EK	2/17/2010	4900	Claims	2/18/2010		4900	6/7/2010	
09-1720742	8000 Oak Shores	6/21/2009	PG	7/10/2009	n/a	No action					
09-1970554	2400 Lakeshore Blvd S	7/16/2009	EK	7/16/2009	pending						
08-3321344	12240 Jollyville Rd	11/27/2008	EK	8/3/2009	n/a	No action					
09-2290233	1900 Riverside Dr. E	8/17/2009	EK	9/8/2009	4101.93	Claims	9/8/2009				
09-2230804	2200 San Gabriel	8/11/2009	EK	9/8/2009	n/a	No action					
09-2201509	2900 Martin luther King E	8/8/2009	EK	9/8/2009	322.12	Claims	2/3/2010				
09-2490712	400 block 6th st E	9/6/2009	EK	9/8/2009	pending						
09-2510018	1300 Madison Ave	9/8/2009	EK	11/2/2009	n/a	No action					
09-2742546	1300 Cesar Chavez W	10/1/2009	EK	11/2/2009 2-3-2010	n/a	No action	n/a				
09-2490341	Parkfield at W Braker	9/6/2009	EK	11/3/2009	n/a	no action					
09-2780248	7300 IH-35 service rd	10/5/2009	EK	2/3/2010	N/A	No action					
09-2941021	Lakewood @ 360	10/21/2009	EK	2/10/2010	n/a	No action	n/a				
09-2980412	1825 @ IH-35	10/25/2009	ek	2/3/2010	N/A	No action					
09-2961489	4500 E Stassney Ln	10/23/2009	ek	2/18/2010	2890	Claims	2/18/2010	claim in part	2318.44	5/18/2010	
09-3251427	2038X W Stassney Ln	11/21/2009	ek	2/18/2010	n/a	No action	n/a				
09-3161233	4100 Airport Blvd	11/12/2009	EK	2/10/2010							
09-3220443	8800 Pleasant Ln	11/18/2009	EK	2/10/2010	n/a	No action	n/a				
09-3330827	5900 Convict Hill	11/29/2009	EK	2/17/2010							
10-0150431	9200 W Great Hills Trail	1/15/2010	EK	2/10/2010	815.77	Claims	2/10/2010	claim in full	815.77	5/18/2010	
10-0011380	4300 S 1st	1/10/2010	EK	2/17/2010	pending						
10-0310537	6600 Davis Ln	1/31/2010	EK	3/18/2010	pending						
10-630769	500 San Jacento	3/6/2010	EK	3/23/2010	n/a	No action					
10-0652897	6700 Riverside Dr. E	3/6/2010	EK	4/20/2010	1391	Claims	4/20/2010	claim in full	1391.48	6/15/2010	
10-0900496	FM 2222	3/31/2010									
10-0700536	4300 Manor Rd	3/11/2010	EK	Mar-10	5000	Claims	Mar-10				
09-2151801	1910 Braker Ln W	8/3/2009	Ek	4/20/2010	n/a	No action					
10-0700030	5204 Mt. Bonnell Rd.	3/11/2010	WP	5/6/2010	n/a						
10-1221806	200 N 183	5/2/2010	EK AH	5/26/2010	n/a	No action	n/a				
10-1040914	2600 Slaughter Ln W	4/14/2010	EK AH	5/26/2010	600	Claims	5/27/2010				
10-1160747	12100 Jekel Cir	4/26/2010	EK AH	5/20/2010	n/a	No action					
09-2932033	12400 Riata Trace Pkwy	10/20/2010	Ek AH	5/20/2010	n/a	No action					
10-1110245	1500 Barton Springs Rd	4/21/2010	EK & AH	5/18/2010	1695.75	Claims	6/16/2010				
10-1570283	4200 Airport Blvd	6/6/2010	EK & AH	6/18/2010	n/a	No action	n/a				
10-1811808	900 E Dean Keaton	6/30/02010	EK & AH	7/20/2010	n/a	No action					



# **Urban Forest Inventory Report For the Transit Corridors and Parks City of Austin, Texas**



## Executive Summary

On October 22, 2007 the City of Austin awarded a contract to ArborPro, Inc. to provide a GPS tree inventory of trees on selected City transit corridors, neighborhoods and park locations. On November 9, 2007 the inventory was initiated with the GPS data collection. ArborPro, Inc. assigned three data collectors to collect the requested tree attributes and the GPS coordinates of every tree. The collection of data continued into the spring of 2008. The objective of this report is to summarize the findings from the survey.

The survey provides information regarding the tree population of the area known as the "Transit Corridors". These 16 arterial streets were selected for their population density, mix of uses and transit facilities to encourage and support transit use. Also surveyed were 24 city parks and select representative neighborhood zones. Included in the survey are the GPS locations of the trees, species name in Latin and common form, general health assessment, maintenance recommendation and species composition.

### Statistical Highlights:

- There are 6,465 trees in the street survey area representing nearly 150 different species.
- There are 8,460 trees in the park survey. 96 different species are represented.
- Crape Myrtles, Southern Live Oaks and Cedar Elms are some of the most abundant trees in the survey in both parks and streets.
- 115 trees are creating sidewalk damage on the streets and another 39 have conflicts with pathways and hardscape in the parks.
- Most trees planted on the streets are near or under utility wires. Only 12% of parks trees are under or near a power line.
- There are almost 10,000 spaces identified to plant trees on the street corridors. These spaces have been categorized into small, medium and large planting sites for simplified planning and reforestation by City staff.
- The GPS points were collected for every tree in the survey at an accuracy level of +/- 3 feet also referred to as "Sub-meter".
- Maintenance recommendations for each tree have been provided to help preserve and enhance the overall health of the tree population and appearance of the City.

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## Introduction and Background

Prior to initiating the project, ArborPro inventory staff members conferred with the key personnel from the City of Austin. During this conference, discussions were held to outline the project objectives, inventory attributes, project timeline and layout the final report and data delivery.

Each urban forestry plan begins with a concise inventory. As requested by Austin staff, the City has been delivered more than a simple inventory of trees. Utilizing the Global Positioning System (GPS) and Geographic Information System (GIS) technology, a comprehensive tree inventory and a GIS layer was supplied to maintain and utilize the information. A GIS is a computer based tool for mapping and analyzing tree information in a visual manner. GIS technology integrates common database operations with the unique visualization and geographic benefits offered by maps. This inventory will allow the tree data to be overlaid with other relevant data including roadways and pathways, irrigation and hardscape infrastructure, building footprints and others.

The street tree data collected is a very detailed list of 16 elements with a further 46 subset codes. The park data follows with 13 attributes and 40 subcodes. Herein are summations of the primary tree population's information, species diversity, size characteristics, maintenance needs and listings of species that are in poor or declining health. Additionally, the parks have been mapped with polygons that represent larger scale planting zones to provide a guideline in the open space for park reforestation.

All of these tree sites and polygons are displayed over high resolution orthophotography for a unique, simple and effective way to access and view the information. The data and visual information provided in this report will assist and guide the future maintenance and management practices of these zones within the City.

