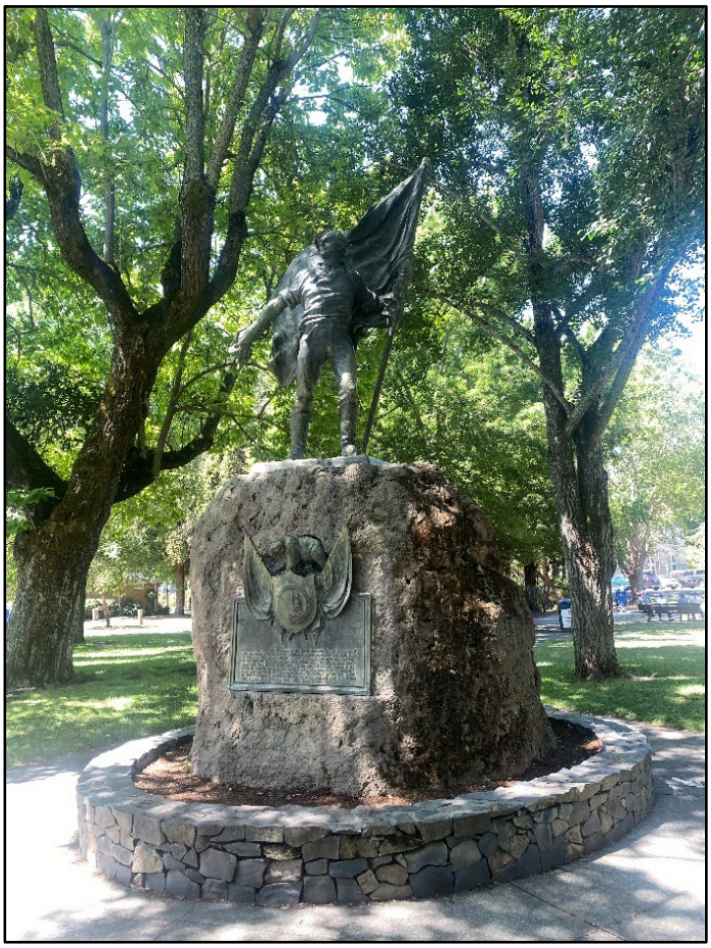
City of Sonoma - Sonoma Plaza
Tree Inventory and Management Plan | 2022



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MAKING THE MOST OF YOUR INVENTORY MANAGEMENT PLAN

Those who operate a large business or institution understand how inventory impacts operations and budgeting. One must know what's there, how much or how many, and where it all is. But the task doesn't end there. To obtain the greatest benefit from inventory, owners or their designees must manage it. Are a company's tools, for example, old and defective, in need of repair, in short supply, or useless and taking up space that could be better occupied? A good management plan will address these issues and keep the inventory current, in good condition, and functioning for the benefit and safety of those involved.

Managing trees on a large property can seem like an overwhelming task, but the same principles of inventory management apply. This inventory and management plan should provide managers the data they need to develop realistic budgets for their tree maintenance needs, and it will help make Sonoma Plaza a safer and more beautiful environment.

The following tips will assist you in making the most of this document:

Who's Who

Those who conducted the inventory and prepared this document are members of the Bartlett Inventory Solutions team. They are also employees of Bartlett Tree Experts. The Bartlett Inventory Solutions team is overseen by Technical Advisors out of the Bartlett Tree Research Laboratories in Charlotte, North Carolina. The advisors are primarily charged with client support, coordination, quality control, and documentation of inventories and the related data. Extensively trained Regional Inventory Arborists from local Bartlett Tree Experts offices are the primary data collectors and authors of the management plans. Readers may interpret the terms "Bartlett Tree Experts," "Bartlett," "the Inventory Team," "the team," "we," and "our" as the Bartlett company and those who conducted the inventory and prepared this management plan. In addition to the primary author listed on the cover page, Team Members involved in this project included:

Jordan Endahl, Bartlett Consulting Advisor
Registered Consulting Arborist #638,
ISA Board Certified Arborist #MA-5311B
ISA Tree Risk Assessment Qualified

Subject Trees

In this document, the term "subject trees" refers (depending on context) to some or all of the 228 trees (some of them groupings of trees) included in the inventory.

Definitions & Bolded Terms

Some definitions or specifications are detailed within a given section to explain how readers should interpret certain terms or classifications. We have also appended a Glossary for other terms that appear throughout the document. The first reference to each of these terms appears in **bold** for the reader's convenience.

How This Document is Organized

An outline appears below that introduces the order in which the sections of the management plan will appear. The management plan layout is as follows:

- **Table of Contents**
  - Road map for the management plan
- **Making the Most of Your Inventory Management Plan**
  - Explanations for how to efficiently and effectively understand and navigate this management plan document
- **Executive Summary**
  - Synopsis of the major findings and recommendations
- **Introduction**
  - Brief explanation of the inventory and what was included
- **Goals & Objectives**
  - Explanation of the specific goals and objectives for this inventory
- **Data Collection & Tree Inspection Methodology**
  - Lists, explanations, and definitions of all data collected during the inventory
- **Tree Risk Assessment and Mitigation**
  - Summary of *overall tree risk ratings* assigned during the inventory with corresponding table and map displays with figures if applicable
  - Summary of *Level 3 Advanced assessments* recommended during the inventory (summarized in the *overall tree risk ratings* table) with a map display and figures if applicable
- **Stand Dynamics Results**
  - Summary information for the entire tree population inventoried

- **Recommendations**
  - Summary of all recommendations made during the inventory including associated table and map displays, explanations and examples, and figures if applicable
- **Defects or Observations**
  - List of all trees observed to have defects in the field in a table view with associated descriptive figures and maps if applicable
- **Entire Inventory**
  - List of all trees collected in a table display
- **Additional Resources**
  - Listing of all appended items for this management plan

EXECUTIVE SUMMARY

In April 2022, the Bartlett Inventory Solutions (BIS) Team from Bartlett Tree Experts conducted an inventory of trees on the grounds of Sonoma Plaza. We identified 228 trees, including 3 groupings, which included 44 species. The attributes that we collected include tree latitude and longitude, size, age and condition class, and a visual assessment of tree structure, health, and **vigor**.

We conducted the attribute collection using a sub-meter accuracy Global Positioning Satellite Receiver (GPSr) device with an error-in-location potential of not greater than three meters. Our recommendations for the subject trees are based on the number of desired management cycles. All tree work activities will comply with current American National Standards Institute (ANSI) Z133.1 requirements for safety.

Tree Risk Assessments and Mitigation
Perform the recommended tree risk mitigation activities for the 228 trees (100%) which we found defects or concerns that prompted the need to use the International Society of Arboriculture's (ISA) risk matrices in the field. Risk mitigation activities will comply with current ANSI A300 standard practices. Please see the Tree Risk Assessments, Limitations & Glossary section for more information.

Level 3 Advanced Assessment
Provide *Level 3 Advanced assessments* for 14 trees (6%) to evaluate the impact of wood decay that shows potential for failure.

Soil Sampling
Taking soil samples throughout planting beds and actively managed areas. Soil analysis provides information on the presence of soil nutrients, pH, organic matter, and cation exchange capacity.

Soil Rx®
Apply Bartlett's Soil Rx® program to 21 trees (9%) to correct nutrient deficiencies and optimize soil conditions for the designated trees.

Root Invigoration™
Perform Bartlett's patented Root Invigoration™ on 6 trees (3%) to improve aeration and promote more efficient root growth, especially for high-value trees in disturbed areas.

Mulching
Wherever possible, apply 2-4 inches of mulch within the root zone to help moderate soil temperatures, reduce soil moisture loss, reduce soil compaction, provide nutrients, improve soil structure, and keep mowers and string trimmers away from tree trunks. The best mulch materials are wood chips, bark nuggets, composted leaves, or pine needles. To avoid potential disease problems, mulch should not be placed directly against the trunk.

Root Collar Excavations
Perform **root collar** excavations to 16 trees (7%) to lower risk of damaging conditions such as **girdling roots**, basal cankers, masking of root decay and lower-stem decay, and predisposing trees to various insect and disease pests.

Plant Health Care (PHC)
Implement Bartlett's PHC program to monitor pests and diseases on the subject trees. Treatments are therapeutic and preventive, and treatment timing is based on pest life cycle.

Pruning
Prune 195 trees (86%) for safety, health, structure, and appearance. Pruning will comply with current ANSI A300 standard practices for pruning.

Structural Support
There are structural support system recommendations for 7 trees (3%) to reduce risk of branch or whole tree failure. All structural support systems will comply with current ANSI A300 standard practices for supplemental support systems.

Removals
Remove 4 trees (2%) due to condition or because of their location in relation to other trees to try and prevent competition or damage to infrastructure.

INTRODUCTION

In April 2022, the City of Sonoma retained Bartlett Tree Experts to perform an inventory of trees on the grounds of Sonoma Plaza. Team member Lee Nachtrieb visited the site on April 27, May 3, and June 23 to conduct the inventory.

The inventory included:

- identifying trees and assigning a Tree ID number (Tree ID numbers ranging from 2 to 224);
- identifying the trees' condition, health, and vigor;
- recommending risk evaluations and removals of appropriate trees;
- recommending tree care, soil care, and structural support to promote tree safety, health, appearance, and longevity; and
- mapping the trees using GPSr hardware and Geographic Information System (GIS) software, and Bartlett Tree Experts' ArborScope™ web-based management system.

The methods and procedures we used to make the above determinations and recommendations are detailed in the following sections.

GOALS & OBJECTIVES

An effective management plan communicates clear goals and the specific objectives designed to carry out those goals. We intend "goal" to mean the overall aim or result we expect to achieve for the client in producing the inventory and management plan. The objectives are the specific actions taken or recommended to support goal completion. The table below describes each goal and its corresponding objectives.

GOALS & OBJECTIVES

GOAL	OBJECTIVES TO ACCOMPLISH GOAL
Establish the tree inventory (per numbers agreed) on the grounds of Sonoma Plaza.	• Using Trimble® Geo GPSr hardware and ArborScope™ Inventory Management Tools, collect data such as tree name, location, size, age class, and condition class. • Assign a Tree ID number to each tree or group of trees inventoried.
Provide mechanism for managing inventory, recommendations, and related budget planning.	• Provide map or maps of the inventoried trees and tree groupings to assist the client in managing property areas. • Submit a comprehensive management plan that documents and organizes findings and provides other resources to assist the client in efficient use of the information.
Maximize client understanding and implementation of management plan.	• Include in management plan specific explanations and visuals related to plan recommendations. • Provide appended resources that address health, procedures, and standards related to tree care. • Make periodic contact with client to follow up and answer any questions about the management plan's contents.
Maximize immediate and long-term tree health and aesthetics.	Implement recommended plant-health-care program that uses • integrated pest management • soil care • maintenance pruning
Manage immediate and long-term risk associated with trees in high-use areas.	Implement recommended risk-management measures that include • risk-reduction pruning • required removals • tree structure evaluations

DATA COLLECTION & TREE INSPECTION METHODOLOGY

In conducting the inventory, we used specialized equipment and software and followed specific procedures to determine tree characteristics, risk evaluations, and recommendations. The following explanation will assist the reader in interpreting the findings of this management plan.

Data Collection Equipment & Attribute Data

The Inventory Team used Trimble® Geo GPSr hardware units, TerraSync® and GPS Pathfinder® Office GIS software, and Bartlett Tree Experts' ArborScope™ web-based

management system to inventory the trees. The attribute data we collected on site are listed below.

- botanical name and regional common name according to local ISA Chapter Tree Species List
- tree location based on GPS coordinate system
- tree ID number
- diameter at breast height (**DBH**)
- canopy radius
- age class
- height class
- condition class
- root zone infringement, based on **dripline** and estimated **grayscape** (e.g., sidewalks) impact on root zone
- infrastructure interaction (between trees and grayscape that may cause an undesirable condition
- documented *Level 2 Basic assessment* for tree risk where defects or concerns were observed that prompted the need to use the ISA risk matrices in the field resulting in an *overall tree risk rating*
- Tree & Shrub Work phase (based on number of desired management cycles)
- pruning category
- need for and inspection of existing structural support systems
- need for and inspection of existing lightning protection systems
- need for *Level 3 Advanced assessment* for tree risk
- tree removals
- soil care recommendations
- noted defects/observations
- observed pests/diseases

Specifications/Definitions

Age Class

New Planting	Tree not yet established
Young	Established tree but not in the landscape for many years
Semi-mature	Established tree but has not yet reached full growth potential
Mature	Tree within its full growth potential
Over-mature	Tree that is declining or beginning to decline due to its age

Estimated Height

+\- 5 feet

Condition Class

Dead

Poor Most of the canopy displays dieback and undesirable leaf color, inappropriate leaf size or inadequate new growth. Tree or parts of tree are in the process of failure.

Fair Parts of canopy display undesirable leaf color, inappropriate leaf size, and inadequate new growth. Parts of the tree are likely to fail.

Good Tree health and condition are acceptable.

Tree & Shrub Work Phase

Tree & Shrub Work phase takes into consideration tree species, condition, location, age, and proximity to infrastructure. We intend for this rating system to assist decision makers in prioritizing risk mitigation, tree pruning, cabling and bracing, and tree lightning protection recommendations. *Trees with an ASAP and an overall tree risk rating of extreme or high (see definitions in the next section) should be addressed immediately.* Prioritization does not take into account any budgetary or financial considerations.

Phase 1, 2, 3, 4, and 5 are all based on observations by the inventory arborist according to the manager's goals. The following additional information clarifies each priority:

ASAP Trees with recommendations that should be addressed As Soon As Possible.

Phase 1 Typically addressed in the first management cycle. Trees located in high-use sites, have a high aesthetic value, have an elevated *overall tree risk rating*, and/or parts that are currently in conflict with infrastructure.

Phase 2 Typically addressed in the second management cycle. Trees with moderate aesthetic value, don't have an elevated *overall tree risk rating*, and/or parts that are anticipated to be in conflict with infrastructure.

Phase 3 Typically addressed in the third management cycle. Tree parts that are anticipated to be in conflict with infrastructure and/or recommendations based on anticipated growth.

Phase 4 Typically addressed in the fourth management cycle. Recommendations are for future consideration and anticipated growth.

Phase 5 Typically addressed in the fifth management cycle. Recommendations are for future consideration and anticipated growth.

Pruning Category

All trees identified in this management plan that have tree care recommendations are listed within a specific pruning category. Trees within each pruning category can be prioritized by the specific goals of the manager. It is recommended that specific goals be discussed prior to any pruning.

Risk Mitigation	This goal requires pruning of any tree where risk mitigation should take precedence over other pruning goals. Typically aims to reduce the *overall tree risk rating* by branch removal and/or branch reduction.
Maintenance	This goal typically requires routine pruning of large/mature trees. Includes branch removal and/or branch reduction to help reduce *likelihood of failure* and/or conflict with infrastructure. Trees with this goal are typically climbed or require the use of aerial lifts and/or other specialized equipment.
Developmental	This goal typically requires routine pruning of small/young trees. Includes structural pruning to develop a strong central stem, establish proper branch spacing, and/or develop branch structure.
Ornamental	This goal typically requires pruning of small trees. Includes reduction and/or shearing to its desired shape, size, and/or structure.
Specialized	Trees with this goal require a unique treatment that may include, but not limited to, targeted pruning cuts, removal of nuisance fruit/parasitic plants, and/or rejuvenation/internodal pruning.

* The listed descriptions of goals, tools, and/or techniques are not limited to these definitions. Specific individual goals and species profiles should guide the pruning recommendations.

Tree Risk Assessments, Limitations & Glossary

In accordance with industry standards, tree risk ratings are derived from a combination of three factors: the *likelihood of failure*, the *likelihood of the failed tree part impacting a target*, and the *consequences* of the target being struck. The guidelines used to classify each of these factors are presented in the *ISA's BMP for Tree Risk Assessment* and guidelines developed by the Bartlett Tree Research Laboratories. *These factors are then used to categorize tree risk as Extreme, High, Moderate or Low*. The factors used to define your risk ratings are identified in this report. An explanation of terms used in this report appears in the glossary located in the appendix. The information provided in this report is based on the conditions identified at the time of inspection. Tree conditions do change over time so reassessment is recommended annually and after major storm events.

Limitations of Tree Risk Assessments

It is important for the tree owner or manager to know and understand that all trees pose some degree of risk from failure or other conditions. The information and recommendations within this report have been derived from the level of tree risk assessment identified in this report, using the information and practices outlined in the *International Society of Arboriculture's Best Management Practices for Tree Risk Assessment*, as well as the information available at the time of the inspection. However, the *overall tree risk rating*, the mitigation recommendations, or any other conclusions do not preclude the possibility of failure from undetected conditions, weather events, or other acts of man or nature. Trees can unpredictably fail even if no defects or other conditions are present. It is the responsibility of the tree owner or manager to schedule repeat or *Advanced assessments*, determine actions, and implement follow up recommendations, monitoring and/or mitigation.

Bartlett Tree Experts can make no warranty or guarantee whatsoever regarding the safety of any tree, trees, or parts of trees, regardless of the level of tree risk assessment provided, the risk rating, or the residual risk rating after mitigation. The information in this report should not be considered as making safety, legal, architectural, engineering, landscape architectural, land surveying advice or other professional advice. This information is solely for the use of the tree owner and manager to assist in the decision making process regarding the management of their tree or trees. Tree risk assessments are simply tools which should be used in conjunction with the owner or tree manager's knowledge, other information and observations related to the specific tree or trees discussed, and sound decision making.

Glossary

Tree risk assessment has a unique set of terms with specific meanings. Definitions of all specific terms may be found in the International Society of Arboriculture's *Best Management Practice for Tree Risk Assessment*. Definitions of some of these terms used in this report are as follows:

The *likelihood of failure* may be categorized as imminent meaning that failure has started or could occur at any time; probable meaning that failure may be expected under normal weather conditions within the next 3 years; possible meaning that failure could occur, but is unlikely under normal weather conditions during that time frame; and improbable meaning that failure is not likely under normal weather conditions, and may not occur in severe weather conditions during that time frame.

The likelihood of the failed tree part impacting a target may be categorized as high meaning that a failed tree or tree part will most likely impact a target; medium meaning the failed tree or tree part could impact the target, but is not expected to do so; low meaning that the failed tree or tree part is not likely to impact a target; and very low meaning that the chance of a failed tree or tree part impacting the target is remote.

The *likelihood of failure and impact* is defined by the Likelihood Matrix below.

LIKELIHOOD OF FAILURE AND IMPACT

Likelihood of Failure	Likelihood of Impacting Target			
	Very Low	**Low**	**Medium**	**High**
Imminent	Unlikely	Somewhat likely	Likely	Very Likely
Probable	Unlikely	Unlikely	Somewhat likely	Likely
Possible	Unlikely	Unlikely	Unlikely	Somewhat likely
Improbable	Unlikely	Unlikely	Unlikely	Unlikely

The *consequences* of a known target being struck may be categorized as severe meaning that impact could involve serious personal injury or death, damage to high value property, or disruption to important activities; significant meaning that the impact may involve personal injury, property damage of moderate to high value, or considerable disruption; minor meaning that impact could cause low to moderate property damage, small disruptions to traffic or a communication utility, or minor injury; and negligible meaning that impact may involve low value property damage, disruption that can be replaced or repaired, and do not involve personal injury.

