87 Cambridge Park Drive
Tree Inventory | 2019

Submitted by:
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SCIENTIFIC TREE CARE SINCE 1907

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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 the 87 Cambridge Park Drive Canopy 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 four 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(s) listed on the cover page, Team Member(s) involved in this project included:

Technical Advisor

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Data Collection

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Subject Trees

In this document, the term "subject trees" refers (depending on context) to some or all of the 57 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
- **Stand Dynamics Results**
  - Summary information for the entire tree population inventoried
- **I-Tree Eco Information**
  - Summary of I-Tree Eco estimates of ecological benefits
- **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 February 2019, the Bartlett Inventory Solutions (BIS) Team from Bartlett Tree Experts conducted an inventory of trees on the 87 Cambridge Park Drive Canopy site. We identified 60 trees which included 14 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 over the next 3-year period are outlined below. All tree work activities will comply with current American National Standards Institute (ANSI) Z133.1 requirements for safety.

Environmental Services

Environmental services were estimated with results indicating that the trees are estimated to store15.64 tons of carbon, sequester 2017 lbs of carbon per year, remove 18.17 lbs of air pollution per year, and have an air pollution removal value of $517.00 per year.

INTRODUCTION

In February 2019, 87 Cambridge Park Drive Canopy in Cambridge, MA retained Bartlett Tree Experts to perform an inventory of trees on the 87 Cambridge Park Drive site. Team member Timothy Armstrong visited the site on February 25 to conduct the inventory.

The inventory included:

- identifying trees and assigning a Tree ID number (Tree ID numbers ranging from 1 to 60);
- identifying the trees' condition, health, and vigor;
- measuring tree attributes according to standard i-Tree Eco protocol and using the environmental services model to analyze the data;
- 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 objective(s).

GOALS & OBJECTIVES

GOAL	OBJECTIVES TO ACCOMPLISH GOAL
Establish the tree inventory (per numbers agreed) at 87 Cambridge Park Drive.	• 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 inventoried. • Provide map or maps of the inventoried trees to assist the client in managing property areas.
Evaluate environmental services	• Provide map or maps of the inventoried trees to assist the client in managing property areas. • Evaluate all trees inventoried using the i-Tree Eco tool. (results in supplemental i-Tree report)

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

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

Height Class

Small	Less than 15 feet
Medium	15 to 40 feet
Large	Greater than 40 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.

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
  - Condition Class
  - Age Class
  - Tree Size per DBH