## Abbreviations Used in the Report

- DBH..... Diameter at Breast Height (girth of a tree)
- GIS..... Geographic Information System
- GPS..... Global Positioning System
- ID..... Identification
- SPP..... Species
- USDA..... United States Department of Agriculture

## Study Site

The USDA plant hardiness map divides North America into 11 hardiness zones (USDA Misc. Publication No. 1475, January 1990). Zone 1 is the coldest; zone 11 is the warmest. This gives the user a guideline as to which plants or trees have the greatest survivability in the region. The City of Austin lies within the USDA hardiness zone 8B representing an average high temperature of nearly 72 degrees and a minimum temperature of 15 degrees. The statistics show that the most common species found in the survey are consistent with species that thrive in this region as listed by the Texas Forest Service and Texas A&M's "Texas Tree Planting Guide".



Figure 1 – Study Area Map

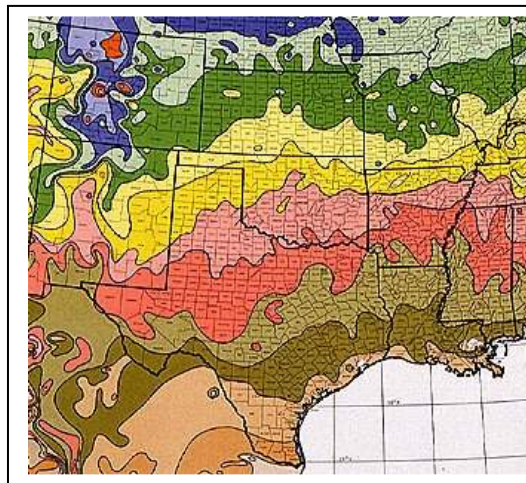
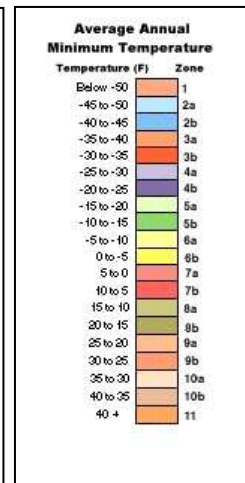


Figure 2 – Close up of Austin Climate Zone



## Study Methodology

### Project Description

The primary objective for this project was to provide the City with a comprehensive tree inventory of gateway streets and parks to provide guidance for the Urban Forestry staff. The following list of data was collected as well as the GPS coordinates for each tree.

### Physical Address

Fabricated/fictitious addresses will be indicated with an "x" after the numeric portion.

1. Street code attribute
2. Tree number at site

**TreeId** - a number assigned to each tree within a particular city in order to distinguish trees and count the number of trees per city. Each record must have a TreeId; it must be numeric and unique.

**Zone** - an alphanumeric code. Street=1, Parks=2

**SpCode** - an alphanumeric code consisting of the first two letters of the genus name and the first two letters of the species name followed by two optional letters or numbers to distinguish two species with the same four-letter code.

**Planting Site** will be recorded as:

Vacant Large: planting space at least 10' wide, 40' between spaces.

Vacant Medium: planting space less than 10' wide, 30' spacing.

Vacant Small: less than 10' wide OR overhead utility present, 20' between spaces.

**LandUse** - a numeric code to describe the type of area where the tree is growing. The default values are as follows:

1 = residential

2 = Multi-family residential (duplex, apartments, condos)

3 = Industrial/large commercial

4 = Park/vacant/other (agricultural, riparian areas, greenbelts, park, etc.)

5 = Small commercial (minimart, retail boutiques, etc.)

**LocSite** - a numeric code to describe the kind of site where the tree is growing. The default values are as follows:

1 = Front yard

2 = Planting strip

3 = Cutout (tree root growth restricted on all four sides by hardscape within dripline)

4 = Median

5 = Other maintained locations

6 = Other un-maintained locations

7 = Backyard ROW

**DBH** - a numeric entry for the diameter at breast height (4.5 ft [1.37 m] above the ground). To nearest inch.

**MtncRec** - a numeric code to describe the recommended maintenance for the tree. The default values are as follows:

1 = **None** - tree does not need immediate or routine maintenance.

2 = **Young tree (routine)** - tree is less than 18 ft. tall and in need of maintenance; health or longevity of tree is not compromised by deferring maintenance for up to five years.

3 = **Young tree (immediate)** - tree is less than 18 ft. tall and in need of maintenance; deferring maintenance beyond one year would compromise health or longevity of tree.

4 = **Mature tree (routine)** - tree is more than 18 ft. tall and in need of maintenance; health or longevity of tree is not compromised by deferring maintenance for up to five years.



5 = **Mature tree (immediate)** – tree is more than 18 ft. tall and in need of maintenance; deferring maintenance beyond one year would compromise health or longevity of tree.

6 = **Critical concern (public safety)** – tree should be inspected without delay. Trees will be reported to City delegate within 24 hours.

**PriorityTask** - a numeric code to describe the highest priority task to perform on the tree.

The default values are as follows:

1 = **None** – tree does not need maintenance.

2 = **Stake/train** – staking or training needed to encourage a straight trunk, strong scaffold branching, or eliminate multiple leaders, crossing branches, and girdling ties. Includes removing or replacing stakes and ties to prevent damage to tree bole.

3 = **Clean** – crown needs cleaning to remove dead, diseased, damaged, poorly attached, or crossing branches to increase health or longevity of tree.

4 = **Raise** – crown should be raised by removing lower branches from the tree trunk to eliminate obstructions or clearance issues.

5 = **Reduce** – crown should be reduced/thinned by pruning to reduce tree height, spread, overcrowding, wind resistance, or an increase of light penetration.

6 = **Remove** – tree is dangerous, dead or dying, and no amount of maintenance will increase longevity or safety.

7 = **Treat pest/disease** – insects, pathogens, or parasites are present and detrimental to tree longevity; treatment should be given to maintain longevity.

**SwDang** – limit to 1” or better only and record as Y/N. Trees with no sidewalk damage will be recorded as =0/null

**WireConflict** – a numeric code to describe utility lines that interfere with or are present above a tree. The default will be Y/N.

**CondWood** – a numeric code to describe the health of the tree’s wood (its structural health) as per adaptation of the Council of Tree and Landscape Appraisers (CTLA) tree appraisal standards (CTLA, 2000. Guide for Plant Appraisal, 9th Ed.)



Classes must be ordered in ascending order with the poorest rating having the lowest numerical value. If no condition value is available, (0) zero will be entered for each record.

0 = **null**

1 = **Dead or Dying** - extreme problems

2 = **Poor** - major problems

3 = **Fair** - minor problems

4 = **Good** - no apparent problems

**CondLvs** – a numeric code for the health of the tree’s leaves (its functional health) as per adaptation of CTLA tree appraisal (CTLA, 2000. Guide for Plant Appraisal, 9th Ed. Savoy, IL: ISA, 143 pp): Classes must be ordered in ascending order with the poorest rating having the lowest numerical value. If no condition value is available, (0) zero will be entered for each record.