Targets are people, property, or activities that could be injured, damaged or disrupted by a tree failure.

Levels of assessment 1) *Limited visual assessments* are conducted to identify obvious defects. 2) *Basic assessments* are visual inspections done by walking around the tree looking at the site, buttress roots, trunk and branches. It may include the use of simple tools to gain information about the tree or defects. 3) *Advanced assessments* are performed to provide detailed information about specific tree parts, defects, targets of site conditions. Drilling to detect decay is an advanced assessment technique.

Tree Risk Ratings are terms used to communicate the level of risk rating. They are defined in defined in the Risk Matrix below as a combination of Likelihood and Consequences:

ISA RISK MATRIX

Likelihood of Failure & Impact	Consequences of the Tree Failure			
	Negligible	**Minor**	**Significant**	**Severe**
Very Likely	Low	Moderate	High	Extreme
Likely	Low	Moderate	High	High
Somewhat likely	Low	Low	Moderate	Moderate
Unlikely	Low	Low	Low	Low

Overall tree risk rating is the highest individual risk identified for the tree. The *residual risk* is the level of risk the tree should pose after the recommended mitigation.

Bartlett Tree Experts can inventory trees that have ropes courses, zip lines, swings, tree houses, or any other life support system attached for several different attributes; however, Bartlett Tree Experts is unable to provide tree risk assessment information on such trees, nor is Bartlett Tree Experts able to determine whether the correct hardware has been used, the systems are attached to the trees correctly, or whether the trees can withstand the additional forces that are placed on the tree or trees from such systems or structures. Bartlett Tree Experts does not recommend that any hardware or structures, other than those recommended by and installed by qualified arborists to aid the tree in structural support or protections from lightning, be installed in or attached to any tree(s). Bartlett Tree Experts recommends removing, or discontinuing the use of, any such system or recreational structure until the Client hires or consults with an engineer/specialist that deals specifically with ropes courses, zip lines, swings, tree houses, or any other life support systems and how they attach to and impact trees to determine if the trees can handle the forces being placed on them.

In the event that Bartlett Tree Experts observes an immediate safety issue with a tree with any such device attached, such as the presence of a dead, dying, or broken limb that could fall and injure a person or damage property, Bartlett Tree Experts may make a recommendation to remove or prune such a limb or otherwise mitigate the obvious safety issue. However, the Client should not infer that following such a recommendation and mitigating the immediate safety issue makes the tree in question safe for the use of the attached device or feature.

TREE RISK ASSESSMENTS AND MITIGATION

TREE RISK ASSESSMENTS AND MITIGATION

In reviewing the results and recommendations, the reader will find useful the specifications and definitions detailed in the preceding methodology. We used the following categories to organize the results and recommendations, which are displayed in tables:

- **Subject Trees Summarized According to:**
  - Tree Risk Assessment Results and Mitigation Recommendations
  - *Level 3 Advanced Assessment* Recommendations

Tree Risk Assessments and Mitigation

As part of the inventory process, the Inventory Team conducts a *Level 2 Basic assessment* from the ground. While every tree poses a risk, typically low, any trees that were found to have conditions that posed a hazardous situation, prompting the arborists to go through the steps outlined in the Tree Risk Assessments, Limitations, and Glossary section of this plan. *Overall Tree Risk Ratings* are then assigned to these trees.

During the *Level 2 Basic assessment* the Regional Inventory Arborist can determine whether some aspect of tree structure or health indicates that a more comprehensive tree structure evaluation, called a *Level 3 Advanced assessment*, is needed to more thoroughly evaluate tree condition and *likelihood of failure*.

Fungal conks had emerged from the swollen base of California bay #175. A *Level 3 Advanced assessment* is recommended to more thoroughly assess risk of failure.

In such cases, we may recommend *Level 3 Advanced assessments* of the roots, stem, or crown. These assessments may include climbing inspections, examination of the root system using a compressed-air tool (that avoids damage to roots and underground utilities), resistance-recording drilling, or sonic tomography that produces a visual representation of internal conditions based on how sound moved through the tree. The goal is to use the appropriate method to evaluate impact of wood decay in stems and buttress roots that show potential for failure and to determine presence and condition of the root system. Once those *Level 3*

Advanced assessments are completed, more specific recommendations can be made, such as remediation, maintenance, or removal.

The Tree Risk Table below summarizes the inventoried trees that were observed posing a hazardous situation during the course of the inventory, including those trees recommended for *Level 3 Advanced assessments*. The table is organized first by *Overall Tree Risk Rating* (highest to lowest), then by Tree & Shrub Work Phase (ascending order), and finally by Tree ID (ascending order).

TREE RISK ASSESSMENTS AND MITIGATION (228 Trees)

Tree ID	Common Name	DBH	Condition	*Tree Risk Rating*	Primary Target	Work Phase	Recommendation	Defects or Observations
170 *	Elm-American	55	Fair	High	Sidewalk	ASAP	• *Level 3 Advanced Assessment*: Crown • Prune: Reduce risk of branch stem and/or root failure • Prune: Reduce weight of branch ends	• Hanger • Low vigor
16	Maple-Bigleaf	21	Good	Moderate	Sidewalk	ASAP	• Prune: Reduce risk of branch stem and/or root failure • Prune: Reduce weight of branch ends	• Dead branches >2 • Overextended branch • Uneven crown • Wound-stem
19	Maple-Silver	31	Fair	Moderate	Walking path	ASAP	• Prune: Reduce risk of branch stem and/or root failure	• Cavity-stem • Dead branches >2 • Hanger
99	Maidenhair Tree	24	Fair	Moderate	Street	ASAP	• Prune: Reduce risk of branch stem and/or root failure • Prune: Reduce weight of branch ends	• Overextended branch
109	Oak-Scarlet	31	Good	Moderate	Walking path	ASAP	• Prune: Reduce risk of branch stem and/or root failure	• Dead branches >2 • Good form • Good structure
142	Planetree-London	18	Fair	Moderate	Picnic table	ASAP	• Prune: Reduce risk of branch stem and/or root failure	• Cavity-stem • Dead branches >2

Tree ID	Common Name	DBH	Condition	*Tree Risk Rating*	Primary Target	Work Phase	Recommendation	Defects or Observations
178	Planetree-London	22	Good	Moderate	Bench	ASAP	• Prune: Reduce risk of branch stem and/or root failure	• Dead branches >2
180	Planetree-London	21	Fair	Moderate	Bench	ASAP	• Prune: Reduce risk of branch stem and/or root failure	• Dead branches >2 • Sweep
182	Elm-American	32	Fair	Moderate	Bench	ASAP	• Prune: Reduce risk of branch stem and/or root failure	• Dead branches >2 • Dieback
191	Maple-Silver	23	Poor	Moderate	Parking	ASAP	• Prune: Reduce risk of branch stem and/or root failure	• Dead branches >2 • Dieback (severe)
203	Planetree-London	15	Fair	Moderate	Bench	ASAP	• Prune: Reduce risk of branch stem and/or root failure	• Dead branches >2 • Decay-stem • Fungi/conks
214 *	Maple-Silver	33	Poor	Moderate	Driveway	ASAP	• *Level 3 Advanced Assessment*: Stem • Prune: Reduce risk of branch stem and/or root failure • Prune: Reduce weight of branch ends	• Broken branch(s) • Dead branches >2 • Decay-root flare • Overextended branch
44 *	Cedar-Deodar	30	Poor	Moderate	Sidewalk	1	• *Level 3 Advanced Assessment*: Stem • *Level 3 Advanced Assessment*: Root • Prune: Reduce risk of branch stem and/or root failure	• Dead branches >2 • Good structure • Low vigor • Wound-root flare
118	Maple-Freeman's	7	Poor	Moderate	Sitting area	1	• Removal	• Dieback (severe) • Low vigor

Tree ID	Common Name	DBH	Condition	*Tree Risk Rating*	Primary Target	Work Phase	Recommendation	Defects or Observations
119	Maple-Freeman's	7	Poor	Moderate	Sitting area	1	• Removal	• Dead branches >2 • Low vigor
184	Elm-American	36	Fair	Moderate	Bench	1	• Prune: Reduce risk of branch stem and/or root failure • Prune: Reduce weight of branch ends	• Dead branches >2 • Low vigor • Overextended branch
189	Maple-Silver	23	Fair	Moderate	Street	1	• Prune: Reduce risk of branch stem and/or root failure • Prune: Reduce weight of branch ends	• Overextended branch • Sweep
192	Maple-Silver	34	Poor	Moderate	Parking	1	• Prune: Reduce risk of branch stem and/or root failure • Prune: Reduce weight of branch ends	• Cavity-stem • Dead branches >2 • Dieback (severe)
207 *	Eucalyptus-Manna Gum	36	Fair	Moderate	Street	1	• *Level 3 Advanced Assessment*: Root • Prune: Reduce risk of branch stem and/or root failure • Prune: Reduce weight of branch ends	• Burl • Decay-root flare • Decay-stem • Wound-root flare
24	Planetree-London	21	Good	Low	Bench	ASAP	• Prune: Reduce risk of branch stem and/or root failure	• Hanger • Uneven crown
70	Redwood-Coast	24	Good	Low	Driveway	ASAP	• Prune: Reduce risk of branch stem and/or root failure	• Hanger

Tree ID	Common Name	DBH	Condition	*Tree Risk Rating*	Primary Target	Work Phase	Recommendation	Defects or Observations
74	Planetree-London	19	Good	Low	Sitting area	ASAP	• Prune: Reduce risk of branch stem and/or root failure	• Dead branches >2 • Sweep
100	Planetree-London	20	Good	Low	Walking path	ASAP	• Prune: Reduce risk of branch stem and/or root failure • Prune: Reduce weight of branch ends	• Dead branches >2 • Overextended branch
105	Planetree-London	23	Good	Low	Sidewalk	ASAP	• Prune: Reduce risk of branch stem and/or root failure	• Dead branches >2
112	Oak-Pin	18	Good	Low	Turf area	ASAP	• Prune: Reduce risk of branch stem and/or root failure	• Dead branches <=2 • Hanger
116	Planetree-London	31	Good	Low	Walking path	ASAP	• Prune: Reduce risk of branch stem and/or root failure	• Dead branches >2 • Good form • Good structure
121	Maple-Freeman's	6	Dead	Low	Sitting area	ASAP	• Removal	
156	Oak-Pin	27	Good	Low	Sidewalk	ASAP	• Prune: Reduce risk of branch stem and/or root failure • Prune: Clearance	• Dead branches >2 • Hanger
172	Elm-American	23,18	Fair	Low	Sidewalk	ASAP	• Prune: Reduce risk of branch stem and/or root failure	• Dead branches >2
173	Maple-Japanese	3,3	Good	Low	Turf area	ASAP	• Prune: Repair storm damage	• Broken branch(s)
195	Oak-Scarlet	21	Good	Low	Walking path	ASAP	• Prune: Reduce risk of branch stem and/or root failure	• Dead branches >2

Tree ID	Common Name	DBH	Condition	*Tree Risk Rating*	Primary Target	Work Phase	Recommendation	Defects or Observations
3	Palm-Mexican Fan	14	Good	Low	Driveway	1	• Prune: Reduce risk of branch stem and/or root failure	• Wound-stem
4 *	Maple-Silver	38	Fair	Low	Walking path	1	• *Level 3 Advanced Assessment*: Crown • *Level 3 Advanced Assessment*: Stem • Prune: Reduce risk of branch stem and/or root failure • Cable: Inspect	• Cavity-stem • Included bark • Low vigor • Wound-root flare
8	Planetree-London	18	Fair	Low	Turf area	1	• Prune: Reduce risk of branch stem and/or root failure	• Dead branches >2 • Uneven crown
9	Planetree-London	15	Fair	Low	Turf area	1	• Prune: Reduce risk of branch stem and/or root failure	• Dead branches <=2 • Uneven crown
12	Planetree-London	15	Good	Low	Turf area	1	• Prune: Reduce risk of branch stem and/or root failure	• Dead branches <=2 • Low live crown ratio
13	Planetree-London	15	Good	Low	Turf area	1	• Prune: Reduce risk of branch stem and/or root failure	• Dead branches >2 • Uneven crown
17 *	Maple-Silver	38	Fair	Low	Sidewalk	1	• *Level 3 Advanced Assessment*: Stem • Prune: Reduce risk of branch stem and/or root failure • Cable: Inspect	• Dead branches >2 • Decay-root flare • Low vigor

Tree ID	Common Name	DBH	Condition	*Tree Risk Rating*	Primary Target	Work Phase	Recommendation	Defects or Observations
18 *	Catalpa-Western	31	Poor	Low	Street	1	• *Level 3 Advanced Assessment*: Stem • *Level 3 Advanced Assessment*: Root • Prune: Clearance	• Decay-root flare • Decay-stem • Wound-root flare
33	Palm-California Fan	27	Fair	Low	Sitting area	1	• Prune: Reduce risk of branch stem and/or root failure	• Lean • Low vigor • Wound-stem
67	Cedar-Deodar	31	Good	Low	Driveway	1	• Prune: Reduce risk of branch stem and/or root failure • Prune: Reduce weight of branch ends	• Co-dominant stems • Overextended branch
78	Redwood-Coast	26	Good	Low	Walking path	1	• Prune: Reduce risk of branch stem and/or root failure • Prune: Clearance	• Broken branch(s)
80	Italian Cypress	17	Fair	Low	Sitting area	1	• Prune: Reduce risk of branch stem and/or root failure • Prune: Reduce weight of branch ends	• Co-dominant stems • Dead branches >2 • Included bark
92	Cedar-Atlas	30	Fair	Low	Sidewalk	1	• Prune: Reduce risk of branch stem and/or root failure • Prune: Reduce weight of branch ends	• Overextended branch • Uneven crown

Tree ID	Common Name	DBH	Condition	*Tree Risk Rating*	Primary Target	Work Phase	Recommendation	Defects or Observations
95 *	Catalpa-Western	46	Fair	Low	Sitting area	1	• *Level 3 Advanced Assessment*: Crown • *Level 3 Advanced Assessment*: Stem • *Level 3 Advanced Assessment*: Root • Prune: Reduce risk of branch stem and/or root failure	• Decay-root flare • Decay-stem • Good vigor • Seam
107	Oak-Cork	34	Good	Low	Turf area	1	• Prune: Reduce risk of branch stem and/or root failure	• Dead branches <=2
145 *	Sweetgum-Common	17	Fair	Low	Walking path	1	• *Level 3 Advanced Assessment*: Crown • Prune: Reduce risk of branch stem and/or root failure • Prune: Reduce weight of branch ends	• Cavity-stem • Dead branches >2 • Overextended branch
150	Planetree-London	11	Fair	Low	Turf area	1	• Prune: Reduce risk of branch stem and/or root failure	• Dead branches >2
154	Sweetgum-Common	19	Fair	Low	Parking	1	• Prune: Reduce risk of branch stem and/or root failure • Prune: Reduce weight of branch ends	• Overextended branch
160	Planetree-London	16	Fair	Low	Playground	1	• Prune: Reduce risk of branch stem and/or root failure • Prune: Reduce weight of branch ends	• Hanger • Suppressed • Sweep

Tree ID	Common Name	DBH	Condition	*Tree Risk Rating*	Primary Target	Work Phase	Recommendation	Defects or Observations
164	Cedar-Deodar	43	Fair	Low	Driveway	1	• Prune: Reduce risk of branch stem and/or root failure • Prune: Reduce weight of branch ends • Cable: New 1	• Broken branch(s)
167	Cedar-Deodar	45	Good	Low	Turf area	1	• Prune: Reduce risk of branch stem and/or root failure	• Dead branches >2 • Girdling roots present
169	Cedar-Deodar	30	Fair	Low	Turf area	1	• Prune: Reduce risk of branch stem and/or root failure	
175 *	California Bay	47	Poor	Low	Driveway	1	• *Level 3 Advanced Assessment*: Stem • *Level 3 Advanced Assessment*: Root • Prune: Reduce risk of branch stem and/or root failure	• Butt swell • Dead branches >2 • Decay-root flare • Fungi/conks
177	Maple-Japanese	6	Good	Low	Turf area	1	• Prune: Repair storm damage	• Broken branch(s)
181	Maple-Japanese	3,3,3,2,2,2	Fair	Low	Sidewalk	1	• Prune: Repair storm damage • Prune: Encourage proper scaffold limb development	• Poor branch structure

Tree ID	Common Name	DBH	Condition	*Tree Risk Rating*	Primary Target	Work Phase	Recommendation	Defects or Observations
187 *	Maple-Silver	38	Poor	Low	Parking	1	• *Level 3 Advanced Assessment*: Stem • Prune: Reduce risk of branch stem and/or root failure • Prune: Reduce weight of branch ends • Cable: Inspect/New	• Cavity-stem • Co-dominant stems • Decay-stem • Dieback (moderate)
190	Elm-American	37	Fair	Low	Turf area	1	• Prune	• Dead branches >2 • Low vigor
193	Maple-Bigleaf	23	Good	Low	Turf area	1	• Prune: Reduce risk of branch stem and/or root failure	• Cavity-stem • Dead branches >2
196	Oak-Pin	16	Good	Low	Walking path	1	• Prune: Reduce risk of branch stem and/or root failure	• Dead branches <=2
197	Planetree-London	20	Good	Low	Walking path	1	• Prune	• Dead branches >2
198	Planetree-London	19	Good	Low	Walking path	1	• Prune: Reduce risk of branch stem and/or root failure	• Dead branches >2
205	Planetree-London	17	Good	Low	Walking path	1	• Prune: Reduce risk of branch stem and/or root failure	• Dead branches >2 • Good structure
212	Maple-Silver	30	Fair	Low	Driveway	1	• Prune: Reduce risk of branch stem and/or root failure • Prune: Reduce weight of branch ends	• Dead branches >2 • Decay-stem • Overextended branch
216	Planetree-London	30	Good	Low	Walking path	1	• Prune: Reduce risk of branch stem and/or root failure	• Dead branches >2

Tree ID	Common Name	DBH	Condition	*Tree Risk Rating*	Primary Target	Work Phase	Recommendation	Defects or Observations
217	Planetree-London	27	Good	Low	Turf area	1	• Prune: Reduce risk of branch stem and/or root failure	• Dead branches >2
218	Planetree-London	15	Good	Low	Walking path	1	• Prune: Reduce risk of branch stem and/or root failure	• Dead branches >2
2	Italian Cypress (9)	6	Fair	Low	Driveway	2	• Prune: Maintain size and shape • RCX	• Wound-root flare
35	Cherry-Flowering	6,4,3	Fair	Low	Turf area	2	• Prune: Reduce weight of branch ends • Prune: Improve form and shape	• Included bark • Overextended branch
48	Magnolia-Saucer	3,3,3,3,2,1	Good	Low	Walking path	2	• Prune: Clearance • RCX	
49	Magnolia-Saucer	3,3,2,2,2,1	Good	Low	Walking path	2	• Prune: Clearance	
51	Honeylocust-Common	12	Fair	Low	Walking path	2	• Prune: Clearance • Prune: Improve form and shape	• Dieback (moderate) • Seam
52	Italian Cypress	14	Good	Low	Walking path	2	• Prune: Reduce risk of branch stem and/or root failure • Prune: Reduce weight of branch ends	• Co-dominant stems • Included bark
53	Italian Cypress	20	Good	Low	Sitting area	2	• Prune: Reduce risk of branch stem and/or root failure • Prune: Reduce weight of branch ends • Cable: Inspect/New	• Corrected lean • Wound-root