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

Stand Dynamics

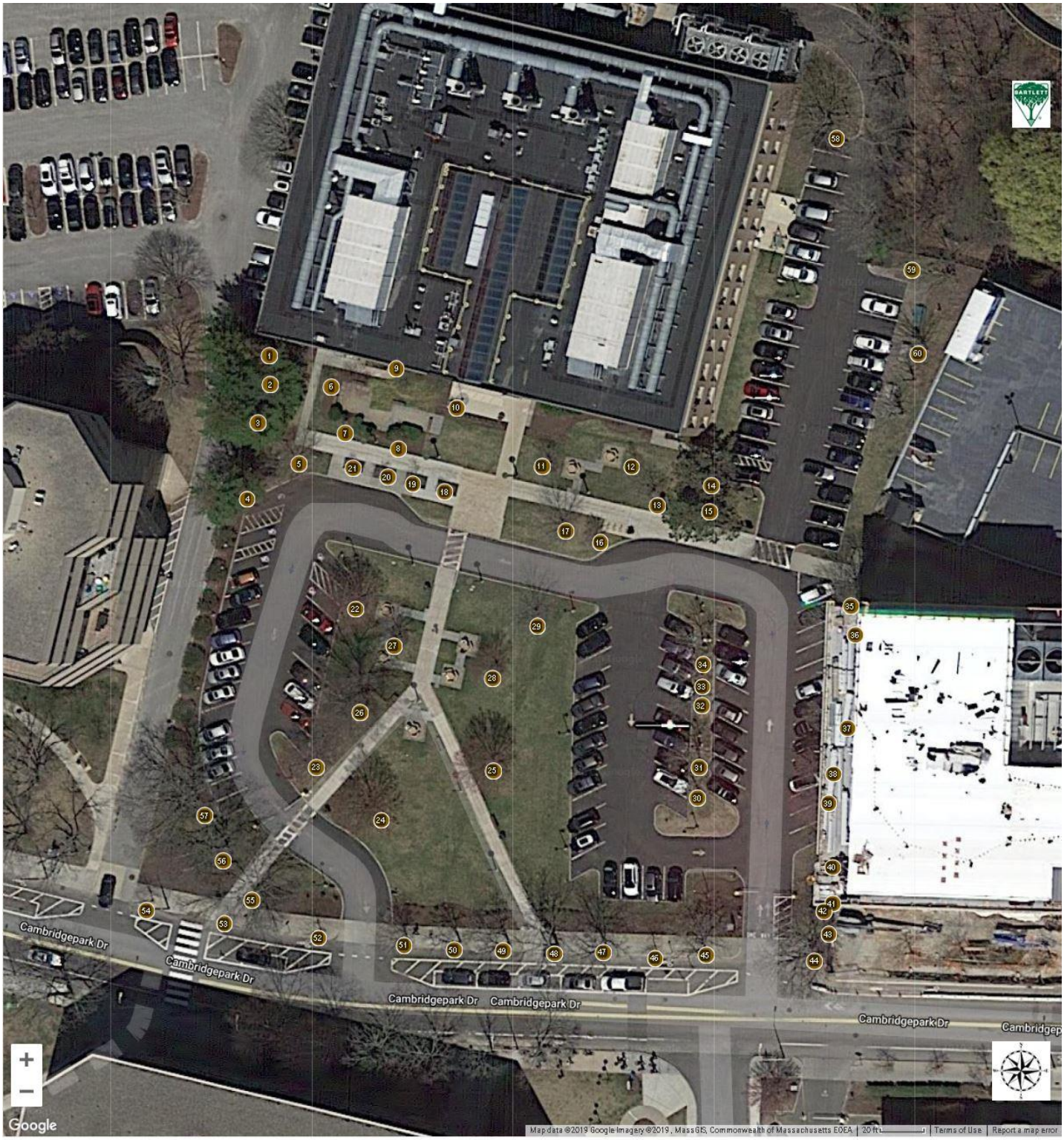
Tree Species Identified

Our inventory revealed 14 species of trees, as detailed in the following table:

TREE SPECIES IDENTIFIED

Genus	Species	Common Name	Count	% Distribution Total
Acer	*platanoides*	Maple-Norway	6	10%
	rubrum	Maple-Red	4	7%
	saccharum	Maple-Sugar	8	13%
***Acer* Total**			**15**	**26%**
Betula	*nigra*	Birch-River	1	2%
Cladrastis	*kentukea*	Yellowwood	3	5%
Cornus	*florida*	Dogwood-Flowering	2	4%
	kousa	Dogwood-Kousa	3	5%
***Cornus* Total**			**5**	**9%**
Gleditsia	*triacanthos* var. inermis	Honeylocust-Thornless Common	15	26%
Halesia	*carolina*	Silverbell-Carolina	2	4%
Magnolia	sp.	Magnolia	7	12%
Pinus	*rigida*	Pine-Pitch	2	4%
	strobus	Pine-Eastern White	4	7%
***Pinus* Total**			**6**	**11%**
Prunus	*serrulata*	Cherry-Flowering	2	4%
Syringa	*reticulata*	Lilac-Japanese Tree	1	2%
Grand Total			**60**	**100%**