0 = **none**

1 = **Dead or dying** - extreme problems

2 = **Poor** - major problems

3 = **Fair** - minor problems

4 = **Good** - no apparent problems

#### **Risk Assessment**

Utilize the “Guide for Risk rating Codes” companion to the Community Tree Risk Evaluation Form. Any tree receiving a risk assessment score of 10 or greater must be reported to the City representative within 24 hours of initial review.

#### **Additional Field added for Parks**

**Highest Priority Defect** – to allow for easy identification of tree defects in a park setting.

1 = **Null**

2 = **Dead Wood**

3 = **Crack**

4 = **Weak branch union**

5 = **Decay**

6 = **Canker**

7 = **Root problem**

8 = **Poor architecture**

9 = **Other**



## GPS Data Collection

Using GPS and GIS for tree inventories is the preferred method for collecting data for the following reasons:

- GPS is incredibly accurate. The equipment used was a Trimble Pro XRS capable of accuracy of +/-3 feet. Offset distances were used only where signal conflicts existed which were rare on the City.
- Data is collected in real time on the handheld computer while the GPS unit acquires the satellite connection for the location.
- Data logged into the backpack system is then downloaded to a GIS system for easy handling of the information.
- GIS then allows the user to sort, calculate and otherwise process the raw data into a useful format.



Why GPS and GIS? Park's open space environments pose unique challenges to the urban forest manager. Without the constraints posed by hardscape and roadway as a limiting factor for growth and tree selection, a wider distribution of species can make the management of the properties more complex.

Further, scheduling maintenance can be difficult without the use of the street address-based tree locating method, commonplace in municipal urban forests. Using GPS and aerial mapping, the urban forest administrator for the parks environments similar to Austin's can rapidly select trees for work orders and then schedule and direct workers to the exact maintenance locations for maximum time and resource management.

### GIS User Interface

ArborPro has delivered the dataset in a format that is consistent with the STRATUM system and ESRI GIS systems.

Stratum is an analysis tool for urban forest managers that uses tree inventory data to quantify the dollar value of annual environmental and aesthetic benefits: energy conservation, air quality improvement, CO2 reduction, storm water control, and property value increase. The baseline data provided can be used to effectively manage the resource, develop policy and set priorities. Using the inventory of street trees, this software allows managers to evaluate current benefits, costs, and management needs\*.

\*from the USFS Center for Urban Forest Research website.

## Study Results

### Size Characteristics

The size of a tree provides insight into the age and value of the tree. There are two industry-wide recognized size characteristics, height and diameter at breast height. While height was not collected as part of this survey, diameter at breast height (DBH) was determined by the diameter of the tree at 4.5 feet above grade. The DBH is represented in ranges due to the dynamic growth rate of trees.

Table 1 – Street Tree Diameter

Diameter in 10 Inch ranges	Count
0 to 10	4340
10 to 20	1567
20 to 30	401
30 to 40	125
Over 40	32

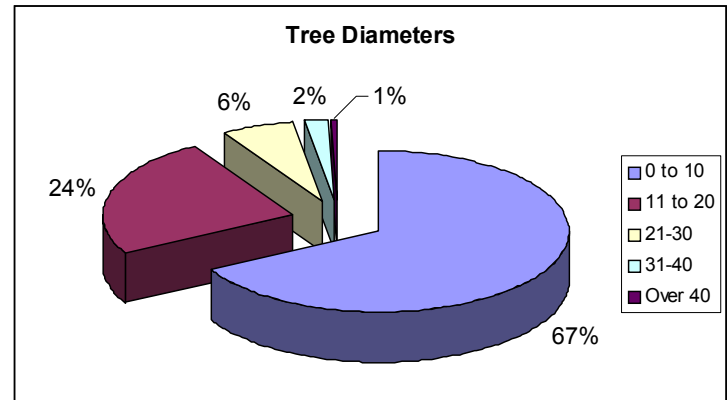
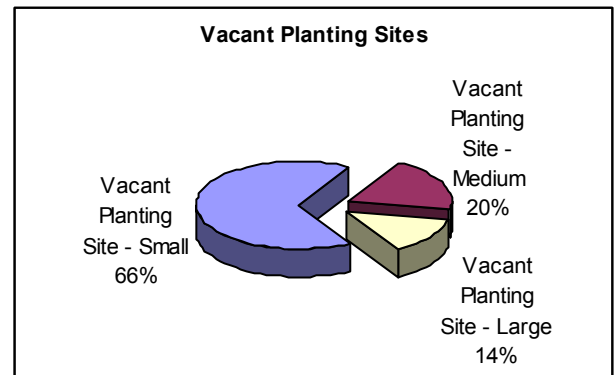


Table 2 – Vacant Planting Sites on Streets

Vacancies by Size	Count
Vacant Planting Site - Small	6609
Vacant Planting Site - Medium	1970
Vacant Planting Site - Large	1364



### Size Trends

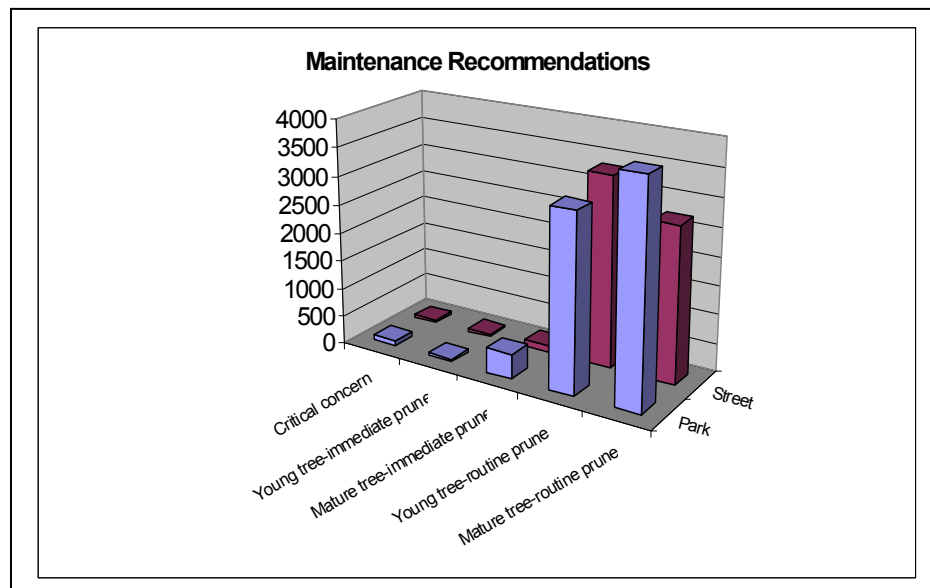
The characteristic results show an urban forest with fewer mature sized trees on the streets and an overabundance of smaller specimens as well as many available small, medium and large planting sites. The results of species selection could be a product of many of these sites being in proximity to power lines and impacted by traffic on the streets and the need for clearance. Of the top 20 trees planted under power lines, 50% are small stature trees including Crape Myrtle and Texas Mountain Laurel that will benefit the City without impacting the power infrastructure. As for the larger trees, those species known to be of large mature size show 50% are less than 12" in diameter. The City of Austin is interested in large canopy trees on its streets and the City is already facing the typical problems found in urbanized areas including carbon sequestering capabilities, rainfall capture for runoff, air quality assistance and pollution retention if only small stature trees are planted in the future. Because this survey involved many arterial streets with overhead utility, large, full canopy species may exist in other parts of the city. The high frequencies of trees that fall into the smallest categories also represent a young urban forest. An important aspect of a young urban forest is professional tree care.