Tree ID	Common Name	DBH	Condition	*Tree Risk Rating*	Primary Target	Work Phase	Recommendation	Defects or Observations
55	Maple-Japanese	4,4,3,3,2	Good	Low	Sitting area	2	• Prune: Reduce risk of branch stem and/or root failure	• Dead branches >2 • Suppressed
57	Redwood-Coast	29	Good	Low	Walking path	2	• Prune: Reduce risk of branch stem and/or root failure	
58	Redwood-Coast	17	Good	Low	Walking path	2	• Prune: Reduce risk of branch stem and/or root failure	
65	Planetree-London	16	Fair	Low	Walking path	2	• Prune: Reduce risk of branch stem and/or root failure • Prune: Reduce weight of branch ends	• Sweep • Wound-stem
77	Maple-Japanese	4,3,3,2	Poor	Low	Walking path	2	• Removal	• Dieback (severe)
85	Italian Cypress	7	Good	Low	Building	2	• Prune: Clearance	• Suppressed
88	Italian Cypress	7	Good	Low	Building	2	• Prune: Clearance	• Good form
96	Cedar-Deodar	29	Good	Low	Parking	2	• Prune: Reduce risk of branch stem and/or root failure • Prune: Reduce weight of branch ends	• Good form • Good structure • Good vigor • Overextended branch
97	Maidenhair Tree	15,10	Good	Low	Parking	2	• Prune: Clearance • Prune: Maintain size and shape	• Good vigor • Topping/heading cuts
101	Maidenhair Tree	16	Good	Low	Sidewalk	2	• Prune: Clearance	• Uneven crown
117	Planetree-London	24	Good	Low	Driveway	2	• Prune: Reduce risk of branch stem and/or root failure	• Hanger

Tree ID	Common Name	DBH	Condition	*Tree Risk Rating*	Primary Target	Work Phase	Recommendation	Defects or Observations
120	Maple-Freeman's	9	Fair	Low	Sitting area	2	• Prune: Reduce risk of branch stem and/or root failure	• Dead branches <=2 • Low live crown ratio • Uneven crown
128	Palm-California Fan	27	Good	Low	Turf area	2	• Prune	• Dead branches >2
133	Palm-Mexican Fan	17	Fair	Low	Turf area	2	• Prune	• Dead branches >2
134	Palm-Mexican Fan	16	Good	Low	Turf area	2	• Prune	• Dead branches >2 • Wound-stem
135	Redwood-Giant	51	Fair	Low	Turf area	2	• Prune: Reduce risk of branch stem and/or root failure • Prune: Improve appearance	• Dead branches >2 • Dieback (moderate)
152	Planetree-London	32	Good	Low	Playground	2	• Prune: Reduce risk of branch stem and/or root failure • Prune: Reduce weight of branch ends	• Overextended branch
153	Cedar-Atlas	27	Fair	Low	Bench	2	• Prune: Reduce risk of branch stem and/or root failure • Prune: Reduce weight of branch ends	• Broken branch(s)
165	Chinese Pistache	14	Good	Low	Bench	2	• Prune: Reduce risk of branch stem and/or root failure • Cable: New 1	• Included bark
185	Tuliptree	17	Good	Low	Turf area	2	• Prune	• Dead branches <=2
210	Palm-California Fan	31	Fair	Low	Street	2	• Prune	• Wound-stem

Tree ID	Common Name	DBH	Condition	*Tree Risk Rating*	Primary Target	Work Phase	Recommendation	Defects or Observations
211	Palm-Mexican Fan	13	Good	Low	Street	2	• Prune	• Corrected lean
220	Italian Cypress (6)	2,2,2,2,2,2	Poor	Low	Driveway	2	• Prune: Maintain size and shape	• Dieback (severe)
6	Magnolia-Southern	7	Good	Low	Turf area	3	• Prune: Encourage proper scaffold limb development	
7	Magnolia-Southern	5	Good	Low	Turf area	3	• Prune: Develop branch structure	• Seam
11	Planetree-London	18	Good	Low	Walking path	3	• Prune: Reduce risk of branch stem and/or root failure • Prune: Reduce weight of branch ends	• Cavity-branch • Uneven crown • Wound-root
15	Planetree-London	31	Good	Low	Street	3	• Prune: Reduce likelihood of storm damage • Prune: Reduce weight of branch ends	• Good form • Overextended branch
21	Planetree-London	30	Good	Low	Bench	3	• Prune: Reduce weight of branch ends	• Overextended branch
23	Planetree-London	22	Good	Low	Walking path	3	• Prune: Reduce weight of branch ends	• Overextended branch
25	Planetree-London	26	Good	Low	Sitting area	3	• Prune: Reduce likelihood of storm damage • Prune: Reduce weight of branch ends	• Overextended branch

Tree ID	Common Name	DBH	Condition	*Tree Risk Rating*	Primary Target	Work Phase	Recommendation	Defects or Observations
27	Planetree-London	24	Good	Low	Turf area	3	• Prune: Reduce likelihood of storm damage • Prune: Reduce weight of branch ends	• Overextended branch
28	Planetree-London	22	Good	Low	Driveway	3	• Prune: Reduce likelihood of storm damage • Prune: Reduce weight of branch ends	• Overextended branch
30	Cherry-Flowering	10	Fair	Low	Turf area	3	• Prune: Improve form and shape	• Dead branches <=2 • Suppressed • Sweep
34	Cherry-Flowering	7,4,4	Good	Low	Turf area	3	• Prune	• Dead branches <=2
47 *	Madrone-Marina	15	Poor	Low	Walking path	3	• *Level 3 Advanced Assessment*: Root • Prune	• Dead branches >2 • Dieback (severe) • Wound-root flare
50	Crapemyrtle-Common (6)	6	Good	Low	Walking path	3	• Prune: Improve form and shape • RCX	• Wound-stem
73	Dogwood-Kousa	1,1,1,1	Good	Low	Walking path	3	• Prune: Improve form and shape • Prune: Reduce weight of branch ends	• Sweep
75	Maidenhair Tree	19	Good	Low	Sitting area	3	• Prune: Reduce risk of branch stem and/or root failure • Prune: Reduce weight of branch ends	• Overextended branch • Uneven crown
81	Redwood-Coast	18	Fair	Low	Building	3	• Prune: Clearance	• Poor branch structure

Tree ID	Common Name	DBH	Condition	*Tree Risk Rating*	Primary Target	Work Phase	Recommendation	Defects or Observations
82	Italian Cypress	32	Good	Low	Sitting area	3	• Prune: Reduce likelihood of storm damage • Prune: Reduce weight of branch ends	• Co-dominant stems • Included bark
83	Oak-Scarlet	19	Good	Low	Walking path	3	• Prune	• Dead branches <=2
87	Italian Cypress	7	Good	Low	Building	3	• Prune	• Dead branches <=2
89	Madrone-Marina	5	Poor	Low	Walking path	3	• Prune	• Dieback (moderate) • Wound-root flare • Wound-stem
91	Planetree-London	27	Good	Low	Street	3	• Prune: Reduce likelihood of storm damage • Prune: Reduce weight of branch ends	
94	Elm	10	Good	Low	Walking path	3	• Prune: Encourage proper scaffold limb development	• Girdling roots present • Good form • Good vigor
98	Planetree-London	17	Good	Low	Street	3	• Prune: Reduce likelihood of storm damage • Prune: Reduce weight of branch ends	• Overextended branch
108	Maple-Freeman's	17	Fair	Low	Parking	3	• Prune: Reduce likelihood of storm damage • Prune: Encourage proper scaffold limb development	• Included bark • Poor branch structure

Tree ID	Common Name	DBH	Condition	*Tree Risk Rating*	Primary Target	Work Phase	Recommendation	Defects or Observations
111	Palm-Mexican Fan	17	Good	Low	Turf area	3	• Prune	
113	Cherry Laurel-Portuguese	11	Fair	Low	Turf area	3	• Prune: Maintain size and shape	• Cavity-root flare • Decay-stem
126	Privet-Glossy	28,23,11	Fair	Low	Turf area	3	• Prune	• Dead branches >2
127	Magnolia-Southern	26	Good	Low	Parking	3	• Prune: Clearance	• Good structure
139	Planetree-London	27	Good	Low	Picnic table	3	• Prune: Reduce likelihood of storm damage • Prune: Reduce weight of branch ends	• Dead branches <=2
146	Italian Cypress	22	Fair	Low	Turf area	3	• Prune	• Dead branches >2 • Wound-stem
157	Oak-Scarlet	27	Good	Low	Parking	3	• Prune: Clearance • Prune: Reduce likelihood of storm damage • Prune: Reduce weight of branch ends	• Good form
163	Planetree-London	20	Good	Low	Bench	3	• Prune: Reduce likelihood of storm damage • Prune: Reduce weight of branch ends	• Overextended branch
168	Planetree-London	18	Good	Low	Turf area	3	• Prune	• Cavity-stem • Dead branches >2
186	Tuliptree	21	Good	Low	Turf area	3	• Prune	• Dead branches >2 • Good vigor

Tree ID	Common Name	DBH	Condition	*Tree Risk Rating*	Primary Target	Work Phase	Recommendation	Defects or Observations
201	Planetree-London	25	Good	Low	Sidewalk	3	• Prune: Reduce likelihood of storm damage • Prune: Reduce weight of branch ends	• Overextended branch
219	Planetree-London	22	Good	Low	Driveway	3	• Prune: Reduce likelihood of storm damage	• Overextended branch
43	Oak-Pin	19	Good	Low	Sidewalk	4	• Prune: Clearance • Prune: Reduce weight of branch ends	• Good vigor
46	Planetree-London	26	Good	Low	Sidewalk	4	• Prune: Reduce likelihood of storm damage	• Good vigor
68	Italian Cypress	13,12	Good	Low	Driveway	4	• Prune: Reduce likelihood of storm damage	• Co-dominant stems
102	Palm-Chinese Windmill	6	Fair	Low	Sidewalk	4	• Prune	
103 *	Elm-American	35	Good	Low	Picnic table	4	• *Level 3 Advanced Assessment*: Root • Prune: Reduce likelihood of storm damage • Prune: Reduce weight of branch ends	• Fungi/conks
115	Maple-Freeman's	12	Fair	Low	Bench	4	• Prune: Reduce likelihood of storm damage • Prune: Encourage proper scaffold limb development	• Girdling roots present • Good vigor • Included bark • Lean

Tree ID	Common Name	DBH	Condition	*Tree Risk Rating*	Primary Target	Work Phase	Recommendation	Defects or Observations
138	Planetree-London	19	Good	Low	Walking path	4	• Prune: Reduce likelihood of storm damage • Prune: Reduce weight of branch ends	• Sweep
148	Planetree-London	32	Good	Low	Parking	4	• Prune: Reduce likelihood of storm damage • Prune: Reduce weight of branch ends	• Sweep
166	Chinese Pistache	8	Good	Low	Bench	4	• Prune: Encourage proper scaffold limb development • Prune: Reduce weight of branch ends	• Good form • Good vigor
174	Redbud-Eastern	10	Good	Low	Turf area	4	• Prune: Maintain size and shape • Prune: Reduce weight of branch ends	• Broken branch(s)
200	Planetree-London	37	Good	Low	Sidewalk	4	• Prune: Clearance • Prune: Reduce weight of branch ends	
202	Planetree-London	15	Good	Low	Turf area	4	• Prune: Improve appearance	• Sweep
208	Eucalyptus-Blue Gum	108	Fair	Low	Sidewalk	4	• Prune	• Dead branches >2 • Dieback (moderate)
221	Palm-Canary Island Date	21	Good	Low	Turf area	4	• Prune	• Wound-stem

Tree ID	Common Name	DBH	Condition	*Tree Risk Rating*	Primary Target	Work Phase	Recommendation	Defects or Observations
5	Redwood-Coast	14	Good	Low	Walking path	5	• Prune: Develop branch structure • Prune: Promote development of strong central stem	• Good form • Good structure • Good vigor
10	Planetree-London	14	Good	Low	Turf area	5	• Prune: Reduce weight of branch ends	• Dead branches <=2 • Uneven crown
14	Planetree-London	14	Good	Low	Turf area	5	• Prune: Reduce risk of branch stem and/or root failure • Prune: Reduce weight of branch ends	
20	Planetree-London	9	Good	Low	Sidewalk	5	• Prune: Reduce weight of branch ends	• Uneven crown
26	Planetree-London	23	Good	Low	Sitting area	5	• Prune: Reduce weight of branch ends	
29 *	Italian Cypress	25	Fair	Low	Building	5	• *Level 3 Advanced Assessment*: Root • Prune: Reduce weight of branch ends	• Good vigor • Wound-root flare
31	Crapemyrtle-Common	6	Good	Low	Turf area	5	• Prune: Encourage proper scaffold limb development • Prune: Reduce density • Prune: Maintain size and shape	• Good form
32	Common Baldcypress	17	Good	Low	Turf area	5	• Prune: Encourage proper scaffold limb development • Prune: Reduce likelihood of storm damage	• Co-dominant stems • Girdling roots suspected • Wound-root

Tree ID	Common Name	DBH	Condition	*Tree Risk Rating*	Primary Target	Work Phase	Recommendation	Defects or Observations
36	Cherry-Flowering	6,4	Good	Low	Turf area	5	• Prune: Maintain size and shape	• Dead branches <=2
37	Cherry-Flowering	8	Fair	Low	Sitting area	5	• Prune: Improve form and shape	• Suppressed • Sweep
38	Cherry-Flowering	8	Fair	Low	Sitting area	5	• Prune: Improve form and shape	• Suppressed • Sweep
39	Cherry-Flowering	18	Good	Low	Sitting area	5	• Prune: Maintain size and shape	• Wound-root
64	Redwood-Coast	19,7	Good	Low	Sitting area	5	• Prune: Promote development of strong central stem	• Uneven crown
76	Crapemyrtle-Common	5	Fair	Low	Sitting area	5	• Prune: Improve form and shape	• Low live crown ratio • Wound-stem
106	Maidenhair Tree	25	Good	Low	Walking path	5	• Prune: Maintain size and shape	• Co-dominant stems • Included bark • Wound-stem
110	Spruce-Norway	12	Good	Low	Parking	5	• Prune: Clearance	
114	Cedar-Deodar	26	Good	Low	Playground	5	• Prune: Reduce likelihood of storm damage • Prune: Reduce weight of branch ends	• Good structure • Good vigor
125	Not on list	18	Good	Low	Turf area	5	• Prune: Reduce likelihood of storm damage • Prune: Reduce weight of branch ends	• Good form • Good vigor

Tree ID	Common Name	DBH	Condition	*Tree Risk Rating*	Primary Target	Work Phase	Recommendation	Defects or Observations
137	Planetree-London	25	Good	Low	Driveway	5	• Prune: Reduce likelihood of storm damage • Prune: Reduce weight of branch ends	• Good vigor
141	Planetree-London	16	Fair	Low	Picnic table	5	• Prune: Reduce likelihood of storm damage • Prune: Reduce weight of branch ends	• Decay-stem • Sweep
143	Planetree-London	15	Fair	Low	Picnic table	5	• Prune: Reduce likelihood of storm damage • Prune: Reduce weight of branch ends	• Low live crown ratio
147	Elm-American	54	Good	Low	Parking	5	• Prune: Reduce likelihood of storm damage • Cable: Inspect	• Good form • Good vigor
151	Planetree-London	25	Good	Low	Turf area	5	• Prune: Reduce likelihood of storm damage • Prune: Reduce weight of branch ends	• Good vigor
155	Oak-Northern Red	31	Good	Low	Turf area	5	• Prune: Reduce likelihood of storm damage • Prune: Reduce weight of branch ends	• Good form
159	Elm	12	Good	Low	Walking path	5	• Prune: Encourage proper scaffold limb development	• Good structure

Tree ID	Common Name	DBH	Condition	*Tree Risk Rating*	Primary Target	Work Phase	Recommendation	Defects or Observations
161	Planetree-London	16	Fair	Low	Playground	5	• Prune: Reduce likelihood of storm damage • Prune: Reduce weight of branch ends	• Cavity-stem • Suppressed • Sweep
162	Planetree-London	18	Good	Low	Playground	5	• Prune: Reduce likelihood of storm damage • Prune: Reduce weight of branch ends	• Sweep
171	Maple-Japanese	3,3,3,3,2,2	Good	Low	Bench	5	• Prune: Reduce weight of branch ends	
188	Douglas Fir	32	Good	Low	Parking	5	• Prune: Reduce weight of branch ends	• Good vigor
213	Magnolia-Southern	14,9	Fair	Low	Driveway	5	• Prune: Encourage proper scaffold limb development	• Girdling roots present
215	Oak-Pin	21	Good	Low	Turf area	5	• Prune: Reduce likelihood of storm damage • Prune: Reduce weight of branch ends • Prune: Encourage proper scaffold limb development	• Good vigor
222	Chinese Pistache	5	Good	Low	Turf area	5	• Prune: Develop branch structure	• Girdling roots present • Good vigor
223	Maple-Freeman's	4	Good	Low	Turf area	5	• Prune: Develop branch structure	• Good vigor
224	Oak-Scarlet	3	Fair	Low	Turf area	5	• Prune: Develop branch structure	• Decay-root • Wound-root flare

Tree ID	Common Name	DBH	Condition	*Tree Risk Rating*	Primary Target	Work Phase	Recommendation	Defects or Observations
22 **	Planetree-London	20	Good	Low	Bench			
45 **	Redwood-Coast	40	Good	Low	Turf area			
54 **	Redwood-Coast	25	Good	Low	Walking path			
56 **	Redwood-Coast	18	Good	Low	Walking path			
59 **	Redwood-Coast	5	Fair	Low	Walking path			• Suppressed
60 **	Redwood-Coast	25	Good	Low	Walking path			• Hanger
61 **	Redwood-Coast	8	Fair	Low	Sitting area			• Suppressed
62 **	Redwood-Coast	2	Fair	Low	Walking path			• Suppressed
63 **	Redwood-Coast	18	Good	Low	Walking path			• Good vigor
66 **	Redwood-Coast	27	Good	Low	Sitting area			• Good form
69 **	Redwood-Coast	20	Good	Low	Sitting area			• Good vigor
71 **	Redwood-Coast	21	Good	Low	Driveway			• Good structure
72 **	Redwood-Coast	15	Good	Low	Walking path			• Suppressed
79 **	Redwood-Coast	3	Good	Low	Walking path			• Suppressed
122 **	Cabbage Tree	9,7,7	Good	Low	Bench			
124 **	Magnolia-Southern	37	Fair	Low	Walking path			• Dead branches >2 • Dieback (moderate) • Low vigor • Wound-stem
129 **	Redwood-Coast	23	Good	Low	Turf area			• Good vigor
130 **	Redwood-Coast	31	Good	Low	Turf area			• Good vigor
131 **	Redwood-Coast	24	Good	Low	Turf area			• Good vigor

Tree ID	Common Name	DBH	Condition	*Tree Risk Rating*	Primary Target	Work Phase	Recommendation	Defects or Observations
140 **	Planetree-London	17	Good	Low	Picnic table			• Good structure
144 **	Oak-Cork	18	Good	Low	Walking path			• Good structure • Good vigor
149 **	Planetree-London	24	Good	Low	Walking path			• Good structure
158 **	Common Baldcypress	16	Good	Low	Turf area			• Good structure
176 **	Maple-Japanese	9	Good	Low	Sidewalk			• Good form • Good vigor
183 **	Maple-Japanese	3,3,3,2,2,2	Good	Low	Sidewalk			• Good form
194 **	Palm-Chinese Windmill	6	Good	Low	Turf area			• Good vigor
199 **	Planetree-London	19	Good	Low	Turf area			• Wound-stem
204 **	Planetree-London	3	Good	Low	Walking path			• Wound-root
206 **	Redwood-Coast	38	Fair	Low	Sidewalk			• Low vigor

*Tree has a Mitigation Recommendation and a *Level 3 Advanced Assessment* Recommendation. Outcome of the *Level 3 Advanced assessment* will guide the final recommendations.