2019 TREE INVENTORY

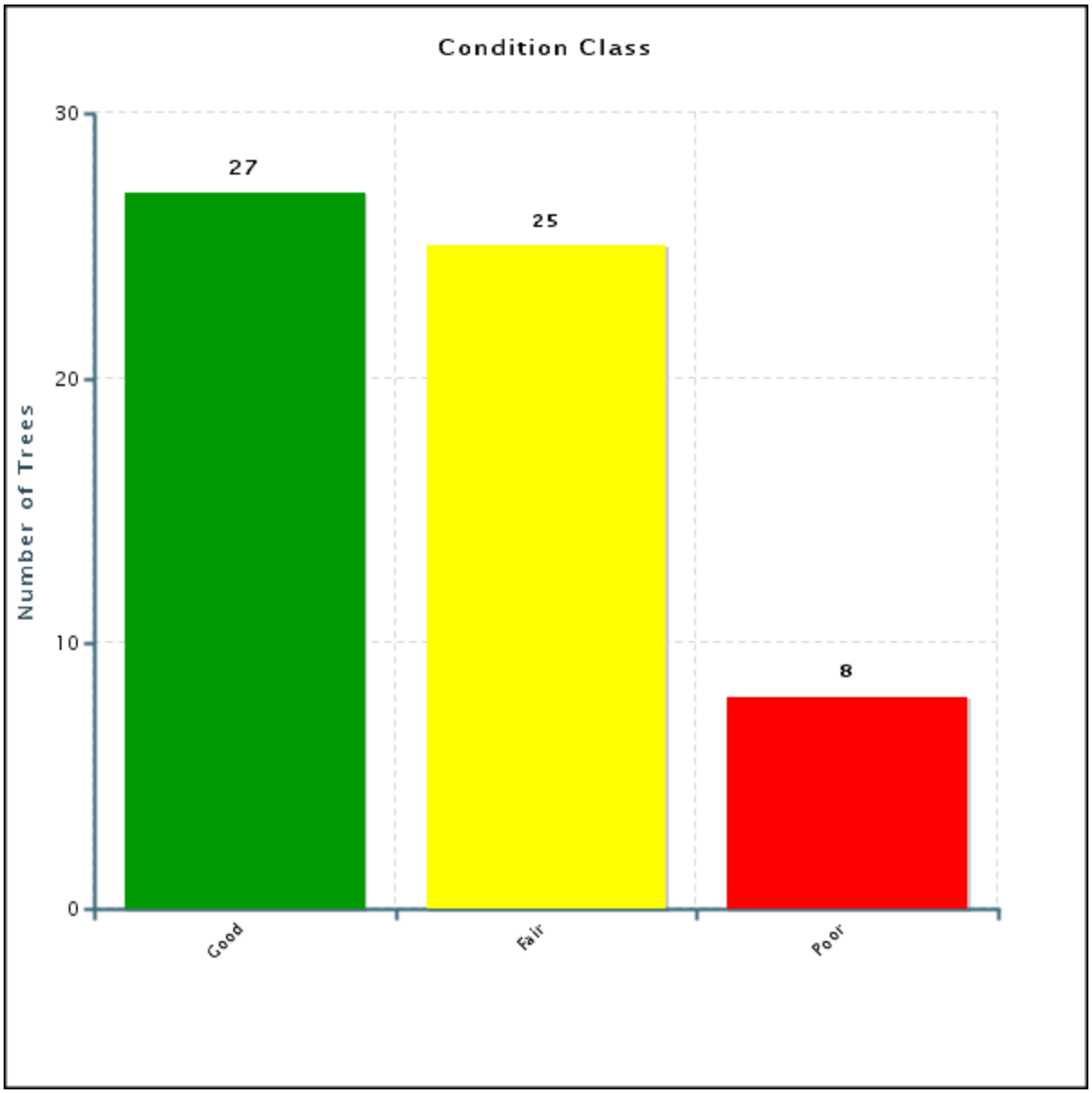


Condition Class