Common belief is that a tree does not require pruning until it has achieved a certain age or size. The exact opposite is true. Professional young tree maintenance provided by a certified arborist firm will alleviate many potential problems if caught early.

### Maintenance Trends

Trees that are pruned properly in their first two to three years will be healthy trees that will require less maintenance in the future. Young tree maintenance will also prevent tree liability associated with un-maintained trees. Proper care of young trees begins with pruning at planting time only to remove branches damaged during handling and transplanting. Low branches should not be removed immediately because they manufacture critically needed food for the new tree.

Street Trees Priority of Tasks	Count	Parks Priority of Tasks	Count
Treat pest/disease	24	Treat pest/disease	32
Raise	276	Raise	367
Reduce	458	Reduce	472
Remove	763	Remove	673
None	802	None	963
Stake/Train	1831	Stake/Train	1828
Clean	2316	Clean	4125



Street Tree Maintenance Recommendation	Count	Park Tree Maintenance Recommendation	Count
Young tree-immediate	49	Young tree-immediate	49
Critical concern	36	Critical concern	101
Mature tree-immediate	115	Mature tree-immediate	426
Young tree-routine	3330	Young tree-routine	3090
Mature tree-routine	2709	Mature tree-routine	3960

## Maintenance Category Descriptions

### Immediate Prune

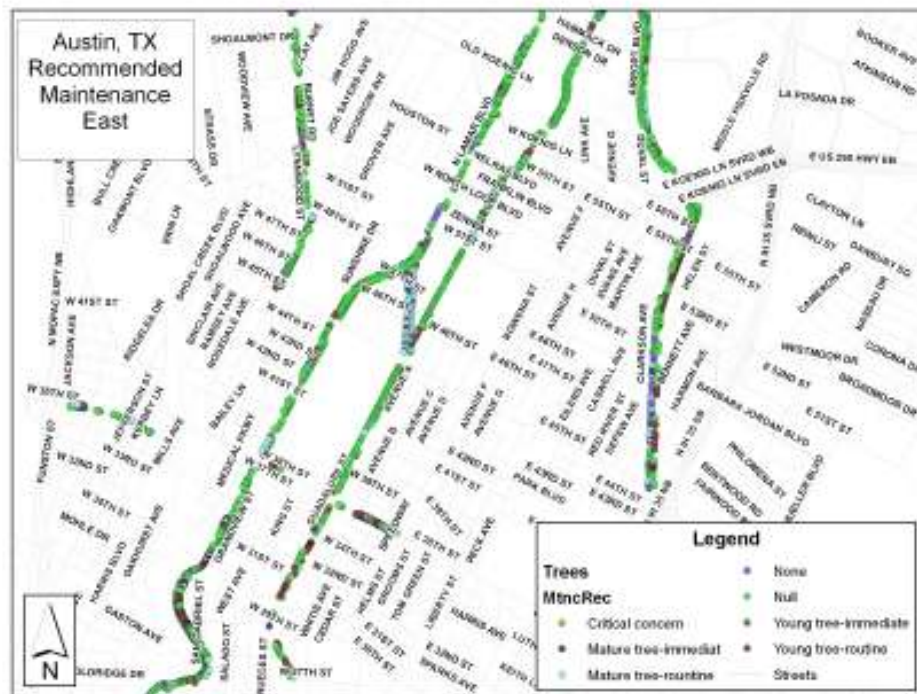
The trees that have been recommended for a high priority prune should be inspected. These trees are in need of corrective maintenance. The percentages of trees that fall into this category are slightly more than 3% of the entire tree population surveyed. The budget required to prune these trees should be very reasonable and easy to attain.

### Routine Prune

A large majority of the trees surveyed on the City fall into the low priority prune or “none” category. It is recommended that these trees are placed on a systematic pruning program. The most cost effective program would include grid pruning or arterial pruning. Divide the City evenly into tree maintenance grids or select entire streets. Have the entire area pruned in a budget year. Low-priority pruning cycles can be developed with regard to available funds.

### Critical Concern

139 trees on the City have been identified as high priority. These trees should be surveyed and scheduled for removal/remediation and replacement if appropriate. This category includes trees that reflect dangerous conditions combined with significant targets such as proximity to high volume pathways or play areas and housing structures. Many of these trees have already been inspected by City staff.





## Pruning Cycle

A common pruning cycle should be created incorporating the zone of greatest interest, traffic, or needs in the first year. Thereafter, cyclic pruning on a grid system provides the greatest effect and is recommended as standard practice. Depending on the needs of the City, a 5 year cycle should be adequate. Addressing the almost 15,000 trees collected in the streets and parks, this involves either pruning or inspecting at least 3,000 trees per year or about 57 trees per week. No extrapolation was made for the entire city of Austin. Zones should be created for the best utilization of City resources if only the data collected is used as a maintenance guide.

Proper pruning is critical in developing a tree with a strong structure and proper form. Trees that receive the appropriate pruning measures while they are young will require less corrective pruning when they mature.

Any pruning of a small tree has the effect of changing its look for its lifetime. Proper technique is essential. Damaging cuts can cause structural problems or introduce diseases that last for the life of the tree. Small cuts do less damage to the tree than large cuts. For that reason, proper pruning (training) of young trees is critical. Waiting to maintain a tree until it is mature can create the need for large cuts from which a tree cannot easily recover.



General maintenance seems to be relatively infrequent on the trees surveyed in Austin. Even though new trees are being planted there seems to be need for training in proper planting and more diligent training pruning.

ArborPro staff also recommends that the City plant *single-trunked* specimens of small-stature trees like crape myrtle, Texas mountain laurel, redbud, etc. rather than the "designer" multi-trunked stock they currently use.

While there weren't many "critical" small trees on the removal list, there were indeed signs of poor smaller trees that were splitting apart due to weak crotches and tight growth patterns of these multi-trunked trees. Maintenance costs may be reduced by investing in single-trunk, even if low-branched, tree stock.