**Any tree without a mitigation recommendation or *Level 3 Advanced Assessment* recommendation should be retained and monitored.

INVENTORIED TREES ASSIGNED *OVERALL TREE RISK RATINGS* AT THE TIME OF DATA COLLECTION

Overall Tree Risk Rating: Low Moderate High

INVENTORIED TREES RECOMMENDED FOR *LEVEL 3 ADVANCED ASSESSMENTS*

Advanced Assessments: Roots | Stem | Crown | Roots,Stem | Crown,Stem | Roots,Stem,Crown

STAND DYNAMICS RESULTS

STAND DYNAMICS RESULTS

In reviewing the results and recommendations, the reader will find useful the specifications and definitions detailed in the preceding methodology above. We used the following categories to organize the stand dynamics results, which are displayed in tables:

- **Subject Trees Summarized According to:**
  - Tree Species Identified
  - Tree Groupings
  - Condition Class
  - Age Class
  - Tree Size per DBH
  - Estimated Tree Asset Value

Where appropriate, we have included explanations, photos, drawings, or other information to illuminate the table contents.

Stand Dynamics

Tree Species Identified

Our inventory revealed 44 species of trees, as detailed in the following table:

TREE SPECIES IDENTIFIED

Genus	Species	Common Name	Count	% Distribution Total
Acer	*macrophyllum*	Maple-Bigleaf	2	1%
	palmatum	Maple-Japanese	8	4%
	saccharinum	Maple-Silver	8	4%
	saccharum	Maple-Sugar	1	< 1%
	x *freemanii*	Maple-Freeman's	7	3%
***Acer* Total**			**26**	**11%**
Arbutus	var. 'Marina'	Madrone-Marina	2	1%
Catalpa	*speciosa*	Catalpa-Western	2	1%
Cedrus	*atlantica*	Cedar-Atlas	2	1%
	deodara	Cedar-Deodar	7	3%
***Cedrus* Total**			**9**	**4%**
Cercis	*canadensis*	Redbud-Eastern	1	< 1%
Cordyline	*australis*	Cabbage Tree	1	< 1%
Cornus	*kousa*	Dogwood-Kousa	1	< 1%
Cupressus	*sempervirens*	Italian Cypress	25	11%
Eucalyptus	*globulus*	Eucalyptus-Blue Gum	1	< 1%
	viminalis	Eucalyptus-Manna Gum	1	< 1%
***Eucalyptus* Total**			**2**	**1%**
Ginkgo	*biloba*	Maidenhair Tree	5	2%
Gleditsia	*triacanthos*	Honeylocust-Common	1	< 1%
Lagerstroemia	*indica*	Crapemyrtle-Common	8	4%
Ligustrum	*lucidum*	Privet-Glossy	1	< 1%

Genus	Species	Common Name	Count	% Distribution Total
Liquidambar	*styraciflua*	Sweetgum-Common	2	1%
Liriodendron	*tulipifera*	Tuliptree	2	1%
Magnolia	*grandiflora*	Magnolia-Southern	5	2%
	x *soulangeana*	Magnolia-Saucer	2	1%
Magnolia **Total**			**7**	**3%**
Phoenix	*canariensis*	Palm-Canary Island Date	1	< 1%
Picea	*abies*	Spruce-Norway	1	< 1%
Pistacia	*chinensis*	Chinese Pistache	3	1%
Platanus	x *hispanica*	Planetree-London	58	25%
Prunus	*lusitanica*	Cherry Laurel-Portuguese	1	< 1%
	serrulata	Cherry-Flowering	7	3%
Prunus **Total**			**8**	**4%**
Pseudotsuga	*menziesii*	Douglas Fir	1	< 1%
Quercus	*coccinea*	Oak-Scarlet	5	2%
	palustris	Oak-Pin	5	2%
	rubra	Oak-Northern Red	1	< 1%
	suber	Oak-Cork	2	1%
Quercus **Total**			**13**	**6%**
Sequoia	*sempervirens*	Redwood-Coast	24	11%
Sequoiadendron	*giganteum*	Redwood-Giant	1	< 1%
Taxodium	*distichum*	Common Baldcypress	2	1%
Trachycarpus	*fortunei*	Palm-Chinese Windmill	2	1%
Ulmus	*americana*	Elm-American	7	3%
	sp.	Elm	2	1%
Ulmus **Total**			**9**	**4%**
Umbellularia	*californica*	California Bay	1	< 1%
Washingtonia	*filifera*	Palm-California Fan	3	1%
	robusta	Palm-Mexican Fan	5	2%
Washingtonia **Total**			**8**	**4%**
Grand Total			**228**	**100%**

2022 TREE INVENTORY

Tree Groupings

The following table displays inventoried trees that were recorded as groupings. Throughout the management plan, those trees recorded as groupings will be displayed with the number of plantings in parentheses after the common name.

TREE GROUPINGS

Tree ID	Common Name	Total Plants
2	Italian Cypress	9
50	Crapemyrtle-Common	6
220	Italian Cypress	6

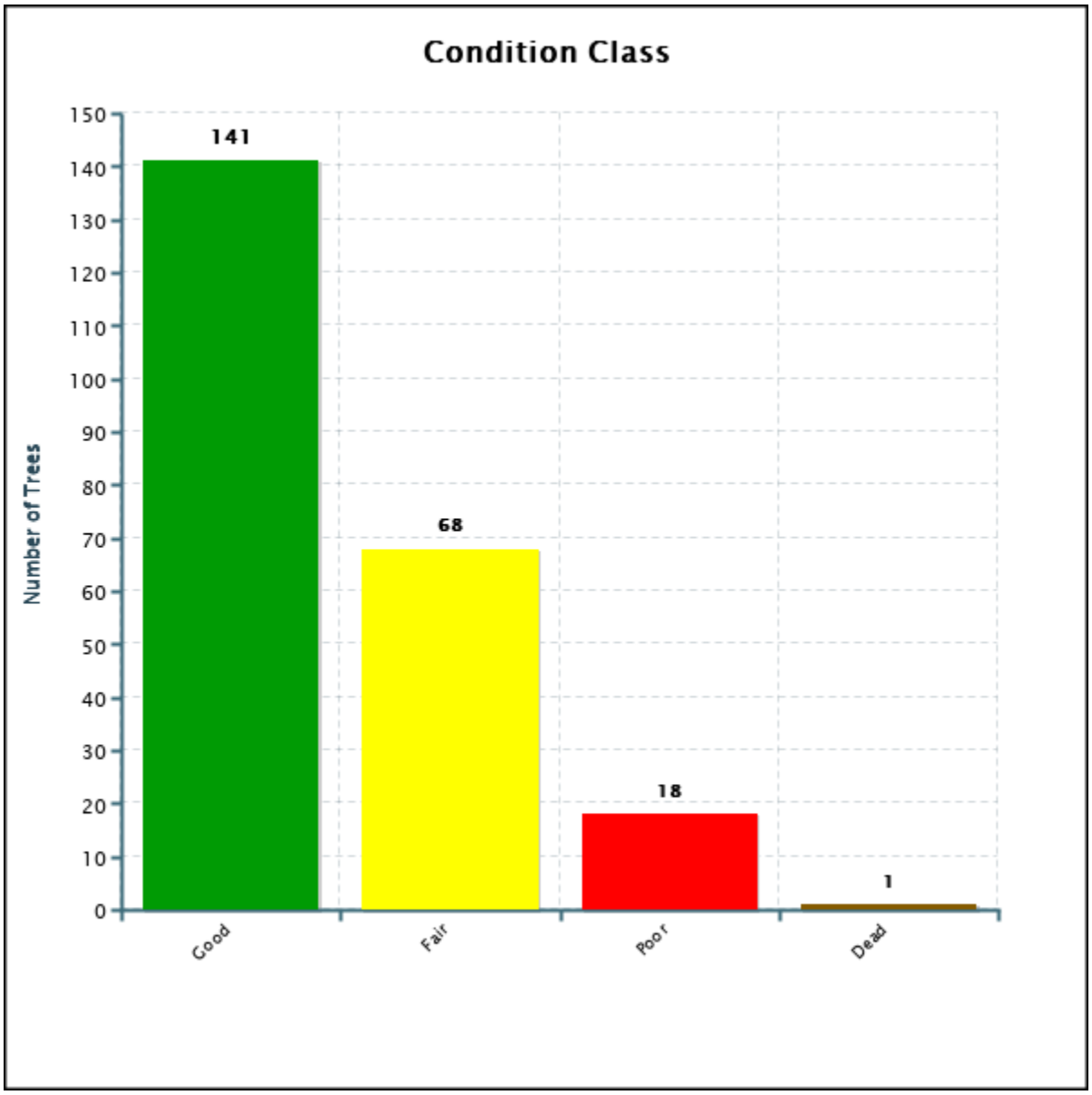
INVENTORIED TREES RECORDED AS GROUPINGS

Condition Class

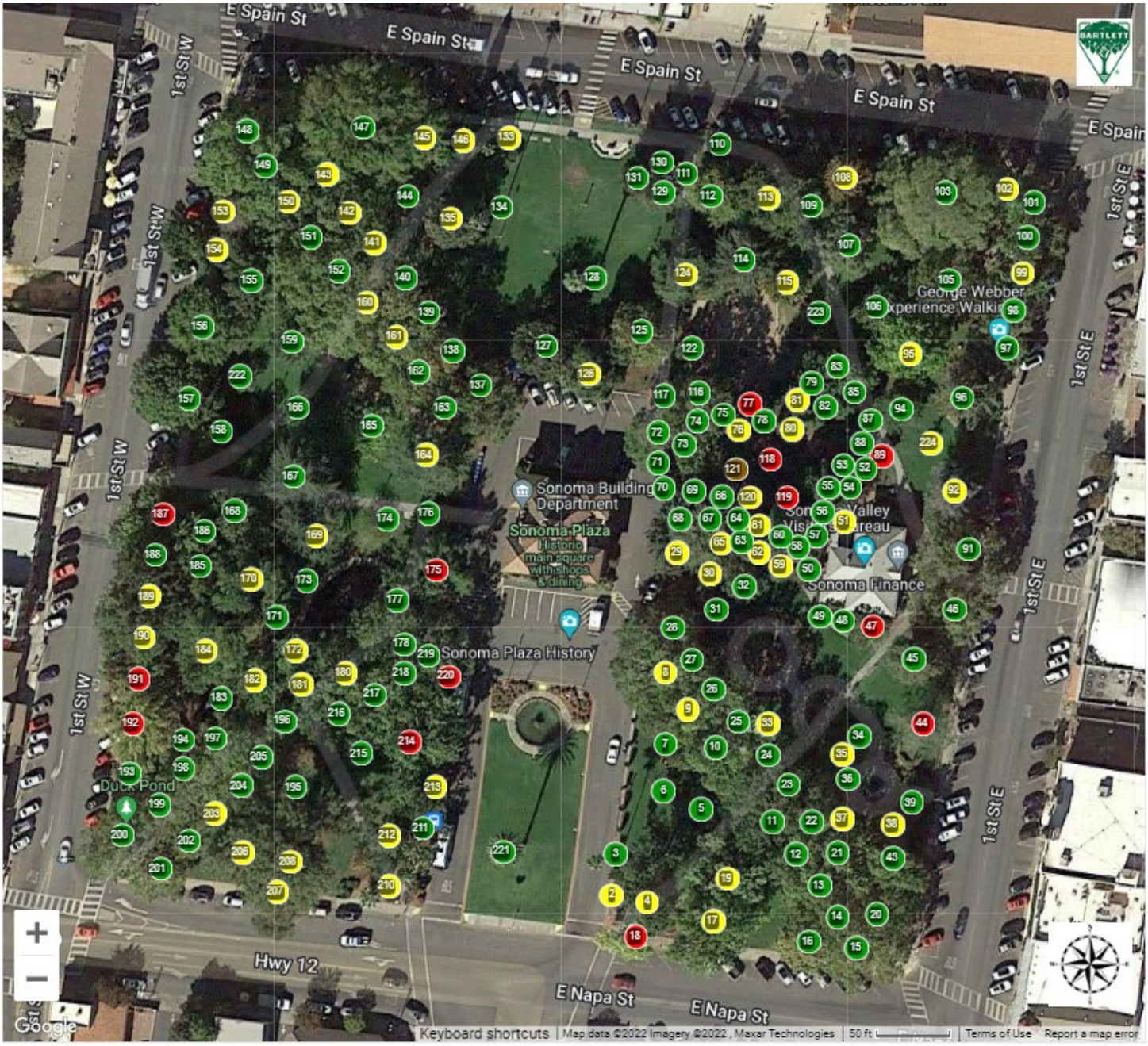
The breakdown of tree condition follows:

CONDITION CLASS BREAKDOWN

Condition Class	Quantity	% of Total
Good	141	62%
Fair	68	30%
Poor	18	8%
Dead	1	< 1%



INVENTORIED TREES BY CONDITION CLASS



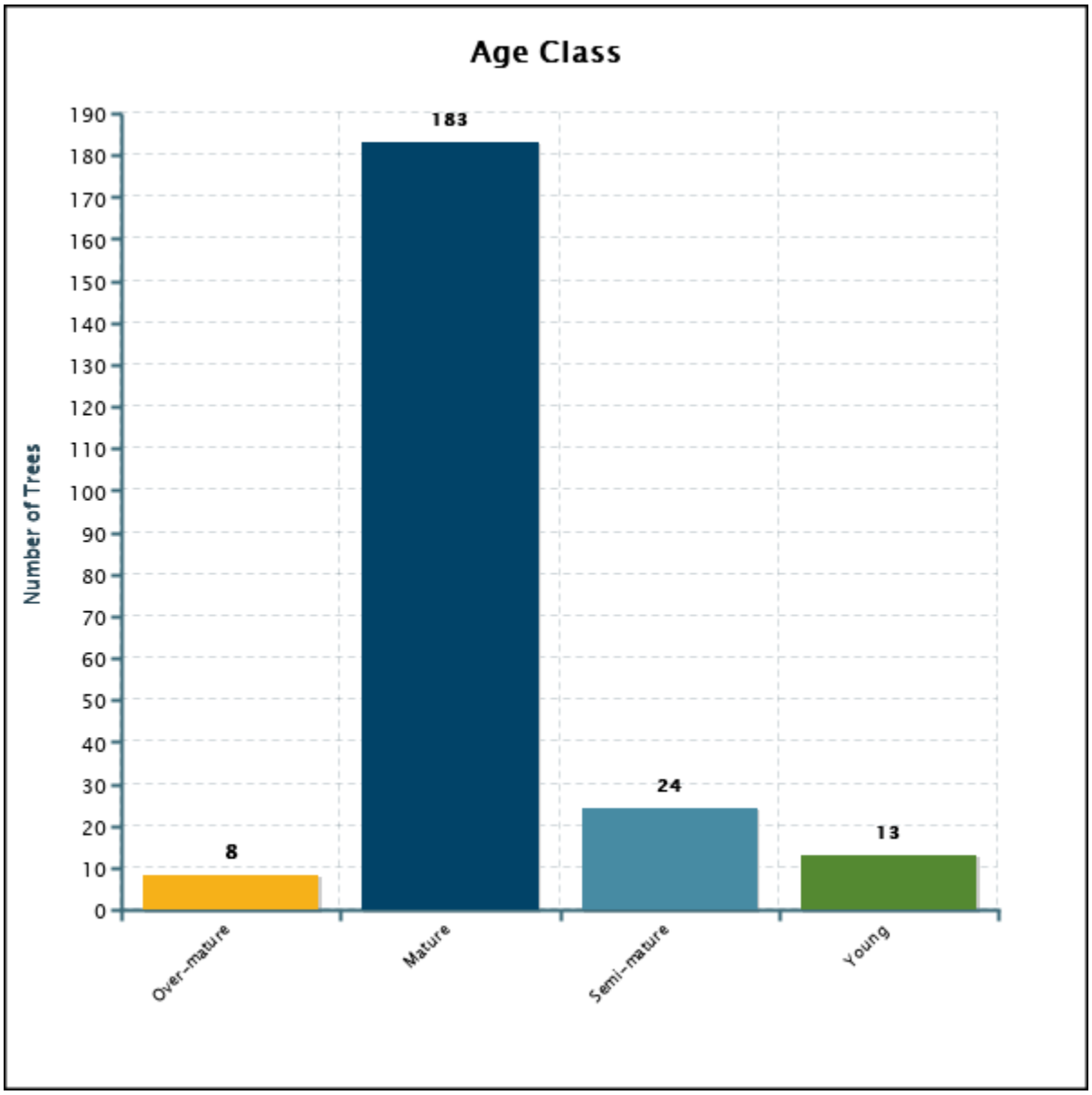
Condition: Good Fair Poor Dead

Age Class

The breakdown of tree age class follows:

AGE CLASS BREAKDOWN

Age Class	Quantity	% of Total
Over-mature	8	4%
Mature	183	80%
Semi-mature	24	11%
Young	13	6%

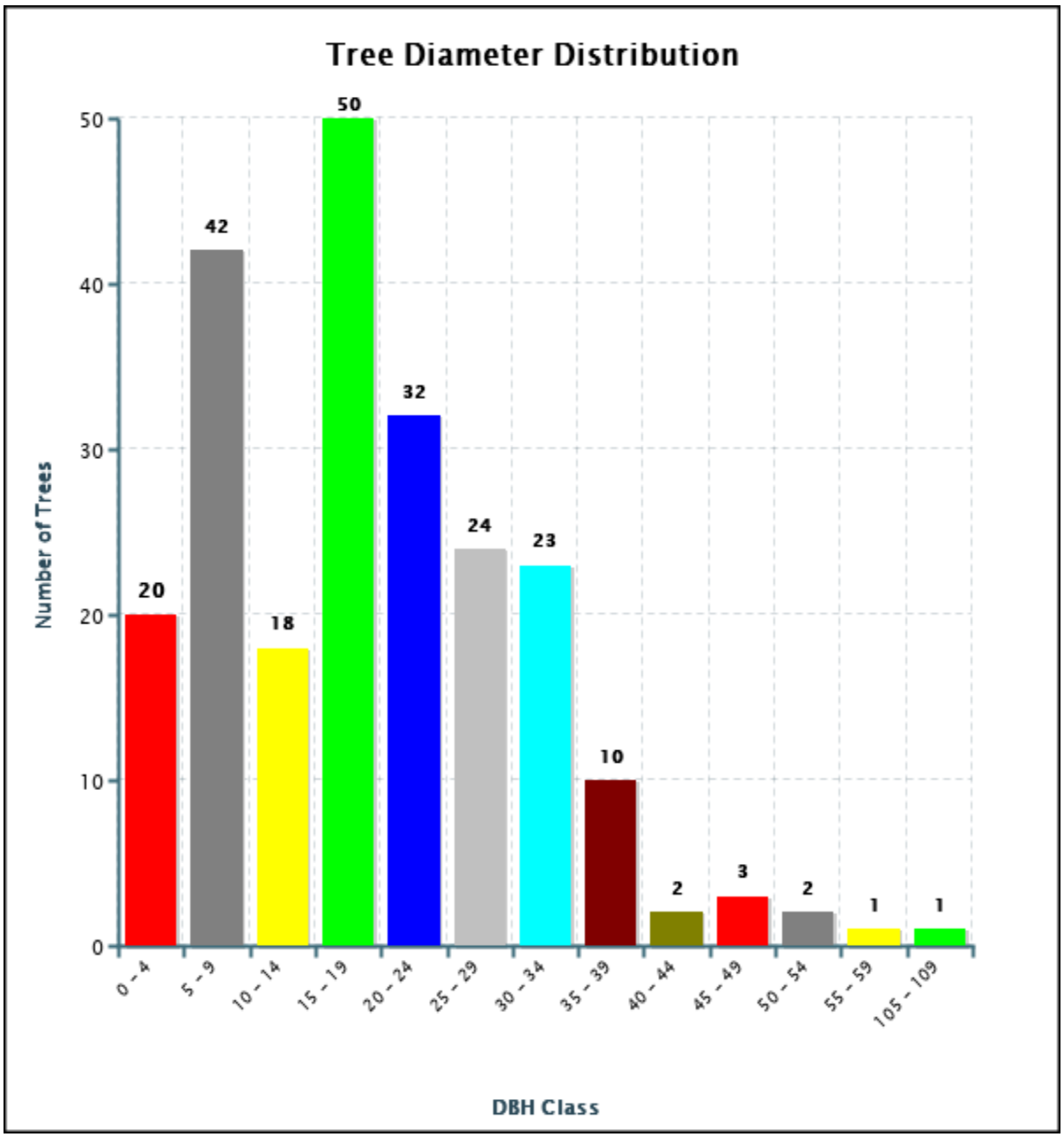


INVENTORIED TREES BY AGE CLASS

Age: Young | Semi-mature | Mature | Over-mature

Tree Size (DBH)

The following chart illustrates numbers of trees according to size per DBH:



Estimated Tree Asset Value

As part of the Bartlett inventory process, we have included an Estimated Tree Asset Value for each tree and a cumulative total for all trees inventoried. We use an average per square inch nursery price, size (DBH), species factor, condition factor, and location factor to estimate the tree asset value. This is not intended to replace a tree appraisal.

The following data fields are used in this formula:

Data Field	Description
Average Per Square Inch Nursery Price	Based on the average nursery prices for two common tree species and one exotic tree species within a region, then taking the average of those three as the average per square inch price for the region
Size	Based on tree DBH (4.5 feet above grade)
Species Factor	Relative species desirability based on 100% for the tree in that geographical location. In most cases, species desirability ratings, published by the International Society of Arboriculture, are used for adjustment.
Condition Factor	Rating of the tree's structure and health based on 100%
Location Factor	Average rating for the site and the tree's contribution and placement, based on 100%

Estimated Tree Asset Value = (Average Per Square Inch Nursery Price*Size)*Species Factor*Condition Factor*Location Factor

The estimated cumulative total value for all trees inventoried is **$1,560,954.87**. The following table lists the ten trees with the highest Tree Asset Values:

TOP TEN TREES - HIGHEST ESTIMATED TREE ASSET VALUE

Tree ID	Common Name	Genus	Species	DBH	Tree Asset Value
45	Redwood-Coast	*Sequoia*	*sempervirens*	40	$40,536.72
167	Cedar-Deodar	*Cedrus*	*deodara*	45	$36,048.00
147	Elm-American	*Ulmus*	*americana*	54	$32,895.46
200	Planetree-London	*Platanus*	x *hispanica*	37	$27,947.23
109	Oak-Scarlet	*Quercus*	*coccinea*	31	$26,084.80
164	Cedar-Deodar	*Cedrus*	*deodara*	43	$24,233.00
170	Elm-American	*Ulmus*	*americana*	55	$23,955.75
107	Oak-Cork	*Quercus*	*suber*	34	$23,495.00
148	Planetree-London	*Platanus*	x *hispanica*	32	$21,610.65
152	Planetree-London	*Platanus*	x *hispanica*	32	$21,610.65

TOP TEN TREES - HIGHEST TREE ASSET VALUE

RECOMMENDATIONS

RECOMMENDATIONS

In reviewing the results and recommendations, the reader will find useful the specifications and definitions detailed in the preceding methodology. We used the following categories to organize the results and recommendations, which are displayed in tables:

Recommendations

- Soil Care
- Root Collar Excavation
- Plant Health Care
- Tree Pruning
- Structural Support Systems
- Tree Removal

Soil Care

Healthy soil is critical to the health and longevity of trees. Soil provides trees with the essential nutrients required for their growth. Many secondary problems such as reduced vigor, inadequate growth, branch dieback, and pest or disease concerns are related to the primary stress of poor soil conditions. Undisturbed, native forest soils generally contain adequate levels of organic matter, soil microbes, and nutrients. Urban, suburban, and landscape soils (as opposed to forest soils) usually lack these qualities, and are often compacted. In many cases, trees in a landscaped environment suffer from inadequate soil fertility, soil compaction, root zone competition with turf grasses, and inadequate total soil volume. Soil Care treatments should be applied as soon as possible, therefore they do not have a Tree & Shrub Work phase.

Bartlett Tree Experts recommends several procedures and treatments that address soil quality. Taking soil samples is perhaps the most important. Proper tree care cannot be initiated unless it is known what type of soil environment the trees are growing in. Soil testing results can help to create a path forward for improved tree health. We address some of these below.

Soil Sampling

Collecting soil samples and having them tested helps determine nutrients that may be lacking, unfavorable soil pH values, and adequacy of soil organic matter. Laboratory tests and analyses can determine the need for soil amendments.

Soil Rx®

Bartlett's Soil Rx® program, which is a prescription soil amendment program, aims to correct nutrient deficiencies and optimize soil conditions for designated trees.

Root Invigoration™

The intent of Bartlett's patented Root Invigoration™ Program is to improve soil conditions by addressing soil compaction and promoting efficient root growth, especially for high-value trees in disturbed areas. The process includes taking soil samples to determine what nutrients are deficient, performing a root collar excavation, "air-tilling" a portion of the root zone to find fine roots, incorporating organic matter, applying soil amendments (based on soil sample), and applying mulch. The area of the root system treated can vary by tree. For the Root Invigoration™ Program to be successful, proper watering techniques must be employed after the process is complete.

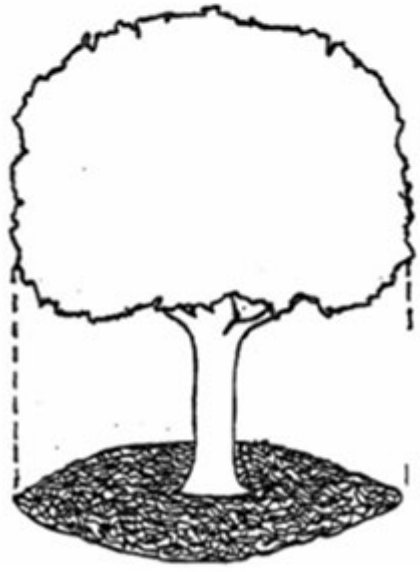
Root Invigoration™ in progress. Compacted soil is cultivated with and air-excavation tool, while organic matter and nutrients are incorporated into the upper soil profile. American elms #182, 184, and 190 are recommended for Root Invigoration to address crown die-back and low vigor.

Mulch Application

Proper mulching (top left and bottom left) provides many benefits to trees and shrubs. It moderates soil temperatures, reduces soil moisture loss, reduces soil compaction, provides nutrients, and improves soil structure. This practice results in more root growth and healthier plants. The image on the top right illustrates root growth density under grass versus mulch. Mulch is frequently applied incorrectly (bottom right), so we recommend that readers inspect the technical report on mulch application guidelines that appears in the Appendix.

Example of how mulch should be installed, 2-4 inches thick and not against the trunk.

Example of root density under grass versus mulch.



Example of how mulch should be applied from the trunk to the dripline.

Example of improper mulch application, known as "volcano mulch".

The following inventoried trees are recommended for soil care because of possible nutrient deficiencies, soil compaction, or inadequate soil conditions:

INVENTORIED TREES RECOMMENDED FOR SOIL CARE (35 Trees)

Tree ID	Common Name	DBH	Soil Care
4	Maple-Silver	38	• Soil Rx ®
6	Magnolia-Southern	7	• Soil Rx ®
7	Magnolia-Southern	5	• Soil Rx ®
17	Maple-Silver	38	• Soil Rx ®
19	Maple-Silver	31	• Soil Rx ®
30	Cherry-Flowering	10	• Soil Rx ®
33	Palm-California Fan	27	• Micronutrient
34	Cherry-Flowering	7,4,4	• Soil Rx ®
36	Cherry-Flowering	6,4	• Soil Rx ®
44	Cedar-Deodar	30	• Soil Rx ®
45	Redwood-Coast	40	• Soil Rx ®
47	Madrone-Marina	15	• Soil Rx ®
51	Honeylocust-Common	12	• Soil Rx ®
107	Oak-Cork	34	• Soil Rx ®
111	Palm-Mexican Fan	17	• Micronutrient
120	Maple-Freeman's	9	• Soil Rx ®
124	Magnolia-Southern	37	• Soil Rx ®
128	Palm-California Fan	27	• Micronutrient
133	Palm-Mexican Fan	17	• Micronutrient
134	Palm-Mexican Fan	16	• Micronutrient
135	Redwood-Giant	51	• Soil Rx ®
169	Cedar-Deodar	30	• Soil Rx ®
170	Elm-American	55	• Root Invigoration ™
172	Elm-American	23,18	• Soil Rx ®
175	California Bay	47	• Soil Rx ®
182	Elm-American	32	• Root Invigoration ™
184	Elm-American	36	• Root Invigoration ™
190	Elm-American	37	• Root Invigoration ™
191	Maple-Silver	23	• Root Invigoration ™
192	Maple-Silver	34	• Root Invigoration ™
206	Redwood-Coast	38	• Soil Rx ®
208	Eucalyptus-Blue Gum	108	• Soil Rx ®
210	Palm-California Fan	31	• Micronutrient
211	Palm-Mexican Fan	13	• Micronutrient
221	Palm-Canary Island Date	21	• Micronutrient

INVENTORIED TREES RECOMMENDED FOR SOIL CARE

Root Collar Excavation

Excavating the root collar is necessary for trees whose buttress roots are covered by excess soil or mulch. Buried root collars can contribute to tree health problems, including girdling roots, basal cankers, and masking root and lower stem decay. Trees in the root collar excavation table do not have a Tree & Shrub Work phase and should be completed as soon as possible. The top image shows a buried root collar and the bottom image shows an exposed root collar.

Example of a buried root collar.

Example of an exposed root collar.

Girdling Roots

Girdling roots (top left and right) restrict water and nutrient movement throughout the tree. If left untreated they can cause the tree to decline, fail (bottom), and eventually die in severe cases. Girdling roots should be removed as soon as possible, unless removal of roots will significantly impact the condition or stability of the tree. In some cases, the presence of significant or severe girdling roots may cause the tree to be recommended for removal.

Examples of girdling roots.

Example of tree failure from girdling roots.

The following trees are recommended for a root collar excavation:

INVENTORIED TREES RECOMMENDED FOR A ROOT COLLAR EXCAVATION (16 Trees)

Tree ID	Common Name	DBH	*Overall Tree Risk Rating*
2	Italian Cypress (9)	6	Low
48	Magnolia-Saucer	3,3,3,3,2,1	Low
50	Crapemyrtle-Common (6)	6	Low

INVENTORIED TREES RECOMMENDED FOR A ROOT COLLAR EXCAVATION

Plant Health Care

The Inventory Team also recommends Plant Health Care (PHC) programs for trees in the formal landscape. In addition, an Integrated Pest Management (IPM) program monitors for potentially damaging insects, diseases and cultural problems that are often seasonal and may not have been evident during our inventory visit. Plant Health Care treatments should be applied as soon as possible, therefore they do not have a Tree & Shrub Work phase. These pests and diseases include, but are not limited to, the following:

- Anthracnose – especially on London planetrees
- Aphids – on a variety of species
- Boring Insects – on a variety of tree species
- Canker – on species such as marina madrone
- Decay pathogens – as observed on California bay laurel and American elm
- Caterpillar Defoliators – on a variety of tree species, especially oak
- Gall Insects – on a variety of species
- Leaf beetles – on eucalyptus and elm species
- Powdery mildew – on red oak and crepe myrtle
- Suspected Phytophthora Root Rot and Canker - on a variety of tree species
- Scale Insects – on a variety of tree species, especially London planetrees
- Twig and leaf miners – on elm and madrone species

Powdery mildew was present on trees in the red oak group (left). Twig miners and stem canker were apparent within marina madrone (right).

We identified pests or diseases and/or provided plant health care recommendations on the following inventoried trees at the time of the inventory:

INVENTORIED TREES IDENTIFIED FOR PLANT HEALTH CARE (67 Trees)

Tree ID	Common Name	DBH	Pest(s) or Disease(s)
8	Planetree-London	18	• Anthracnose • Scale
9	Planetree-London	15	• Anthracnose • Scale
10	Planetree-London	14	• Anthracnose • Scale
11	Planetree-London	18	• Anthracnose • Scale
12	Planetree-London	15	• Anthracnose • Scale
13	Planetree-London	15	• Anthracnose • Scale
14	Planetree-London	14	• Anthracnose • Scale
15	Planetree-London	31	• Anthracnose • Scale
20	Planetree-London	9	• Anthracnose • Scale
21	Planetree-London	30	• Anthracnose • Scale
22	Planetree-London	20	• Anthracnose • Scale
23	Planetree-London	22	• Anthracnose • Scale
24	Planetree-London	21	• Anthracnose • Scale
25	Planetree-London	26	• Anthracnose • Scale
26	Planetree-London	23	• Anthracnose • Scale
27	Planetree-London	24	• Anthracnose • Scale
28	Planetree-London	22	• Anthracnose • Scale
46	Planetree-London	26	• Anthracnose • Scale
47	Madrone-Marina	15	• Cankers • Leafminer • Scale

Tree ID	Common Name	DBH	Pest(s) or Disease(s)
65	Planetree-London	16	• Anthracnose • Scale
74	Planetree-London	19	• Anthracnose • Scale
83	Oak-Scarlet	19	• Powdery mildew
89	Madrone-Marina	5	• Cankers • Leafminer
91	Planetree-London	27	• Anthracnose • Scale
94	Elm	10	• Leaf beetle
98	Planetree-London	17	• Anthracnose • Scale
100	Planetree-London	20	• Anthracnose • Scale
103	Elm-American	35	• Armillaria
105	Planetree-London	23	• Anthracnose • Scale
116	Planetree-London	31	• Anthracnose • Scale
117	Planetree-London	24	• Anthracnose • Scale
137	Planetree-London	25	• Anthracnose • Scale
138	Planetree-London	19	• Anthracnose • Scale
139	Planetree-London	27	• Anthracnose • Scale
140	Planetree-London	17	• Anthracnose • Scale
141	Planetree-London	16	• Anthracnose • Scale
142	Planetree-London	18	• Anthracnose • Scale
143	Planetree-London	15	• Anthracnose • Scale
148	Planetree-London	32	• Anthracnose • Scale
149	Planetree-London	24	• Anthracnose • Scale
150	Planetree-London	11	• Anthracnose • Scale
151	Planetree-London	25	• Anthracnose • Scale
152	Planetree-London	32	• Anthracnose • Scale

Tree ID	Common Name	DBH	Pest(s) or Disease(s)
155	Oak-Northern Red	31	• Powdery mildew
160	Planetree-London	16	• Anthracnose • Scale
161	Planetree-London	16	• Anthracnose • Scale
162	Planetree-London	18	• Anthracnose • Scale
163	Planetree-London	20	• Anthracnose • Scale
168	Planetree-London	18	• Anthracnose • Scale
178	Planetree-London	22	• Anthracnose • Scale
180	Planetree-London	21	• Anthracnose • Scale
197	Planetree-London	20	• Anthracnose • Scale
198	Planetree-London	19	• Anthracnose • Scale
199	Planetree-London	19	• Anthracnose • Scale
200	Planetree-London	37	• Anthracnose • Scale
201	Planetree-London	25	• Anthracnose • Scale
202	Planetree-London	15	• Anthracnose • Scale
203	Planetree-London	15	• Anthracnose • Scale
204	Planetree-London	3	• Anthracnose • Scale
205	Planetree-London	17	• Anthracnose • Scale
206	Redwood-Coast	38	• Water stress
208	Eucalyptus-Blue Gum	108	• Leaf beetle
216	Planetree-London	30	• Anthracnose • Scale
217	Planetree-London	27	• Anthracnose • Scale
218	Planetree-London	15	• Anthracnose • Scale
219	Planetree-London	22	• Anthracnose • Scale
224	Oak-Scarlet	3	• Powdery mildew

INVENTORIED TREES IDENTIFIED FOR PLANT HEALTH CARE

Tree Pruning

A commonly offered service among tree companies, pruning trees is one of the most poorly executed practices by tree workers who lack training in the basics of tree biology. "Lion's tailing," topping, and flush cuts are a few examples, and these can lead to hazardous conditions over time.

Because this practice is so misunderstood, and because specific standards exist to perform pruning correctly, the Inventory Team decided to include some explanation in the main body of this management plan.

Tree owners and tree-care practitioners should always keep in mind that any pruning cut is a wound. Informed tree-care professionals have learned to manage that wounding to preserve the health, safety, and integrity of the tree.

Improper Pruning Practices

A few of the most common pruning abuses are:

- Lion's Tailing - pruning that removes interior branches along the stem and scaffold branches. This encourages poor branch taper, poor wind load distribution, and risk of branch failure. It also deprives the tree of foliage it needs to produce **photosynthates**. See next page, top left.
- Topping - pruning cuts that reduce a tree's size by using heading cuts that shorten branches to a predetermined size. Topping substantially reduces the functional benefits a tree is capable of providing and predisposes trees to structural defects that can contribute to failures in the future. It also reduces the value of the trees substantially and deprives the tree of adequate foliage. See next page, top right.
- Flush Cuts - pruning cut through the **branch collar**, flush against the trunk or parent stem, causing unnecessary injury. See next page, bottom.
- Using Climbing Spikes Inappropriately - Using climbing spikes on a healthy tree, for example, wounds healthy stem tissues and can lead to infection by fungal pathogens.

Example of Lion's tailing.

Examples of topping.

Examples of flush cuts.

Pruning with a Goal

Below are illustrations of common pruning goals:

Illustration of improving airflow to reduce disease.

Illustration of branch weight reduction.