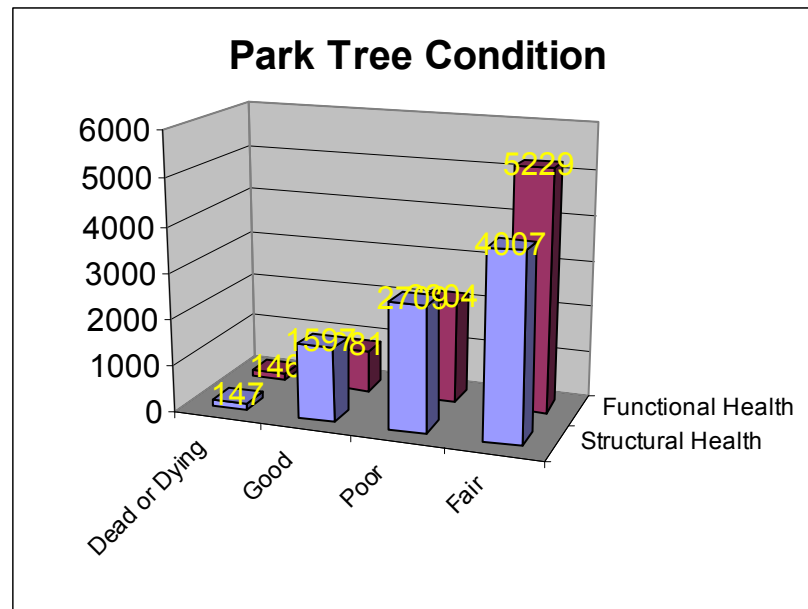
ArborPro suggests that the street work for 2008-2009 be concentrated on Lamar and Guadalupe just east and north of downtown. We further suggest that the parks maintenance be focused on the following:

WATERLOO PARK	Mature tree-immediate	72
WATERLOO PARK	Critical concern	37
SOUTH AUSTIN PARK AND RECREATION CENTER	Mature tree-immediate	51
SOUTH AUSTIN PARK AND RECREATION CENTER	Critical concern	14
GOVALLE PARK	Mature tree-immediate	48
HANCOCK GOLF COURSE	Mature tree-immediate	30

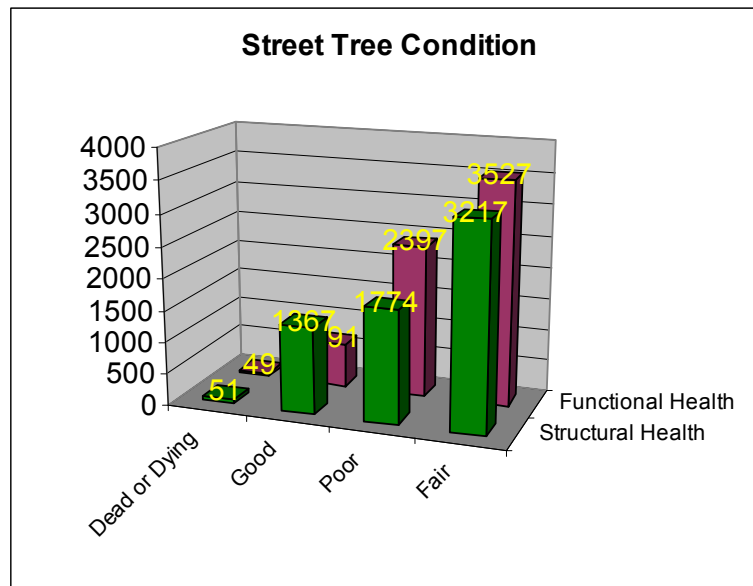
## Tree Condition Evaluation

The survey included an evaluation of the trees that have been inventoried with respect to the overall condition of structure and functional health as well as a risk factor rating. The evaluation performed was a ground-level sight inspection. There are many conditions that can exist in a tree that are not assessed from a ground-level inspection. However, the condition evaluation is helpful in determining the trees that are in the poorest condition. Below are a chart and graph of the tree conditions in the City of Austin.

Table 3 – Tree Conditions







### Tree Condition Descriptions

- **Good**  
Good to Excellent branch placement, lack of uncorrectable co-dominant leaders, good pruning history. Canopy generally full and balanced, good foliage color, vigor and shoot elongation typical of species, lack of visible or uncontrollable pests. Conditions ideal to favorable for full development to species potential, sufficient room for canopy and root growth, irrigation and soils exist to sustain development.
- **Fair**  
Decent branch placement, less than ideal scaffold spacing, some co-dominance present, past pruning less than ideal but possibly correctable. Canopy relatively thin, foliage chlorotic, vigor and shoot elongation below norm for species, minor pests or possibility of infestation. Some restriction imposed by deficiencies such as proximity to competing species, proximity to sidewalks, grade changes, poor irrigation, overhanging adjacent trees.
- **Poor**  
Inferior branch placement, crowded scaffold, co-dominance likely, correction or mitigation necessary and likely extensive, restructuring needed to repair past pruning practices. Canopy sparse, dead twigs, stunted or absent new growth, declining number of growing points, pest presence visible or likely. One or more restrictions severe enough to hamper the ability of the tree to develop fully as listed above. Recent changes to the site may manifest themselves symptomatically in the future.
- **Dead or Dying**  
Majority of dead limbs and scaffold. Canopy nearly or completely dead. Restrictions to the site likely to cause failure or death of the tree. Tree may already be compromised.

## Species Frequency

The species population diversity of the City survey zones is listed on the following pages. The survey identified nearly 150 tree species in the City of Austin. The most common tree identified was the *Ulmus crassifolia* commonly known as the Cedar Elm. There are 2,192 Cedar Elms trees in the City survey area. This species is highly suited for Texas climates. It is a hardy shade tree that can reach 90 feet in height. It is drought tolerant and can survive in compact soils.

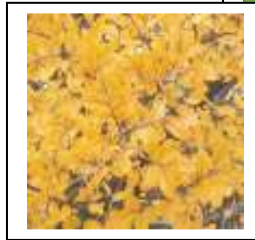
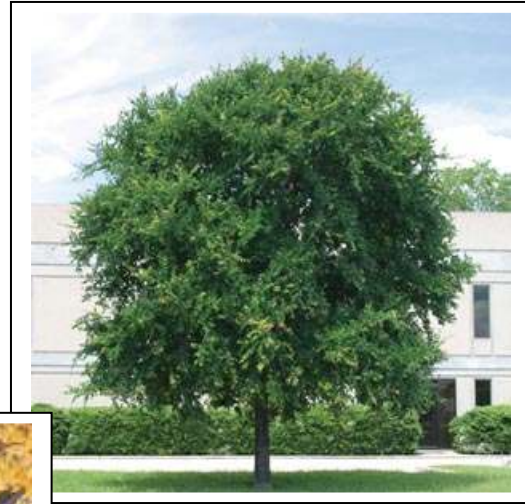


Table 4 – Species Frequency/Diversity

Streets Species	Count		Parks Species	Count
Crape Myrtle	1290		Cedar Elm	1610
Southern Live Oak	1015		Eastern Red Cedar	918
Cedar Elm	582		Sugarberry	901
Sugarberry	552		Pecan	859
Pecan	284		Southern Live Oak	822
Arizona Ash	262		Crape Myrtle	546
Chinaberry	148		Ashe Juniper	461
Texas Mountain Laurel	115		Chinaberry	326
Yaupon	106		American Elm	252
Oriental Arborvitae	103		Honey Mesquite	164
American Elm	96		Box Elder	147
Texas Redbud	92		Texas Mountain Laurel	137
American Sycamore	84		Arizona Ash	101
Eastern Red Cedar	80		Post Oak	100
Honey Mesquite	79		Chinquapin Oak	82
Chinese Tallow Tree	71		Black Willow	63
Chinquapin Oak	70		Bur Oak	59
Ornamental Pear	69		Texas Madrone	58
Shumard Oak	69		American Sycamore	53
Box Elder	64		Texas Redbud	53