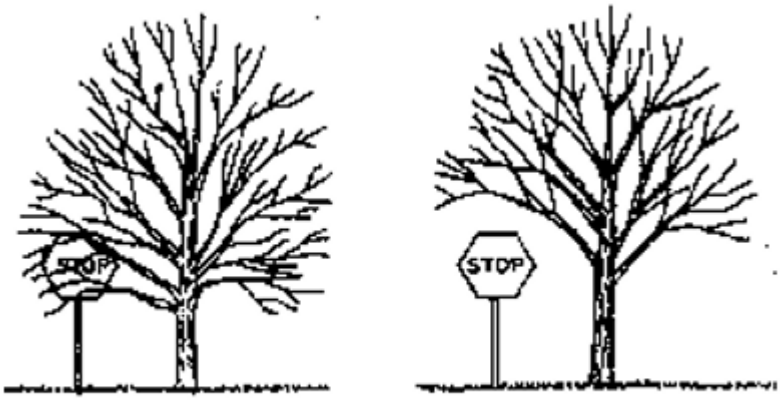


Illustration of raising branch elevation to improve clearance.

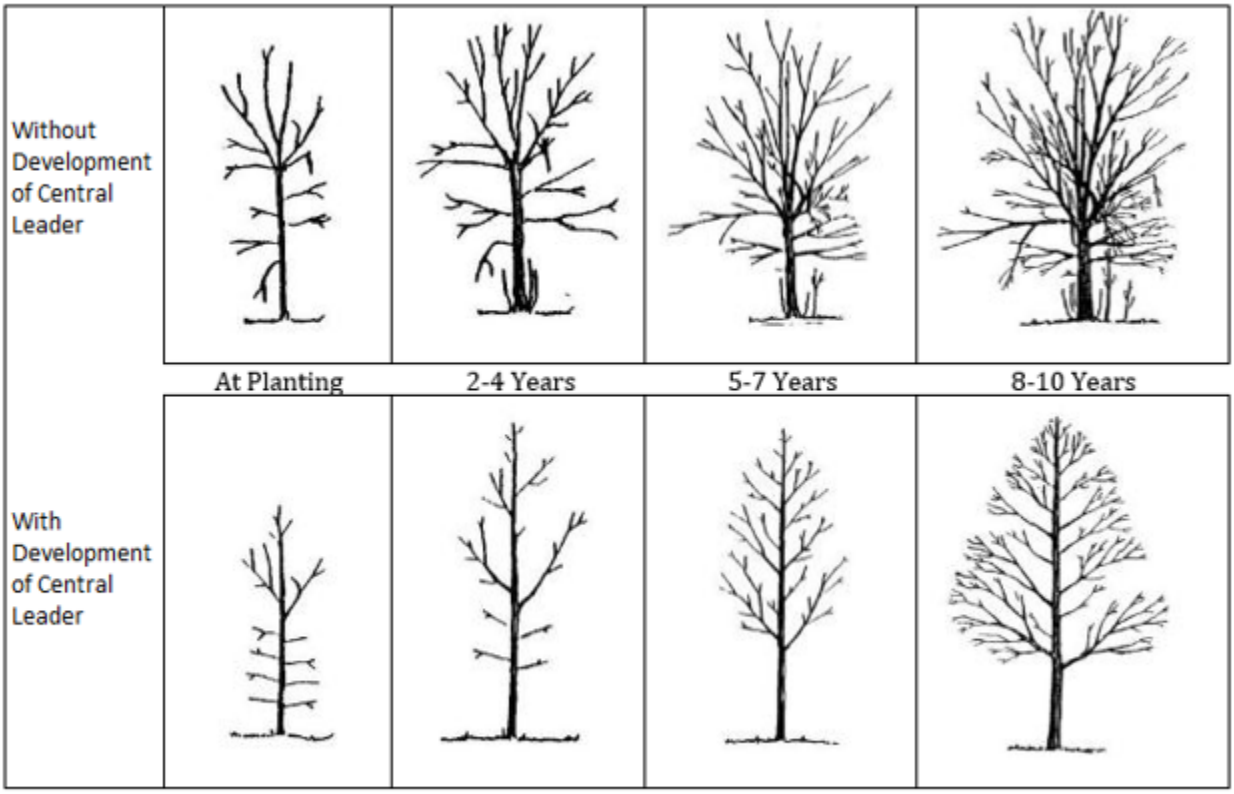


Illustration of promoting a strong central leader.

Pruning Category

All trees identified in this management plan that have pruning recommendations are listed with a specific pruning category. The listed order of these pruning categories are typical to most managers. Trees within each category are prioritized by the specific goals of most managers. It is recommended that specific goals be discussed with your local Bartlett Arborist Representative. Pruning categories are separated into individual tables below where each table lists specific arboricultural pruning goals and recommendations for each tree.

Risk Mitigation Pruning

Any tree identified with a Risk Mitigation Pruning category to reduce the *Overall Tree Risk Rating*, was previously summarized in the Tree Risk Assessments and Mitigation section earlier in the document.

Maintenance Pruning

This goal typically requires routine pruning of large/mature trees. Includes branch removal and/or branch reduction to help reduce *likelihood of failure* and/or conflict with infrastructure. Trees with these goals are typically climbed or require the use of aerial lifts and/or other specialized equipment.

The trees in this table are recommended for maintenance pruning:

INVENTORIED TREES RECOMMENDED FOR MAINTENANCE PRUNING (90 Trees)

Tree ID	Common Name	DBH	Work Phase	Pruning Goal	Defect(s) or Observation(s)
18	Catalpa-Western	31	1	• Clearance	• Decay-root flare • Decay-stem • Wound-root flare
35	Cherry-Flowering	6,4,3	2	• Reduce weight of branch ends • Improve form and shape	• Included bark • Overextended branch
48	Magnolia-Saucer	3,3,3,3,2,1	2	• Clearance	
49	Magnolia-Saucer	3,3,2,2,2,1	2	• Clearance	
51	Honeylocust-Common	12	2	• Clearance • Improve form and shape	• Dieback (moderate) • Seam
85	Italian Cypress	7	2	• Clearance	• Suppressed
88	Italian Cypress	7	2	• Clearance	• Good form
97	Maidenhair Tree	15,10	2	• Clearance • Maintain size and shape	• Good vigor • Topping/heading cuts
101	Maidenhair Tree	16	2	• Clearance	• Uneven crown
220	Italian Cypress (6)	2,2,2,2,2,2	2	• Maintain size and shape	• Dieback (severe)
15	Planetree-London	31	3	• Reduce likelihood of storm damage • Reduce weight of branch ends	• Good form • Overextended branch
21	Planetree-London	30	3	• Reduce weight of branch ends	• Overextended branch
23	Planetree-London	22	3	• Reduce weight of branch ends	• Overextended branch
25	Planetree-London	26	3	• Reduce likelihood of storm damage • Reduce weight of branch ends	• Overextended branch
27	Planetree-London	24	3	• Reduce likelihood of storm damage • Reduce weight of branch ends	• Overextended branch
28	Planetree-London	22	3	• Reduce likelihood of storm damage • Reduce weight of branch ends	• Overextended branch

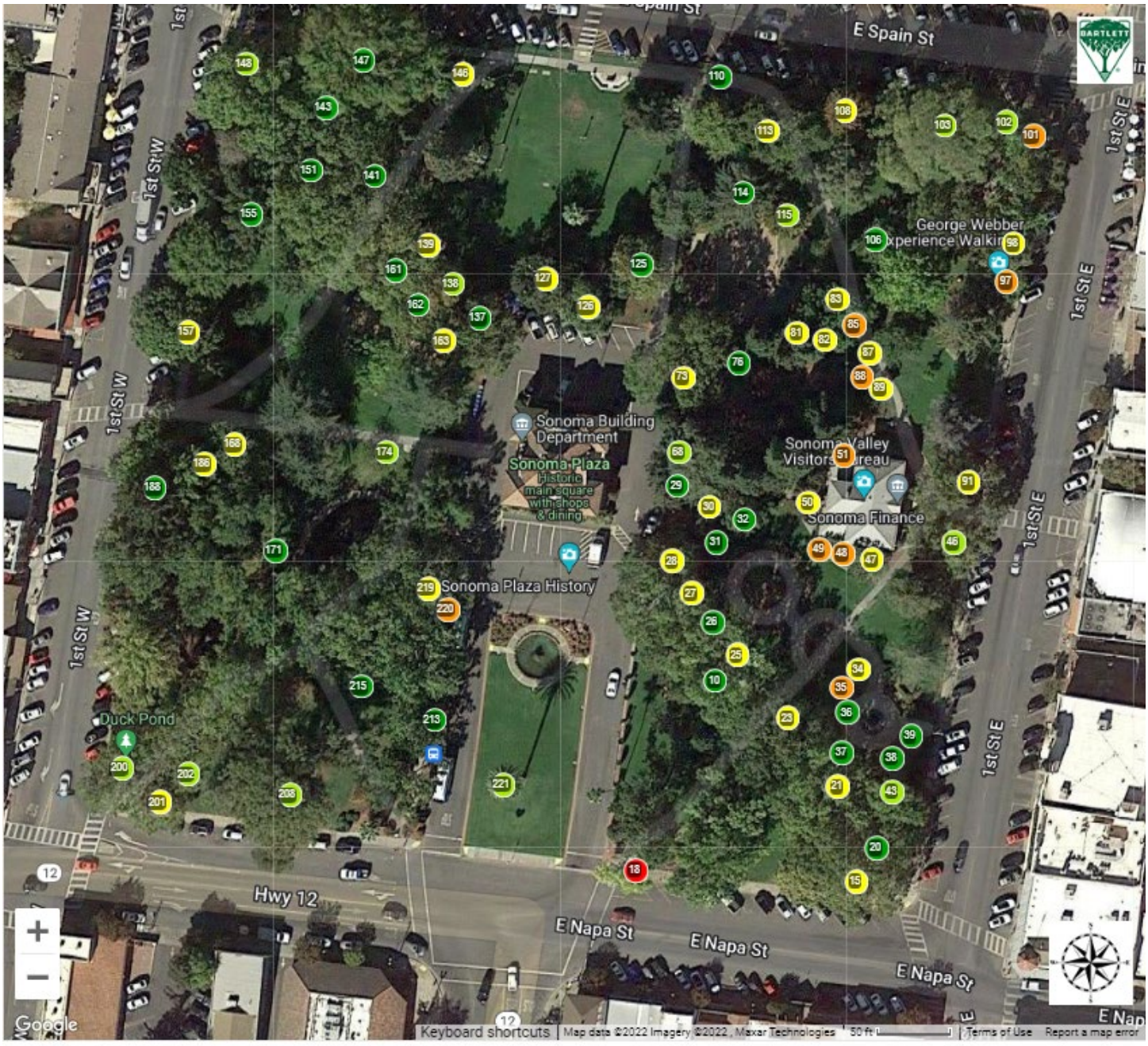
Tree ID	Common Name	DBH	Work Phase	Pruning Goal	Defect(s) or Observation(s)
30	Cherry-Flowering	10	3	• Improve form and shape	• Dead branches <=2 • Suppressed • Sweep
34	Cherry-Flowering	7,4,4	3		• Dead branches <=2
47	Madrone-Marina	15	3		• Dead branches >2 • Dieback (severe) • Wound-root flare
50	Crapemyrtle-Common (6)	6	3	• Improve form and shape	• Wound-stem
73	Dogwood-Kousa	1,1,1,1	3	• Improve form and shape • Reduce weight of branch ends	• Sweep
81	Redwood-Coast	18	3	• Clearance	• Poor branch structure
82	Italian Cypress	32	3	• Reduce likelihood of storm damage • Reduce weight of branch ends	• Co-dominant stems • Included bark
83	Oak-Scarlet	19	3	Turf area	• Dead branches <=2
87	Italian Cypress	7	3	Turf area	• Dead branches <=2
89	Madrone-Marina	5	3		• Dieback (moderate) • Wound-root flare • Wound-stem
91	Planetree-London	27	3	• Reduce likelihood of storm damage • Reduce weight of branch ends	
98	Planetree-London	17	3	• Reduce likelihood of storm damage • Reduce weight of branch ends	• Overextended branch
108	Maple-Freeman's	17	3	• Reduce likelihood of storm damage • Encourage proper scaffold limb development	• Included bark • Poor branch structure
113	Cherry Laurel-Portuguese	11	3	• Maintain size and shape	• Cavity-root flare • Decay-stem
126	Privet-Glossy	28,23,11	3		• Dead branches >2
127	Magnolia-Southern	26	3	• Clearance	• Good structure
139	Planetree-London	27	3	• Reduce likelihood of storm damage • Reduce weight of branch ends	• Dead branches <=2

Tree ID	Common Name	DBH	Work Phase	Pruning Goal	Defect(s) or Observation(s)
146	Italian Cypress	22	3		• Dead branches >2 • Wound-stem
157	Oak-Scarlet	27	3	• Clearance • Reduce likelihood of storm damage • Reduce weight of branch ends	• Good form
163	Planetree-London	20	3	• Reduce likelihood of storm damage • Reduce weight of branch ends	• Overextended branch
168	Planetree-London	18	3		• Cavity-stem • Dead branches >2
186	Tuliptree	21	3		• Dead branches >2 • Good vigor
201	Planetree-London	25	3	• Reduce likelihood of storm damage • Reduce weight of branch ends	• Overextended branch
219	Planetree-London	22	3	• Reduce likelihood of storm damage	• Overextended branch
43	Oak-Pin	19	4	• Clearance • Reduce weight of branch ends	• Good vigor
46	Planetree-London	26	4	• Reduce likelihood of storm damage	• Good vigor
68	Italian Cypress	13,12	4	• Reduce likelihood of storm damage	• Co-dominant stems
102	Palm-Chinese Windmill	6	4		
103	Elm-American	35	4	• Reduce likelihood of storm damage • Reduce weight of branch ends	• Fungi/conks
115	Maple-Freeman's	12	4	• Reduce likelihood of storm damage • Encourage proper scaffold limb development	• Girdling roots present • Good vigor • Included bark • Lean
138	Planetree-London	19	4	• Reduce likelihood of storm damage • Reduce weight of branch ends	• Sweep
148	Planetree-London	32	4	• Reduce likelihood of storm damage • Reduce weight of branch ends	• Sweep
174	Redbud-Eastern	10	4	• Maintain size and shape • Reduce weight of branch ends	• Broken branch(s)

Tree ID	Common Name	DBH	Work Phase	Pruning Goal	Defect(s) or Observation(s)
200	Planetree-London	37	4	• Clearance • Reduce weight of branch ends	
202	Planetree-London	15	4	• Improve appearance	• Sweep
208	Eucalyptus-Blue Gum	108	4		• Dead branches >2 • Dieback (moderate)
221	Palm-Canary Island Date	21	4		• Wound-stem
10	Planetree-London	14	5	• Reduce weight of branch ends	• Dead branches <=2 • Uneven crown
20	Planetree-London	9	5	• Reduce weight of branch ends	• Uneven crown
26	Planetree-London	23	5	• Reduce weight of branch ends	
29	Italian Cypress	25	5	• Reduce weight of branch ends	• Good vigor • Wound-root flare
31	Crapemyrtle-Common	6	5	• Encourage proper scaffold limb development • Reduce density • Maintain size and shape	• Good form
32	Common Baldcypress	17	5	• Encourage proper scaffold limb development • Reduce likelihood of storm damage	• Co-dominant stems • Girdling roots suspected • Wound-root
36	Cherry-Flowering	6,4	5	• Maintain size and shape	• Dead branches <=2
37	Cherry-Flowering	8	5	• Improve form and shape	• Suppressed • Sweep
38	Cherry-Flowering	8	5	• Improve form and shape	• Suppressed • Sweep
39	Cherry-Flowering	18	5	• Maintain size and shape	• Wound-root
76	Crapemyrtle-Common	5	5	• Improve form and shape	• Low live crown ratio • Wound-stem
106	Maidenhair Tree	25	5	• Maintain size and shape	• Co-dominant stems • Included bark • Wound-stem
110	Spruce-Norway	12	5	• Clearance	

Tree ID	Common Name	DBH	Work Phase	Pruning Goal	Defect(s) or Observation(s)
114	Cedar-Deodar	26	5	• Reduce likelihood of storm damage • Reduce weight of branch ends	• Good structure • Good vigor
125	Not on list	18	5	• Reduce likelihood of storm damage • Reduce weight of branch ends	• Good form • Good vigor
137	Planetree-London	25	5	• Reduce likelihood of storm damage • Reduce weight of branch ends	• Good vigor
141	Planetree-London	16	5	• Reduce likelihood of storm damage • Reduce weight of branch ends	• Decay-stem • Sweep
143	Planetree-London	15	5	• Reduce likelihood of storm damage • Reduce weight of branch ends	• Low live crown ratio
147	Elm-American	54	5	• Reduce likelihood of storm damage	• Good form • Good vigor
151	Planetree-London	25	5	• Reduce likelihood of storm damage • Reduce weight of branch ends	• Good vigor
155	Oak-Northern Red	31	5	• Reduce likelihood of storm damage • Reduce weight of branch ends	• Good form
161	Planetree-London	16	5	• Reduce likelihood of storm damage • Reduce weight of branch ends	• Cavity-stem • Suppressed • Sweep
162	Planetree-London	18	5	• Reduce likelihood of storm damage • Reduce weight of branch ends	• Sweep
171	Maple-Japanese	3,3,3,3,2,2	5	• Reduce weight of branch ends	
188	Douglas Fir	32	5	• Reduce weight of branch ends	• Good vigor
213	Magnolia-Southern	14,9	5	• Encourage proper scaffold limb development	• Girdling roots present
215	Oak-Pin	21	5	• Reduce likelihood of storm damage • Reduce weight of branch ends • Encourage proper scaffold limb development	• Good vigor

INVENTORIED TREES RECOMMENDED FOR MAINTENANCE PRUNING



Developmental Pruning

This goal typically requires routine pruning of small/young trees. Includes structural pruning to develop a strong central stem, establish proper branch spacing, and/or develop branch structure.

The trees in this table are recommended for developmental pruning:

INVENTORIED TREES RECOMMENDED FOR DEVELOPMENTAL PRUNING (10 Trees)

Tree ID	Common Name	DBH	Work Phase	Pruning Goal	Defect(s) or Observation(s)
6	Magnolia-Southern	7	3	• Encourage proper scaffold limb development	
7	Magnolia-Southern	5	3	• Develop branch structure	• Seam
94	Elm	10	3	• Encourage proper scaffold limb development	• Girdling roots present • Good form • Good vigor
166	Chinese Pistache	8	4	• Encourage proper scaffold limb development • Reduce weight of branch ends	• Good form • Good vigor
5	Redwood-Coast	14	5	• Develop branch structure • Promote development of strong central stem	• Good form • Good structure • Good vigor
64	Redwood-Coast	19,7	5	• Promote development of strong central stem	• Uneven crown
159	Elm	12	5	• Encourage proper scaffold limb development	• Good structure
222	Chinese Pistache	5	5	• Develop branch structure	• Girdling roots present • Good vigor
223	Maple-Freeman's	4	5	• Develop branch structure	• Good vigor
224	Oak-Scarlet	3	5	• Develop branch structure	• Decay-root • Wound-root flare

INVENTORIED TREES RECOMMENDED FOR DEVELOPMENTAL PRUNING

Tree & Shrub Work Phase: 3 4 5

Ornamental Pruning

This goal typically requires pruning of small trees. Includes reduction and/or shearing to its desired shape, size, and/or structure.