Table 4 – Species Frequency/Diversity Continued

## Streets

## Parks

Eastern Redbud	59	Shumard Oak	51
Post Oak	55	White Mulberry	49
Ashe Juniper	54	Tree of Heaven	42
Red Oak	54	Gum Bumelia	41
Monterey Oak	50	Afghan Pine	37
Common Hackberry	45	Chinese Tallow Tree	33
Texas Red Oak	45	Cottonwood	33
Mexican Plum	38	Mexican Plum	33
Edible Pear	36	Eastern Redbud	32
White Mulberry	33	Yaupon	32
Chinese Juniper	32	Black Locust	29
Tree of Heaven	32	Monterey Oak	21
Bur Oak	30	Bald Cypress	20
Southern Magnolia	30	Oriental Arborvitae	20
Italian Cypress	29	Chaste Tree	18
Mexican Fan Palm	29	Chinese Parasol Tree	18
Afghan Pine	27	Paper Mulberry	14
Mexican Sabal Palm	26	Texas Red Oak	14
Mimosa, Silk Tree	24	Mexican Buckeye	13
Gum Bumelia	22	American Persimmon	12
Mexican Sycamore	21	Japanese Black Pine	11
Cottonwood	20	Texas Persimmon	10
Chinese Elm	19	Chitalpa	9
Chaste Tree	17	Southern Sugar Maple	9
Desert Willow	17	Osage Orange	8
Bald Cypress	16	Carolina Laurel Cherry	7
Jerusalem Thorn	15	Green Ash	7
Japanese Black Pine	13	Mexican Sabal Palm	7
Bigtooth Maple	12	Yew Pine	7
Butternut	12	Chinese Pistache	6
Mexican Buckeye	12	Red Oak	6
White Oak	12	Scarlet Oak	6
Black Locust	11	Chinese Elm	5
Purple-Leaf Plum	11	Jerusalem Thorn	7
Texas Ash	11	Smooth Sumac	5
Texas Madrone	11	Southern Magnolia	5
California Fan Palm	10	Sweet Acacia	5
Smooth Sumac	9	Texas Pistache	5
Swamp White Oak	8	Eastern Catalpa	4
Western Catalpa	8	Little Gem Magnolia	4
Black Willow	7	Bronze Loquat	3
Bronze Loquat	7	Deodar Cedar	3

Table 4 – Species Frequency/Diversity Continued

Streets		Parks	
Japanese Tree Lilac	7	Texas Ash	3
Paper Mulberry	7	Edible Loquat	2
Sawtooth Oak	7	Hybrid Elm	2
American Sweet Gum	6	Jeffrey Pine	2
Chinese Flame Tree	6	Madrone	2
Chinese Parasol Tree	6	Mexican Fan Palm	2
Chinese Pistache	6	Peach	2
Green Ash	6	Red Maple	2
Carolina Laurel Cherry	5	Saucer Magnolia	2
Eastern Catalpa	5	Sawtooth Oak	2
Lacey Oak	5	Shoestring Acacia	2
Loblolly Pine	5	Willow Oak	2
Mediterranean Fan Palm	5	Acacia Species	1
American Arborvitae	4	American Sweet Gum	1
Edible Loquat	4	Anacua	1
Pomegranate	4	Bigtooth Maple	1
Sweet Acacia	4	Common Hackberry	1
Windmill Palm	4	Desert Willow	1
Black Mulberry	3	Eastern Black Cherry	1
Carolina Buckthorn	3	Edible Fig	1
Eve's Necklace	3	Fraser Photinia	1
Globe Willow	3	Highrise Live Oak	1
Himalayan White Birch	3	Lacey Oak	1
Peach	3	Leyland Cypress	1
Redbay	3	Monterey Cypress	1
Scarlet Oak	3	Ornamental Pear	1
Shoestring Acacia	3	Overcup Oak	1
Showy Mountain Ash	3	Red Mulberry	1
Texas Crabapple	3	River Wattle	1
Willow Oak	3	Trifoliate Orange	1
Aleppo Pine	2	Valley Oak	1
Apricot	2	Washington Hawthorn	1
Australian Willow	2	Western Catalpa	1
Bamboo Species	2	White Oak	1
Deodar Cedar	2		
Holly Oak	2		
Hybrid Fan Palm	2		
Japanese Persimmon	2		
Japanese Red Pine	2		
Mexican Ash	2		

End of parks species list.

Table 4 – Species Frequency/Diversity Continued

## Streets

Oleander	2
Pin Oak	2
Pindo Palm	2
Sawara False Cypress	2
Alaska Cedar	1
American Holly	1
American Persimmon	1
Amur Chokecherry	1
Anacua	1
Australian Black Pine	1
Banana	1
Bristlecone Pine	1
Cherrybark Oak	1
Chinese Photinia	1
Coolibah	1
Escarpment Black Cherry	1
Euchlora Linden	1
Fan-Tex Ash	1
Floss Silk Tree	1
Goldenrain Tree	1
Highrise Live Oak	1
Honey Locust	1
Italian Stone Pine	1
Knife Acacia	1
Kousa Dogwood	1
London Plane Tree	1
Old Man Palm	1
Orange	1
Primrose Tree	1
Queen Palm	1
Red Horsechestnut	1
Red Maple	1
Saucer Magnolia	1
Silver Dollar Gum	1
Silver Linden	1
Silver Maple	1
Smoke Tree	1
Tamarind	1
Texas Persimmon	1
Thornless Honey Locust	1
Trident Maple	1
Weeping Willow	1
Western Red Cedar	1

## Trend Analysis Detail

From the data collected, some tree species stand out in the landscape for differing reasons. Listed are some of the trends found when queried from several angles.

**Critical trees in Parks** – varied over 5 top species. Of these 101 trees, the Sugarberry, Pecan, Eastern Red Cedar, Chinaberry and Southern Live Oak stand out. Some of the Southern Live Oaks will require some monitoring over time.

**Critical trees on Streets** – varied over 15 top species. Of these, no one species stands out as being a consistent problem by counts.

**Priority Removals**– Of the species trees listed in this category, 4 are common and should be addressed here. Sugarberry and Chinaberry are both found to be represented often and are in the “poor” category for health sometimes due to crowding. There are several Southern Live Oaks, Pecans and Cedar Elms listed as poor or diseased and dying. This is in part due to the large numbers of these trees in the landscape and the percentages are in line with what we often see in street tree inventories.

**High Priority Trimming** – Southern Live Oaks in the streets and Pecans in the parks were located near the top of the most apparent species. In the streetscapes, 53 trees in the Mature – Immediate category belong to Pecan, Cedar Elm and Southern Live Oak. The rest show no significant trend.