Specialized Pruning

Trees with this goal require a unique treatment that may include, but not limited to, targeted pruning cuts, removal of nuisance fruit/parasitic plants, and/or rejuvenation/internodal pruning.

INVENTORIED TREES RECOMMENDED FOR SPECIALIZED PRUNING (9 Trees)

Tree ID	Common Name	DBH	Work Phase	Pruning Goal	Defects or Observations
2	Italian Cypress (9)	6	2	• Maintain size and shape	• Wound-root flare
220	Italian Cypress (6)	2,2,2,2,2,2	2	• Maintain size and shape	• Dieback (severe)

INVENTORIED TREES RECOMMENDED FOR SPECIALIZED PRUNING

Tree & Shrub Work Phase: 2

Structural Support Systems

Structural support systems can reduce risk of tree or tree part(s) failure by limiting movement of stems or branches in certain situations. Examples include co-dominant stems or overextended branches with heavy foliage loads.

Cabling

Cabling is the process of connecting two or more upright stems to one another to add stability and reduce the *likelihood of failure*. In some instances, a lateral branch may be secured to the central leader using a cabling system to support the weight of the branch.

Bracing

Bracing is the process of securing the union of two co-dominant stems using high strength steel rods to alleviate stresses at the union and reduce the *likelihood of failure*. Bracing may also be used to reinforce trees that have a partial failure and are likely to benefit from bracing.

Guying

Guying is the process of anchoring a tree's stem to the ground or another immovable object to reduce the likelihood of root failure. Guying can be temporary or permanent and is most often used for establishing a tree in the landscape.

Propping

Propping is the process of using rigid structures that are built on or into the ground to help support the trunk or branch(s) that are oriented near the ground in a horizontal position to reduce the *likelihood of failure* from the weight or defect of the tree part being supported.

Silver maple #4 has bark included between codominant stems (dashes) and apparent stem decay (arrow). Inspection of and evaluation of the existing support cable system is recommended.

The following table lists all inventoried trees with structural support system recommendations:

INVENTORIED TREES WITH STRUCTURAL SUPPORT SYSTEM RECOMMENDATIONS (7 Trees)

Tree ID	Common Name	DBH	*Overall Tree Risk Rating*	Work Phase	Structural Support
4	Maple-Silver	38	Low	1	• Cable: Inspect
17	Maple-Silver	38	Low	1	• Cable: Inspect
53	Italian Cypress	20	Low	2	• Cable: Inspect/New
147	Elm-American	54	Low	5	• Cable: Inspect
164	Cedar-Deodar	43	Low	1	• Cable: New 1
165	Chinese Pistache	14	Low	2	• Cable: New 1
187	Maple-Silver	38	Low	1	• Cable: Inspect/New

INVENTORIED TREES WITH STRUCTURAL SUPPORT SYSTEM RECOMMENDATIONS

Structural Support: Cable

Tree Removal

In some cases, the inspector may determine need for removal while assessing the tree. Trees may be recommended for removal during the inventory for several reasons:

- The tree is dead;
- The tree is in poor condition and thought to be beyond rehabilitation;
- The tree is over-mature and will continue to decline in condition;
- The tree has significant structural weaknesses that cannot be addressed;
- The tree is already or will interfere with infrastructure (overhead lines for example);
- The location value for the tree is poor or unacceptable (for example, large maturing tree growing directly under overhead lines); and/or,
- The tree species has been declared an invasive for the given area or region.

The trees listed in the table below are recommended for removal:

INVENTORIED TREES RECOMMENDED FOR REMOVAL (4 Trees)

Tree ID	Common Name	DBH	Condition	*Overall Tree Risk Rating*	Tree & Shrub Work Phase	Defect(s) or Observation(s)
118	Maple-Freeman's	7	Poor	Moderate	1	• Dieback (severe) • Low vigor
119	Maple-Freeman's	7	Poor	Moderate	1	• Dead branches >2 • Low vigor
121	Maple-Freeman's	6	Dead	Low	ASAP	• Dieback (severe)
77	Maple-Japanese	4	Poor	Low	2	• Dieback (severe)

INVENTORIED TREES RECOMMENDED FOR REMOVAL

The following trees inventoried as part the preceding survey were missing or had been removed during the inventory update interval:

TREES MISSING OR REMOVED PRIOR TO INSPECTION (ARCHIVED) (14 Trees)

Tree ID	Common Name
1	Palm-California Fan
40	Cherry-Flowering
41	Cherry-Flowering
42	Cherry-Flowering
84	Italian Cypress
86	Italian Cypress
90	Eucryphia ssp.
93	Oak-Scarlet
104	Pepper Tree
123	Catalpa-Western
132	Elm-American
136	Catalpa-Western
179	Palm-California Fan
209	Cherry-Hollyleaf

TREES MISSING OR REMOVED PRIOR TO INSPECTION (ARCHIVED)

ENTIRE INVENTORY

ENTIRE INVENTORY (228 Trees)

Tree ID	Common Name	Genus	Species	DBH	Estimated Height	Age Class	Condition Class	Work Phase	Tree Asset Value
2	Italian Cypress (9)	*Cupressus*	*sempervirens*	6	8	Mature	Fair	2	$2,688.00
3	Palm-Mexican Fan	*Washingtonia*	*robusta*	14	65	Mature	Good	1	$2,277.00
4	Maple-Silver	*Acer*	*saccharinum*	38	65	Over-mature	Fair	1	$6,740.00
5	Redwood-Coast	*Sequoia*	*sempervirens*	14	50	Young	Good	5	$5,428.18
6	Magnolia-Southern	*Magnolia*	*grandiflora*	7	25	Semi-mature	Good	3	$1,357.05
7	Magnolia-Southern	*Magnolia*	*grandiflora*	5	20	Young	Good	3	$692.37
8	Planetree-London	*Platanus*	x *hispanica*	18	70	Mature	Fair	1	$4,985.06
9	Planetree-London	*Platanus*	x *hispanica*	15	70	Mature	Fair	1	$3,461.85
10	Planetree-London	*Platanus*	x *hispanica*	14	70	Mature	Good	5	$4,221.92
11	Planetree-London	*Platanus*	x *hispanica*	18	70	Mature	Good	3	$6,979.09
12	Planetree-London	*Platanus*	x *hispanica*	15	70	Mature	Good	1	$4,846.59
13	Planetree-London	*Platanus*	x *hispanica*	15	69	Mature	Good	1	$4,846.59
14	Planetree-London	*Platanus*	x *hispanica*	14	68	Mature	Good	5	$4,221.92
15	Planetree-London	*Platanus*	x *hispanica*	31	70	Mature	Good	3	$20,288.18
16	Maple-Bigleaf	*Acer*	*macrophyllum*	21	50	Mature	Good	ASAP	$3,074.00
17	Maple-Silver	*Acer*	*saccharinum*	38	70	Over-mature	Fair	1	$8,926.34
18	Catalpa-Western	*Catalpa*	*speciosa*	31	50	Mature	Poor	1	$4,689.00
19	Maple-Silver	*Acer*	*saccharinum*	31	70	Over-mature	Fair	ASAP	$4,689.00
20	Planetree-London	*Platanus*	x *hispanica*	9	70	Mature	Good	5	$1,744.77
21	Planetree-London	*Platanus*	x *hispanica*	30	70	Mature	Good	3	$19,386.36
22	Planetree-London	*Platanus*	x *hispanica*	20	65	Mature	Good		$8,616.16
23	Planetree-London	*Platanus*	x *hispanica*	22	65	Mature	Good	3	$10,425.55
24	Planetree-London	*Platanus*	x *hispanica*	21	60	Mature	Good	ASAP	$9,499.32
25	Planetree-London	*Platanus*	x *hispanica*	26	65	Mature	Good	3	$14,561.31
26	Planetree-London	*Platanus*	x *hispanica*	23	70	Mature	Good	5	$11,394.87
27	Planetree-London	*Platanus*	x *hispanica*	24	70	Mature	Good	3	$12,407.27
28	Planetree-London	*Platanus*	x *hispanica*	22	65	Mature	Good	3	$10,425.55

Tree ID	Common Name	Genus	Species	DBH	Estimated Height	Age Class	Condition Class	Work Phase	Tree Asset Value
29	Italian Cypress	*Cupressus*	*sempervirens*	25	60	Mature	Fair	5	$5,186.00
30	Cherry-Flowering	*Prunus*	*serrulata*	10	15	Mature	Fair	3	$829.00
31	Crapemyrtle-Common	*Lagerstroemia*	*indica*	6	20	Mature	Good	5	$553.90
32	Common Baldcypress	*Taxodium*	*distichum*	17	55	Mature	Good	5	$4,700.00
33	Palm-California Fan	*Washingtonia*	*filifera*	27	70	Mature	Fair	1	$8,011.71
34	Cherry-Flowering	*Prunus*	*serrulata*	7,4,4	15	Mature	Good	3	$941.00
35	Cherry-Flowering	*Prunus*	*serrulata*	6,4,3	15	Mature	Fair	2	$506.00
36	Cherry-Flowering	*Prunus*	*serrulata*	6,4	10	Mature	Good	5	$604.00
37	Cherry-Flowering	*Prunus*	*serrulata*	8	8	Mature	Fair	5	$531.00
38	Cherry-Flowering	*Prunus*	*serrulata*	8	10	Mature	Fair	5	$531.00
39	Cherry-Flowering	*Prunus*	*serrulata*	18	10	Mature	Good	5	$3,764.00
43	Oak-Pin	*Quercus*	*palustris*	19	65	Mature	Good	4	$4,194.00
44	Cedar-Deodar	*Cedrus*	*deodara*	30	50	Mature	Poor	1	$8,066.00
45	Redwood-Coast	*Sequoia*	*sempervirens*	40	75	Mature	Good		$40,536.72
46	Planetree-London	*Platanus*	x *hispanica*	26	50	Mature	Good	4	$14,561.31
47	Madrone-Marina	*Arbutus*	var. 'Marina'	15	30	Mature	Poor	3	$1,568.00
48	Magnolia-Saucer	*Magnolia*	x *soulangeana*	3,3,3,3,2,1	10	Mature	Good	2	$666.00
49	Magnolia-Saucer	*Magnolia*	x *soulangeana*	3,3,2,2,2,1	10	Mature	Good	2	$504.00
50	Crapemyrtle-Common (6)	*Lagerstroemia*	*indica*	6	20	Mature	Good	3	$2,509.00
51	Honeylocust-Common	*Gleditsia*	*triacanthos*	12	30	Mature	Fair	2	$717.00
52	Italian Cypress	*Cupressus*	*sempervirens*	14	55	Mature	Good	2	$2,277.00
53	Italian Cypress	*Cupressus*	*sempervirens*	20	55	Mature	Good	2	$4,647.00
54	Redwood-Coast	*Sequoia*	*sempervirens*	25	70	Semi-mature	Good		$13,070.00
55	Maple-Japanese	*Acer*	*palmatum*	4,4,3,3,2	10	Mature	Good	2	$1,163.18
56	Redwood-Coast	*Sequoia*	*sempervirens*	18	60	Semi-mature	Good		$6,775.00
57	Redwood-Coast	*Sequoia*	*sempervirens*	29	80	Semi-mature	Good	2	$17,587.00
58	Redwood-Coast	*Sequoia*	*sempervirens*	17	65	Semi-mature	Good	2	$6,043.00
59	Redwood-Coast	*Sequoia*	*sempervirens*	5	15	Young	Fair		$373.00
60	Redwood-Coast	*Sequoia*	*sempervirens*	25	75	Semi-mature	Good		$13,070.00
61	Redwood-Coast	*Sequoia*	*sempervirens*	8	35	Young	Fair		$956.00
62	Redwood-Coast	*Sequoia*	*sempervirens*	2	10	Young	Fair		$59.00

Tree ID	Common Name	Genus	Species	DBH	Estimated Height	Age Class	Condition Class	Work Phase	Tree Asset Value
63	Redwood-Coast	*Sequoia*	*sempervirens*	18	70	Semi-mature	Good		$6,775.00
64	Redwood-Coast	*Sequoia*	*sempervirens*	19,7	80	Semi-mature	Good	5	$8,574.00
65	Planetree-London	*Platanus*	x *hispanica*	16	55	Mature	Fair	2	$3,938.82
66	Redwood-Coast	*Sequoia*	*sempervirens*	27	85	Semi-mature	Good		$15,245.00
67	Cedar-Deodar	*Cedrus*	*deodara*	31	70	Mature	Good	1	$19,697.00
68	Italian Cypress	*Cupressus*	*sempervirens*	13,12	75	Mature	Good	4	$3,636.00
69	Redwood-Coast	*Sequoia*	*sempervirens*	20	75	Semi-mature	Good		$8,365.00
70	Redwood-Coast	*Sequoia*	*sempervirens*	24	75	Semi-mature	Good	ASAP	$12,045.00
71	Redwood-Coast	*Sequoia*	*sempervirens*	21	65	Semi-mature	Good		$9,222.00
72	Redwood-Coast	*Sequoia*	*sempervirens*	15	55	Semi-mature	Good		$4,705.00
73	Dogwood-Kousa	*Cornus*	*kousa*	1,1,1,1	10	Mature	Good	3	$83.00
74	Planetree-London	*Platanus*	x *hispanica*	19	65	Mature	Good	ASAP	$7,776.08
75	Maidenhair Tree	*Ginkgo*	*biloba*	19	50	Mature	Good	3	$2,516.00
76	Crapemyrtle-Common	*Lagerstroemia*	*indica*	5	25	Mature	Fair	5	$207.00
77	Maple-Japanese	*Acer*	*palmatum*	4,3,3,2	10	Mature	Poor	2	$350.80
78	Redwood-Coast	*Sequoia*	*sempervirens*	26	75	Semi-mature	Good	1	$14,137.00
79	Redwood-Coast	*Sequoia*	*sempervirens*	3	8	Young	Good		$188.00
80	Italian Cypress	*Cupressus*	*sempervirens*	17	65	Mature	Fair	1	$2,398.00
81	Redwood-Coast	*Sequoia*	*sempervirens*	18	60	Mature	Fair	3	$4,839.00
82	Italian Cypress	*Cupressus*	*sempervirens*	32	70	Mature	Good	3	$11,656.00
83	Oak-Scarlet	*Quercus*	*coccinea*	19	60	Mature	Good	3	$7,549.00
85	Italian Cypress	*Cupressus*	*sempervirens*	7	25	Young	Good	2	$569.00
87	Italian Cypress	*Cupressus*	*sempervirens*	7	35	Young	Good	3	$569.00
88	Italian Cypress	*Cupressus*	*sempervirens*	7	35	Young	Good	2	$569.00
89	Madrone-Marina	*Arbutus*	var. 'Marina'	5	15	Mature	Poor	3	$174.00
91	Planetree-London	*Platanus*	x *hispanica*	27	65	Mature	Good	3	$15,702.95
92	Cedar-Atlas	*Cedrus*	*atlantica*	30	60	Mature	Fair	1	$13,444.00
94	Elm	*Ulmus*	sp.	10	40	Semi-mature	Good	3	$1,626.00
95	Catalpa-Western	*Catalpa*	*speciosa*	46	70	Over-mature	Fair	1	$14,715.00
96	Cedar-Deodar	*Cedrus*	*deodara*	29	70	Mature	Good	2	$17,587.00
97	Maidenhair Tree	*Ginkgo*	*biloba*	15,10	20	Mature	Good	2	$2,265.00

Tree ID	Common Name	Genus	Species	DBH	Estimated Height	Age Class	Condition Class	Work Phase	Tree Asset Value
98	Planetree-London	*Platanus*	x *hispanica*	17	50	Mature	Good	3	$6,225.18
99	Maidenhair Tree	*Ginkgo*	*biloba*	24	55	Mature	Fair	ASAP	$2,868.00
100	Planetree-London	*Platanus*	x *hispanica*	20	50	Mature	Good	ASAP	$8,616.16
101	Maidenhair Tree	*Ginkgo*	*biloba*	16	55	Mature	Good	2	$1,784.00
102	Palm-Chinese Windmill	*Trachycarpus*	*fortunei*	6	15	Mature	Fair	4	$537.00
103	Elm-American	*Ulmus*	*americana*	35	70	Mature	Good	4	$13,736.00
105	Planetree-London	*Platanus*	x *hispanica*	23	55	Mature	Good	ASAP	$11,394.87
106	Maidenhair Tree	*Ginkgo*	*biloba*	25	55	Mature	Good	5	$4,356.00
107	Oak-Cork	*Quercus*	*suber*	34	60	Mature	Good	1	$23,495.00
108	Maple-Freeman's	*Acer*	x *freemanii*	17	60	Mature	Fair	3	$3,357.00
109	Oak-Scarlet	*Quercus*	*coccinea*	31	65	Mature	Good	ASAP	$26,084.80
110	Spruce-Norway	*Picea*	*abies*	12	45	Semi-mature	Good	5	$2,342.00
111	Palm-Mexican Fan	*Washingtonia*	*robusta*	17	85	Mature	Good	3	$3,357.00
112	Oak-Pin	*Quercus*	*palustris*	18	55	Mature	Good	ASAP	$3,764.00
113	Cherry Laurel-Portuguese	*Prunus*	*lusitanica*	11	35	Mature	Fair	3	$1,861.71
114	Cedar-Deodar	*Cedrus*	*deodara*	26	60	Mature	Good	5	$14,137.00
115	Maple-Freeman's	*Acer*	x *freemanii*	12	50	Mature	Fair	4	$1,673.00
116	Planetree-London	*Platanus*	x *hispanica*	31	60	Mature	Good	ASAP	$20,288.18
117	Planetree-London	*Platanus*	x *hispanica*	24	60	Mature	Good	2	$12,407.27
118	Maple-Freeman's	*Acer*	x *freemanii*	7	30	Semi-mature	Poor	1	$452.35
119	Maple-Freeman's	*Acer*	x *freemanii*	7	40	Semi-mature	Poor	1	$452.35
120	Maple-Freeman's	*Acer*	x *freemanii*	9	45	Semi-mature	Fair	2	$1,246.27
121	Maple-Freeman's	*Acer*	x *freemanii*	6	25	Semi-mature	Dead	ASAP	$0.00
122	Cabbage Tree	*Cordyline*	*australis*	9,7,7	20	Mature	Good		$2,911.00
124	Magnolia-Southern	*Magnolia*	*grandiflora*	37	45	Mature	Fair		$19,380.00
125	Maple-Sugar	*Acer*	*saccharum*	18	50	Mature	Good	5	$6,979.09
126	Privet-Glossy	*Ligustrum*	*lucidum*	28,23,11	60	Mature	Fair	3	$7,140.00
127	Magnolia-Southern	*Magnolia*	*grandiflora*	26	50	Mature	Good	3	$14,137.00
128	Palm-California Fan	*Washingtonia*	*filifera*	27	60	Mature	Good	2	$8,469.00
129	Redwood-Coast	*Sequoia*	*sempervirens*	23	60	Semi-mature	Good		$11,062.00
130	Redwood-Coast	*Sequoia*	*sempervirens*	31	50	Mature	Good		$19,697.00