**Hardscape Damage** – 115 street trees are creating some type hardscape/sidewalk damage. 38 Southern Live Oaks stand out as the dominant source.

**Utility Lines** – 1,898 street trees, in over 50 common species categories, are under or near a Utility line. Many of these trees are of species selections that will grow to a mature size without disrupting service. Some, such as Southern Live Oak, Pecan and Cedar elm may require pruning or monitoring for in-growth into lines.



## The Near Future – Trends and Recommendations for the next 5 years.

The overall form of the City forest is in good health due to the many new plantings that have been installed. This good start has the potential to fade rapidly and to create many problems in the future without the proper guidance for these young trees.

The most important part of a tree's "structural" life takes place in the first 5 years. The pruning needs of the tree may not be extensive, but select trimming is necessary to remove poorly attached branches, crossing branches and co-dominant stems. This will promote healthy, strong trees for the future of the City. The Crape Myrtle species grows vigorously in its youth and should be carefully pruned.

It is advised to continue planting of replacement species that are better suited to the location. Trees that are weed-like should likely be reduced or eradicated. The City will likely need to acknowledge the presence of Glossy Privet, *Ligustrum lucidum*, as a tree of issue due to its rapid colonization of park land. This species was not collected as part of the survey.

The City will benefit from the purchase of a mobile stump grinder to grind stumps for all removed trees. A large percentage of the high risk trees (and trees in general) are multi-trunked stump sprouts that have been allowed to develop unchecked. Many are weak-wooded species (Chinaberry, hackberry, Arizona ash, plus glossy privet) that will likely fail over time.

Thinning out these "weed tree" species would dramatically improve the vitality of the remaining trees especially in the parks.



Glossy Privet

The City will need to establish a budget for tree maintenance and begin the remediation of trees in the survey that show the greatest need as seen in the following tables.

ArborPro staff has provided detailed information that the City can now utilize to plan, and pursue only those trees that require assistance.

Top 5 Park Species	Count	Maintenance Trends.
Cedar Elm	1610	59% of Cedar Elms are mature trims
Eastern Red Cedar	918	Nearly 50% of Red Cedars are mature trims.
Sugarberry	901	56% of Sugarberry are young trims.
Pecan	859	66% of Pecans are mature trims.
Southern Live Oak	822	82% of Live Oaks are mature trims.

Top 5 Street Species	Count	Maintenance Trends.
Pecan	284	60% of Pecans are mature trims.
Sugarberry	552	Nearly 50% of Sugarberry are young trims.
Cedar Elm	582	Over 50% of Cedar Elms are young trims.
Southern Live Oak	1015	67% of Live Oaks are mature trims.
Crape Myrtle	1290	68% of Crape Myrtles are young trims.

The Tree Risk Ratings applied to the survey reveal that the average “elevated risk” tree is nearly 24 inches in diameter. “Elevated risk” is describing trees that fall into the 10-12 ratings on a 3-12 scale. There are 19 different species among these and no one tree shows a trend though the Southern Live Oak appears as the largest diameter trees in this group. This is typical of old growth Oaks that often display heavy spreading canopies and cavities at the base of the trunk that commonly place these in risk categories.

The budget will need to address the size and complexity of the mature trees. These will be most expensive and take longer for a crew to complete. Timelines and man-hour requirements can be created, and adjusted, after pruning begins to track and evaluate the budget goal over time.

As seen below, the maintenance tasks for each and every tree are provided in the data so that each park or street can be “mapped” with regard to where the City will apply its resources to the greatest advantage.

Parks Maintenance Tasks	Specific Task	Trend
Cedar Elm	Clean	72% of Cedar Elm need cleaning.
Pecan	Clean	Over half need cleaning and 15% need reduction.
Southern Live Oak	Clean	Over half need cleaning and 15% need raises or training.
Eastern Red Cedar	Clean	1/3 need cleaning, but 352 need nothing at this time.
Ashe Juniper	Clean	over 75% would benefit from cleaning.

Street Maintenance Tasks	Specific Task	Trend
Crape Myrtle	Stake/Train	Over half need training or restaking
Southern Live Oak	Clean	Over 40% require cleaning out. 224 need raises.
Cedar Elm	Clean	Over 40% require cleaning out.
Sugarberry	Clean	68% require either training or cleaning
Arizona Ash	Clean	60% require cleaning out.



## Management Recommendations - 10 year goals

Though the trends consistently point to Cedar Elm and Southern Live Oak being categorized as troublesome, these species also represent 15% and 12% of trees in the survey and therefore will exhibit these high numbers. The numbers show us that the trees are in generally fair health, but that care should be taken to protect these dominant species here lest the City acquire a pest that infests and harms the urban forest. Cedar Elms, though not the primary target, are susceptible to Dutch Elm Disease. Southern Live Oaks are often found to have cavities in their bases, but may live for years in this condition.

There has been substantial remediation within many parks and adequate structural mass units (trunks) are present but yet there are large tracks of park land available for tree installation. Oak wilt is present within the Austin area and may explain, partially, the loss of canopy in the parks. Replanting on available street locations and park zones identified in the survey will begin a new cycle of life in the parks that will emerge in 10 years.

The urban forest in Austin, is mostly comprised of over-mature oaks and semi-mature “weedy” trees. Although most of the tree care practice is reactive versus proactive, there is potential for urban forest growth and development. Mature trees are reaching later stages of decline with little effort of improving tree vigor or vitality. Utility pruning is ongoing; throughout the city numerous trees have utilities present in their vicinity.

Much of the above sounds very negative, but there is a bright spot: trees which posed unreasonable risk have been removed; the use of polygons to demark potential planting sites is a start in the right direction. Following best management practices for planting, young tree training, utility pruning, risk remediation, and street tree pruning will enhance the urban forest. All of this follows in the foot steps of a comprehensive tree inventory... And the ground work has been laid.

Willingness of City staff to implement our recommendations, particularly of high risk tree removal, in a timely fashion, especially while Arborpro staff was present, was a very positive sign. Hopefully this will spill over into continued funding for additional maintenance of this remarkable green asset citywide.

Only a small portion of the streets and downtown neighborhoods has been collected for use in this report and to help guide the staff. We approximate that only 11% of residential areas have been surveyed. ArborPro would recommend that Austin continue to survey areas as budget funds are available or through grant funding.

ArborPro would like to see professional arborists, trained in assessing urban trees, continue to build on the structure and format that this survey has in place in order to create a data set that is cohesive, comprehensive and useful. Though volunteer labor may be used, it is our hope that certified arborists will continue the work into the future. A good goal for Austin may be to divide the City into 4 and attempt to survey the downtown region over the next 4 years.

Per request from Austin Energy, Allen, TX goals for the urban Forest are provided here. Though not nearly as large as Austin, Allen has broad but clear goals to review for adaptation or assimilation into the Urban Forest Plan for Austin. If Austin wishes to view a comprehensive report from a larger city, [www.HoustonRegionalForest.org](http://www.HoustonRegionalForest.org) may be a good resource.