Tree ID	Common Name	Genus	Species	DBH	Estimated Height	Age Class	Condition Class	Work Phase	Tree Asset Value
131	Redwood-Coast	*Sequoia*	*sempervirens*	24	60	Semi-mature	Good		$12,045.00
133	Palm-Mexican Fan	*Washingtonia*	*robusta*	17	85	Mature	Fair	2	$2,398.00
134	Palm-Mexican Fan	*Washingtonia*	*robusta*	16	80	Mature	Good	2	$2,974.00
135	Redwood-Giant	*Sequoiadendron*	*giganteum*	51	90	Mature	Fair	2	$9,996.00
137	Planetree-London	*Platanus*	x *hispanica*	25	65	Mature	Good	5	$13,462.75
138	Planetree-London	*Platanus*	x *hispanica*	19	65	Mature	Good	4	$7,776.08
139	Planetree-London	*Platanus*	x *hispanica*	27	70	Mature	Good	3	$15,702.95
140	Planetree-London	*Platanus*	x *hispanica*	17	70	Mature	Good		$6,225.18
141	Planetree-London	*Platanus*	x *hispanica*	16	70	Mature	Fair	5	$3,938.82
142	Planetree-London	*Platanus*	x *hispanica*	18	65	Mature	Fair	ASAP	$4,985.06
143	Planetree-London	*Platanus*	x *hispanica*	15	70	Mature	Fair	5	$3,461.85
144	Oak-Cork	*Quercus*	*suber*	18	50	Mature	Good		$6,775.00
145	Sweetgum-Common	*Liquidambar*	*styraciflua*	17	40	Mature	Fair	1	$2,398.00
146	Italian Cypress	*Cupressus*	*sempervirens*	22	65	Mature	Fair	3	$4,016.00
147	Elm-American	*Ulmus*	*americana*	54	75	Mature	Good	5	$32,895.46
148	Planetree-London	*Platanus*	x *hispanica*	32	85	Mature	Good	4	$21,610.65
149	Planetree-London	*Platanus*	x *hispanica*	24	75	Mature	Good		$12,407.27
150	Planetree-London	*Platanus*	x *hispanica*	11	60	Mature	Fair	1	$1,861.71
151	Planetree-London	*Platanus*	x *hispanica*	25	70	Mature	Good	5	$13,462.75
152	Planetree-London	*Platanus*	x *hispanica*	32	70	Mature	Good	2	$21,610.65
153	Cedar-Atlas	*Cedrus*	*atlantica*	27	70	Mature	Fair	2	$10,889.00
154	Sweetgum-Common	*Liquidambar*	*styraciflua*	19	65	Mature	Fair	1	$2,995.00
155	Oak-Northern Red	*Quercus*	*rubra*	31	75	Mature	Good	5	$19,697.00
156	Oak-Pin	*Quercus*	*palustris*	27	70	Mature	Good	ASAP	$8,469.00
157	Oak-Scarlet	*Quercus*	*coccinea*	27	70	Mature	Good	3	$15,245.00
158	Common Baldcypress	*Taxodium*	*distichum*	16	45	Mature	Good		$4,164.00
159	Elm	*Ulmus*	sp.	12	50	Semi-mature	Good	5	$2,342.00
160	Planetree-London	*Platanus*	x *hispanica*	16	60	Mature	Fair	1	$3,938.82
161	Planetree-London	*Platanus*	x *hispanica*	16	40	Mature	Fair	5	$3,938.82
162	Planetree-London	*Platanus*	x *hispanica*	18	60	Mature	Good	5	$6,979.09
163	Planetree-London	*Platanus*	x *hispanica*	20	65	Mature	Good	3	$8,616.16

Tree ID	Common Name	Genus	Species	DBH	Estimated Height	Age Class	Condition Class	Work Phase	Tree Asset Value
164	Cedar-Deodar	*Cedrus*	*deodara*	43	85	Mature	Fair	1	$24,233.00
165	Chinese Pistache	*Pistacia*	*chinensis*	14	30	Mature	Good	2	$3,188.00
166	Chinese Pistache	*Pistacia*	*chinensis*	8	25	Semi-mature	Good	4	$1,041.00
167	Cedar-Deodar	*Cedrus*	*deodara*	45	85	Mature	Good	1	$36,048.00
168	Planetree-London	*Platanus*	x *hispanica*	18	70	Mature	Good	3	$6,979.09
169	Cedar-Deodar	*Cedrus*	*deodara*	30	70	Mature	Fair	1	$13,444.00
170	Elm-American	*Ulmus*	*americana*	55	80	Mature	Fair	ASAP	$23,955.75
171	Maple-Japanese	*Acer*	*palmatum*	3,3,3,3,2,2	8	Mature	Good	5	$947.78
172	Elm-American	*Ulmus*	*americana*	23,18	65	Mature	Fair	ASAP	$9,374.47
173	Maple-Japanese	*Acer*	*palmatum*	3,3	8	Mature	Good	ASAP	$387.73
174	Redbud-Eastern	*Cercis*	*canadensis*	10	15	Mature	Good	4	$1,161.00
175	California Bay	*Umbellularia*	*californica*	47	60	Mature	Poor	1	$12,699.00
176	Maple-Japanese	*Acer*	*palmatum*	9	15	Mature	Good		$1,744.77
177	Maple-Japanese	*Acer*	*palmatum*	6	8	Mature	Good	1	$775.45
178	Planetree-London	*Platanus*	x *hispanica*	22	65	Mature	Good	ASAP	$10,425.55
180	Planetree-London	*Platanus*	x *hispanica*	21	65	Mature	Fair	ASAP	$6,785.23
181	Maple-Japanese	*Acer*	*palmatum*	3,3,3,2,2,2	10	Mature	Fair	1	$600.05
182	Elm-American	*Ulmus*	*americana*	32	70	Mature	Fair	ASAP	$11,025.84
183	Maple-Japanese	*Acer*	*palmatum*	3,3,3,2,2,2	10	Mature	Good		$840.08
184	Elm-American	*Ulmus*	*americana*	36	75	Mature	Fair	1	$10,293.00
185	Tuliptree	*Liriodendron*	*tulipifera*	17	55	Mature	Good	2	$2,014.00
186	Tuliptree	*Liriodendron*	*tulipifera*	21	70	Mature	Good	3	$4,071.14
187	Maple-Silver	*Acer*	*saccharinum*	38	70	Over-mature	Poor	1	$4,044.00
188	Douglas Fir	*Pseudotsuga*	*menziesii*	32	100	Mature	Good	5	$16,318.00
189	Maple-Silver	*Acer*	*saccharinum*	23	65	Mature	Fair	1	$2,634.00
190	Elm-American	*Ulmus*	*americana*	37	75	Mature	Fair	1	$10,767.00
191	Maple-Silver	*Acer*	*saccharinum*	23	55	Mature	Poor	ASAP	$1,580.00
192	Maple-Silver	*Acer*	*saccharinum*	34	65	Over-mature	Poor	1	$3,356.00
193	Maple-Bigleaf	*Acer*	*macrophyllum*	23	40	Mature	Good	1	$3,687.00
194	Palm-Chinese Windmill	*Trachycarpus*	*fortunei*	6	15	Mature	Good		$997.01
195	Oak-Scarlet	*Quercus*	*coccinea*	21	75	Mature	Good	ASAP	$9,222.00

Tree ID	Common Name	Genus	Species	DBH	Estimated Height	Age Class	Condition Class	Work Phase	Tree Asset Value
196	Oak-Pin	*Quercus*	*palustris*	16	70	Mature	Good	1	$2,974.00
197	Planetree-London	*Platanus*	x *hispanica*	20	65	Mature	Good	1	$8,616.16
198	Planetree-London	*Platanus*	x *hispanica*	19	65	Mature	Good	1	$7,776.08
199	Planetree-London	*Platanus*	x *hispanica*	19	65	Mature	Good		$7,776.08
200	Planetree-London	*Platanus*	x *hispanica*	37	65	Mature	Good	4	$27,947.23
201	Planetree-London	*Platanus*	x *hispanica*	25	60	Mature	Good	3	$13,462.75
202	Planetree-London	*Platanus*	x *hispanica*	15	55	Mature	Good	4	$4,846.59
203	Planetree-London	*Platanus*	x *hispanica*	15	60	Mature	Fair	ASAP	$3,461.85
204	Planetree-London	*Platanus*	x *hispanica*	3	10	Young	Good		$193.86
205	Planetree-London	*Platanus*	x *hispanica*	17	70	Mature	Good	1	$6,225.18
206	Redwood-Coast	*Sequoia*	*sempervirens*	38	100	Mature	Fair		$20,221.00
207	Eucalyptus-Manna Gum	*Eucalyptus*	*viminalis*	36	35	Mature	Fair	1	$14,410.00
208	Eucalyptus-Blue Gum	*Eucalyptus*	*globulus*	108	100	Over-mature	Fair	4	$6,971.89
210	Palm-California Fan	*Washingtonia*	*filifera*	31	45	Mature	Fair	2	$7,816.00
211	Palm-Mexican Fan	*Washingtonia*	*robusta*	13	85	Mature	Good	2	$1,963.00
212	Maple-Silver	*Acer*	*saccharinum*	30	55	Mature	Fair	1	$4,481.00
213	Magnolia-Southern	*Magnolia*	*grandiflora*	14,9	40	Mature	Fair	5	$5,479.61
214	Maple-Silver	*Acer*	*saccharinum*	33	75	Over-mature	Poor	ASAP	$4,208.83
215	Oak-Pin	*Quercus*	*palustris*	21	50	Mature	Good	5	$5,123.00
216	Planetree-London	*Platanus*	x *hispanica*	30	65	Mature	Good	1	$19,386.36
217	Planetree-London	*Platanus*	x *hispanica*	27	70	Mature	Good	1	$15,702.95
218	Planetree-London	*Platanus*	x *hispanica*	15	65	Mature	Good	1	$4,846.59
219	Planetree-London	*Platanus*	x *hispanica*	22	70	Mature	Good	3	$10,425.55
220	Italian Cypress (6)	*Cupressus*	*sempervirens*	2,2,2,2,2,2	8	Mature	Poor	2	$717.00
221	Palm-Canary Island Date	*Phoenix*	*canariensis*	21	70	Mature	Good	4	$9,499.32
222	Chinese Pistache	*Pistacia*	*chinensis*	5	15	Young	Good	5	$406.00
223	Maple-Freeman's	*Acer*	x *freemanii*	4	15	Young	Good	5	$260.00
224	Oak-Scarlet	*Quercus*	*coccinea*	3	15	Young	Fair	5	$134.00

APPENDIX


BARTLETT
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TREE EXPERTS
SCIENTIFIC TREE CARE SINCE 1907

ADDITIONAL RESOURCES

Bartlett publishes a variety of tree-resource documents, including technical reports, plant health care recommendations, and service brochures. The following technical reports may be pertinent to your inventory. To access these documents and view the complete Bartlett Resource Library online, please follow this URL:

https://www.bartlett.com/resourcelist.cfm

Girdling Roots

Maintenance Pruning Program

Monitor IPM Program

Mulch Application Guidelines

Tree Risk Assessments

Tree Structure Evaluation

GLOSSARY OF TERMS

air pollution removal: removal of pollutants from the air by plants through natural processes

arborist: 1. An individual engaged in the profession of arboriculture who, through experience, education and related training, possesses the competence to provide for, or supervise the management of, trees and other woody ornamentals. [ANSI A300 (Part 1, 2, 4, 5, 6)] 2. An individual engaged in the profession of arboriculture. [ANSI Z133.1-2000 Safety Requirements for Arboricultural Operations]

bracing: The installation of lag-thread screw or threaded-steel rods in limbs, leaders, or trunks to provide supplemental support. [ANSI A300 (Part 3)-2000 Support Systems]

branch: An outgrowing shoot, stem or twig that grows from the main stem or trunk. [ANSI Z60.1-2004 Nursery Stock]

buttress roots: Lateral surface roots that aid in stabilizing the tree.

cable: 1) Zinc coated strand per ASTM A-475 for dead-end grip applications. 2) Wire rope or strand for general applications. 3) Synthetic-fiber rope or synthetic-fiber webbing for general applications. [ANSI A300 (Part 3)-2000 Support Systems]

cabling: The installation of a steel wire rope, steel strand, or synthetic-fiber system within a tree between limbs or leaders to limit movement and provide supplemental support. [ANSI A300 (Part 3)-2000 Support Systems]

canopy: collective branches and foliage of a tree or group of trees' crowns

carbon sequestration: removal of carbon from the air by plants through natural processes

carbon storage: storage of carbon removed from the air in plant tissues

cation exchange capacity (CEC): The ability of soil to absorb nutrients.

cavity: An open wound characterized by the presence of decay and resulting in a hollow.

cleaning: Selective pruning to remove one or more of the following parts: dead, diseased, and/ or broken branches (5.6.1). [ANSI A300 (Part 1)-2001 Pruning]

co-dominant branches: Equal in size and importance, usually associated with either the trunks, stems, or scaffold limbs.

conk: fruiting body or non-fruiting body of a fungus. Often associated with decay.

critical root zone (CRZ): area of soil around a tree trunk where roots are located that provide stability and uptake of water and minerals required for tree survival.

crown: 1. The leaves and branches of a tree measured from the lowest branch on the trunk to the top of the tree. [ANSI A300 (Part 1)-2001 Pruning] [ANSI A300 (Part 6)-2005 Transplanting] 2. The portion of a tree comprising the branches. [ANSI Z60.1-2004 Nursery Stock]

D.B.H. [diameter at breast height]: Measurement of trunk diameter taken at 4.5 feet (1.4 m) off the ground. [ANSI A300 (Part 6)-2005 Transplanting]

decay: The degradation of woody tissue caused by microorganisms. [ANSI A300 (Part 1)-2001 Pruning]

Geographic Information System (GIS): is any system for capturing, storing, analyzing and managing data and associated attributes which are spatially referenced to earth.

girdling root: A root that may impede proper development of other roots, trunk flare, and/or trunk. [ANSI A300 (Part 6)-2005 Transplanting]

Global Positioning System (GPS): A constellation of at least 24 Medium Earth Orbit satellites that transmit precise microwave signals, the system enables a GPS receiver to determine its location, speed, direction, and time.

Global Positioning System receiver (GPSr): A receiver that receives its input from GPS satellites to determine location, speed, direction, and time.

heading: cutting a shoot back to a bud or cutting branches back to buds, stubs, or lateral branches not large enough to assume apical dominance. Cutting an older branch or stem back to meet a structural objective

integrated pest management (IPM): A pest control strategy that uses an array of complementary methods: mechanical devices, physical devices, genetic, biological, legal, cultural management, and chemical management. These methods are done in three stages of prevention, Observation, and finally Intervention. It is an ecological approach that has its main goal is to significantly reduce or eliminate the use of pesticides.

lateral branch: A shoot or stem growing from a parent branch or stem. [ANSI A300 (Part 1)-2001 Pruning]

leader: A dominant or co-dominant, upright stem. [ANSI A300 (Part 1)-2001 Pruning]

lean: Departure from vertical of the stem, beginning at or near the base of the trunk.

limb: A large, prominent branch. [ANSI A300 (Part 1)-2001 Pruning]

lion's tailing: The removal of an excessive number of inner, lateral branches from parent branches. Lion's tailing is not an acceptable pruning practice (5.5.7). [ANSI A300 (Part 1)-2001 Pruning]

macronutrient: Nutrient required in relatively large amounts by plants, such as nitrogen (N), phosphorus (P), potassium (K), and sulfur (S). [ANSI A300 (Part 2)-2004 Fertilization]

micronutrient: Nutrient required in relatively small amounts by plants, such as iron (Fe), manganese (Mn), zinc (Zn), copper (Cu), and boron (B). [ANSI A300 (Part 2)-2004 Fertilization]

noise attenuation: reducing sound levels via materials, structures, plants, etc.

nutrient: Element or compound required for growth, reproduction or development of a plant. [ANSI A300 (Part 2)-2004 Fertilization]

organic matter: material derived from the growth (and death) of living organisms. The organic components of soil.

parent branch or stem: A tree trunk, limb, or prominent branch from which shoots or stems grow. [ANSI A300 (Part 1)-2001 Pruning]

pH: unit of measurement that describes the alkalinity or acidity of a solution. Measured on a scale of 0 to 14. Greater than 7 Is alkaline, less than 7 is acid, and 7 is neutral (pure water).

pruning: The selective removal of plant parts to meet specific goals and objectives. [ANSI A300 (Part 1)-2001 Pruning]

qualified arborist: An individual who, by possession of a recognized degree, certification, or professional standing, or through related training and on-the-job experience, is familiar with the equipment and hazards involved in arboricultural operations and who has demonstrated ability in the performance of the special techniques involved. [ANSI Z133.1-2000 Safety Requirements for Arboricultural Operations]

raising: Selective pruning to provide vertical clearance (5.6.3). [ANSI A300 (Part 1)-2001 Pruning]

reduction: Selective pruning to decrease height and/or spread (5.6.4). [ANSI A300 (Part 1)-2001 Pruning]

risk assessment: process of evaluating what unexpected things could happen, how likely it is, and what the likely outcomes are. In tree management, the systematic process to determine the level of risk posed by a tree, tree part, or group of trees.

root collar: 1. The transition zone between the trunk and the root system. [ANSI A300

(Part 6)-2005 Transplanting] 2. See COLLAR. [ANSI Z60.1-2004 Nursery Stock]

root flare or trunk flare: The area at the base of the plant's stem or trunk where the stem or trunk broadens to form roots; the area of transition between the root system and the stem or trunk. [ANSI Z60.1-2004 Nursery Stock] [ANSI A300 (Part 6)-2005 Transplanting]

root zone: The volume of soil containing the roots of a plant. [ANSI A300 (Part 5)-2005 Management]

secondary nutrient: Nutrient required in moderate amounts by plants, such as calcium (Ca) and magnesium (Mg). [ANSI A300 (Part 2)-2004 Fertilization]

seam: Vertical line that appears where two edges of wound wood or callus ridge meet.

soil amendment: Any material added to soil to alter its composition and structure, such as sand, fertilizer, or organic matter. [ANSI A300 (Part6)-2005 Transplanting]

soil pH: A measure of the acidity or alkalinity of the soil.

stormwater runoff: water (generally from rain or snow melt) that flows over the ground after storm events.

structural support system: hardware installed in tree, may be; cables, braces, or guys, to provide supplemental support.

sweep: Departure from vertical of the stem, beginning above the base of the trunk.

thinning: Selective pruning to reduce density of live branches (5.6.2). [ANSI A300 (Part 1)-2001 Pruning]

tree risk assessment: Closer inspection of visibly damaged, dead, defected, diseased, leaning or dying tree to determine management needs.

topping: The reduction of a tree's size using heading cuts that shorten limbs or branches back to a predetermined crown limit. Topping is not acceptable pruning practice. (5.5.7). [ANSI A300 (Part 1)-2001 Pruning]

tree inventory: A comprehensive list of individual trees providing descriptive information on all or a portion of the project area. [ANSI A300 (Part 5)-2005 Management during site planning, site development, and construction]

tree protection zone: A space above and belowground within which trees are to be retained and protected. [ANSI A300 (Part 5)-2005 Management during site planning, site development, and construction]

trunk: That portion of a stem or stems of a tree before branching occurs. [ANSA Z60.1-

2004 Nursery Stock]

vigor: Overall health. Capacity to grow and resist stress. [ISA Municipal Specialist Certification Study Guide 2008]

wound: An opening that is created when the bark of a living branch or stem is penetrated, cut, or removed. [ANSI A300 (Part 1)-2001 Pruning]