### **Allen's Goals**

Establish Maintenance schedule for preserving (pruning) existing trees- 1X / every 3 years.

Increased tree canopy will cover up to 10% because of park development within next 5 years.

Tree Canopy Goal -25% by 2015

### **Allen's Recommendations**

Plant more large canopy shade trees for the next ten years, including Shumard red oak, Bur oak and Chinquapin oak, Cedar elm, Pecan and Chinese Pistachio.

Plant resistant varieties of Cotton Root Rot disease.

Do not plant Crepe Myrtles or Bradford Pears in Public Areas.

Plant less Bald Cypress- Water Conservation

Plant more variety of drought tolerant Shade trees and ornamental trees such as Red Bud, Flame leaf Sumac, Vitex, and Desert Willow.

Conduct next GIS Tree Inventory in 10 years starting in 2015

Finally, the data collected has been delivered in the STRATUM format. The City intends to use this software program to track its changes and achieve its goals. This powerful tool may provide years of ongoing trends analysis for an ongoing "legacy" of the urban forest.

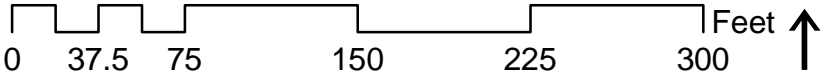
Austin's tree inventory work has just begun. A full inventory is the only true way to manage any resource. If you don't know what you have, you cannot manage it.

Final Urban Forestry Management Plan and Inventory  
Summary, City of Austin, July 2008

Prepared By: ArborPro, Inc.  
Po Box 18071  
Anaheim, CA. 92807  
877-844-DATA

# LONGHORN SHORES PARK

Planting Plan- Proposed and Existing Trees



## LEGEND

### Proposed Trees

#### Canopy Size

- small
- medium
- large

### Existing Trees

#### Canopy Size

- small
- medium
- large

## SPECIES CODE

- CO= Chinquapin Oak
- CE= Cedar Elm
- LaO= Lacey Oak
- ML= Texas Mountain Laurel
- MO= Mexican White Oak
- Pe= Pecan
- RuB= Rusty Blackhaw

# PUBLIC TREE NOTICE

[www.cityofaustin.org/parks](http://www.cityofaustin.org/parks)  
[www.ci.austin.tx.us/parks/forestry.htm](http://www.ci.austin.tx.us/parks/forestry.htm)



The City of Austin is committed to compliance with the Americans with Disabilities Act.  
If you require special assistance for participation in our programs or for use of our facility, please call 440-5199.



The Austin Parks and Recreation Department Urban Forestry Program is responsible for maintaining trees growing on the **public right of way** (i.e. street trees). A City crew will complete the work listed below in the near future at no additional cost to the property owner. Trees flagged green indicate that the tree is to be pruned; trees flagged pink indicate that the tree is to be removed. Please do not park vehicles on the street near flagged trees until the City crew has completed the work. If the tree is growing near utility lines, **Austin Energy** may be first on site to clear vegetation from the utility.

## The City will:

- **Trim low limbs** to provide at least 14' clearance over street (at curb line) and/or 8' over sidewalk area
- **Trim dead wood**
- **Prune broken/damaged limb(s)**
- **Remove tree** for safety reasons  
Contact TreeFolks at [www.treefolks.org](http://www.treefolks.org) or 512-443-5323 for possible free replacement tree(s) through the NeighborWoods program.
- **Remove vegetation** obstructing public right of way
- **Corrective pruning** for improved tree health

Inspection date:

Notes:



SOP for Documenting Park Tree Maintenance  
*Updated 4-2-2010*

**Work plan template:**

Reference the "COA Park Maintenance" spreadsheet to determine when to inspect a given park. This spreadsheet contains all Parks and lists them in priority of maintenance needs. Additionally, the spreadsheet is to be used to project out a possible maintenance cycle, so as parks are inspected it is important to update the database. Determine the frequency of inspection a given park needs (based on current conditions, use of parkland, etc., and include this in the database update.

The below information should be considered for entry into the park folder whenever a park is inspected. Work plans will eventually be created for every park in the system. The following bullets represent the type of information that should be included in a work plan. Ideally, each number will have its own folder within the park folder.

The goal here is to make all of the below data easy to update & as useful as possible. Therefore it is important for everyone to utilize similar naming conventions and manage their files in a way that achieves these goals. Delete any unnecessary or old documents, consolidate documents and streamline naming conventions.

I. Planting plan

Create a "Planting Plans" folder if there is not one present. Save any past planting plans for the park, each year the park is planted, that data should have its own folder with the date in the title.

II. Work history

Maintenance: there is a maintenance log for almost all parks saved in the "Maintenance" folder. Use this to reference work history. Create a document for maintenance/management goals in this section.

When inspecting for current maintenance needs, prioritize the following:

- a. Safety: address all safety issues in high use areas
- b. Preventative maintenance:
  - i. Training pruning
  - ii. Crown reduction
  - iii. Trunk guards, mulch, etc.
- c. Invasive species removal
- d. Identification of potential planting locations

III. Tree inventory data

Existing tree inventory data must be updated. New inventory data must be collected in parks that do not have any tree inventory data.

Maps – Create a "Maps" folder if there is not one present. Include any maps that are given to the maintenance crews.

Data, Tables and Charts – Create a "Data Tables and Charts" folder if there is not one present. Save all of the Excel files used to make tables and graphs. Use tree inventory data once it is available/created to show relevant forest data.

IV. Photo folder

All images should be named according to the date the picture was taken. All photos (including for permit removals) should be placed in the "Site Inspection Photos" folder. Name the photo folders according to the established naming conventions (park name > date). If you feel the need to better describe the photos, create a txt file or word doc to include in the photo folder.

V. Neighborhood contact information

This can be a separate document that may include active volunteer organizations and/or the name of the park manager. You may have to ask around to get this information.



## Parks and Recreation Department Urban Forestry Program



### Intent:

This document hereby certifies that the members of the City of Austin Urban Forestry Board recognize this Urban Forestry Master Plan as the definitive Forest Management Plan of the Parks and Recreation Department, Urban Forestry Program as of August 19, 2010. This master plan, and all of the parts included and referenced, is intended to guide management of publicly owned trees. As the local governing body over the Parks and Recreation Urban Forestry Program, we the members of the City of Austin Urban Forestry Board approve this document.

### Members:

X \_\_\_\_\_  
Shannon Halley, *Chair*

Date: \_\_\_\_\_

X \_\_\_\_\_  
Nicholas Classen

Date: \_\_\_\_\_

X \_\_\_\_\_  
Nevic Donnelly

Date: \_\_\_\_\_

X \_\_\_\_\_  
Ryan Fleming

Date: \_\_\_\_\_

X \_\_\_\_\_  
Peggy Maceo, *Vice Chair*

Date: \_\_\_\_\_

X \_\_\_\_\_  
Jessica Wilson

Date: \_\_\_\_\_

X \_\_\_\_\_  
Walter Passmore, *Urban Forester*

Date: \_\_\_\_\_