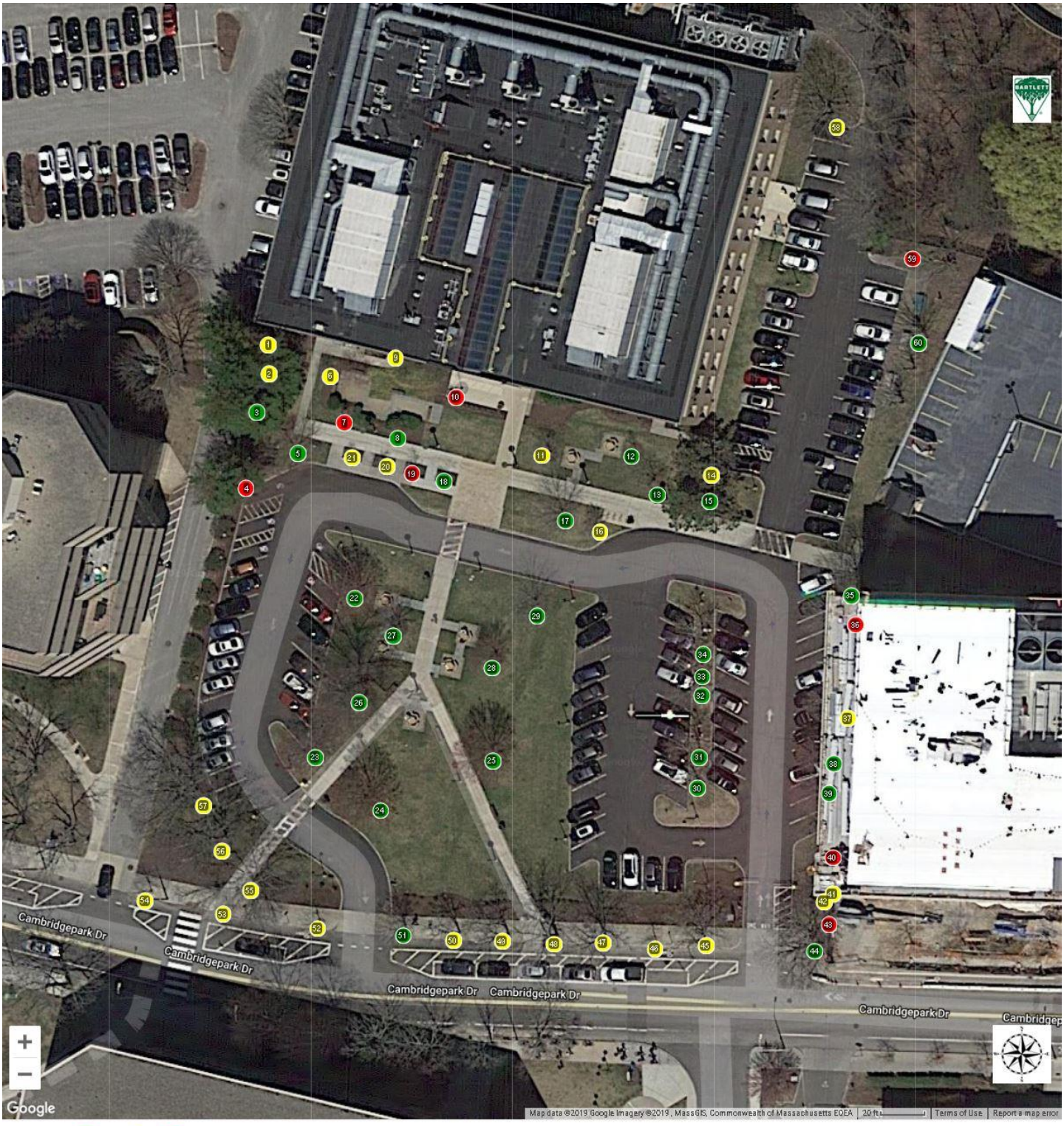
The breakdown of tree condition follows:

CONDITION CLASS BREAKDOWN

Condition Class	Quantity	% of Total
Good	27	46%
Fair	25	42%
Poor	7	12%



INVENTORIED TREES BY CONDITION CLASS



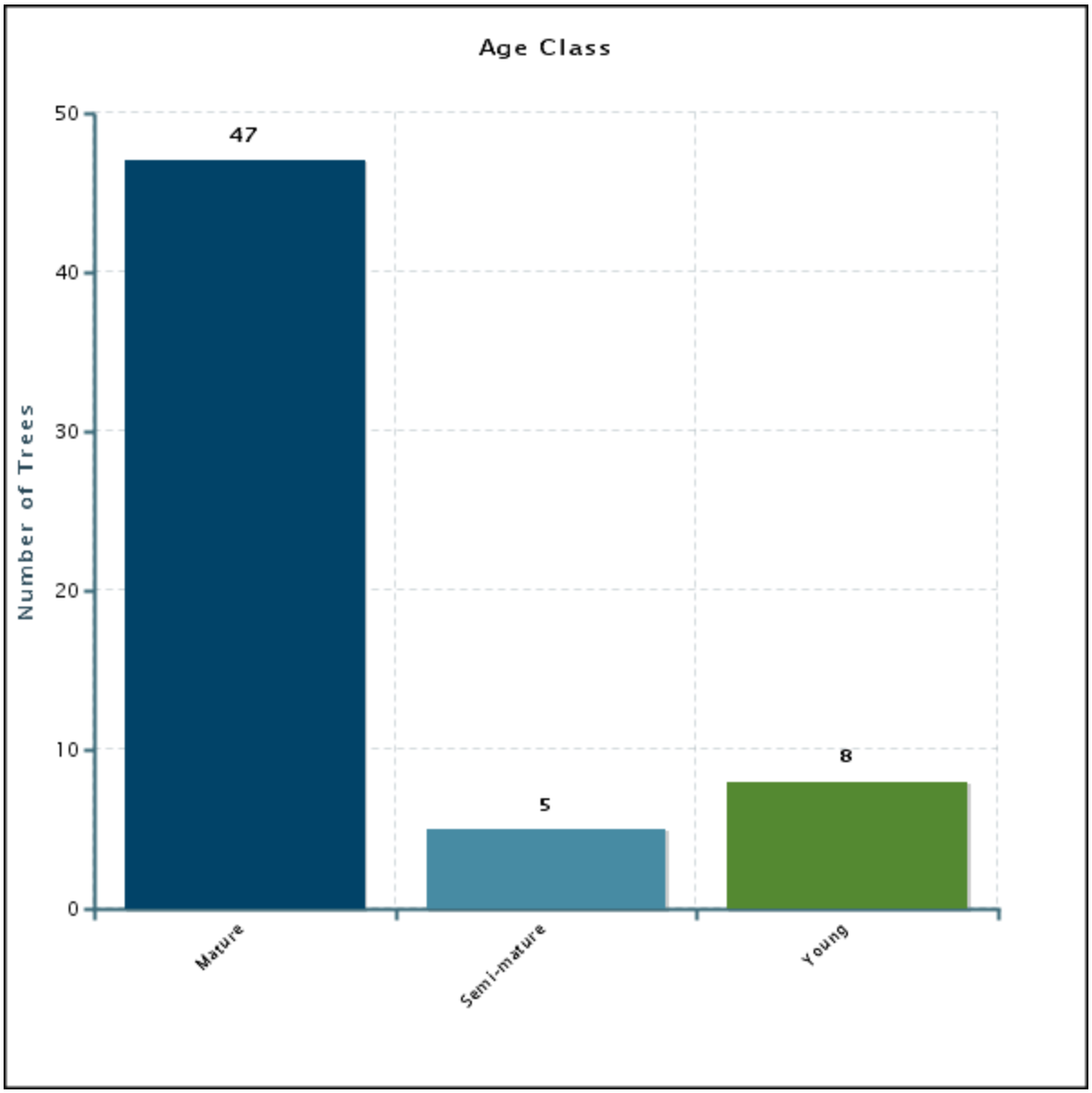
Condition: Good Fair Poor

Age Class

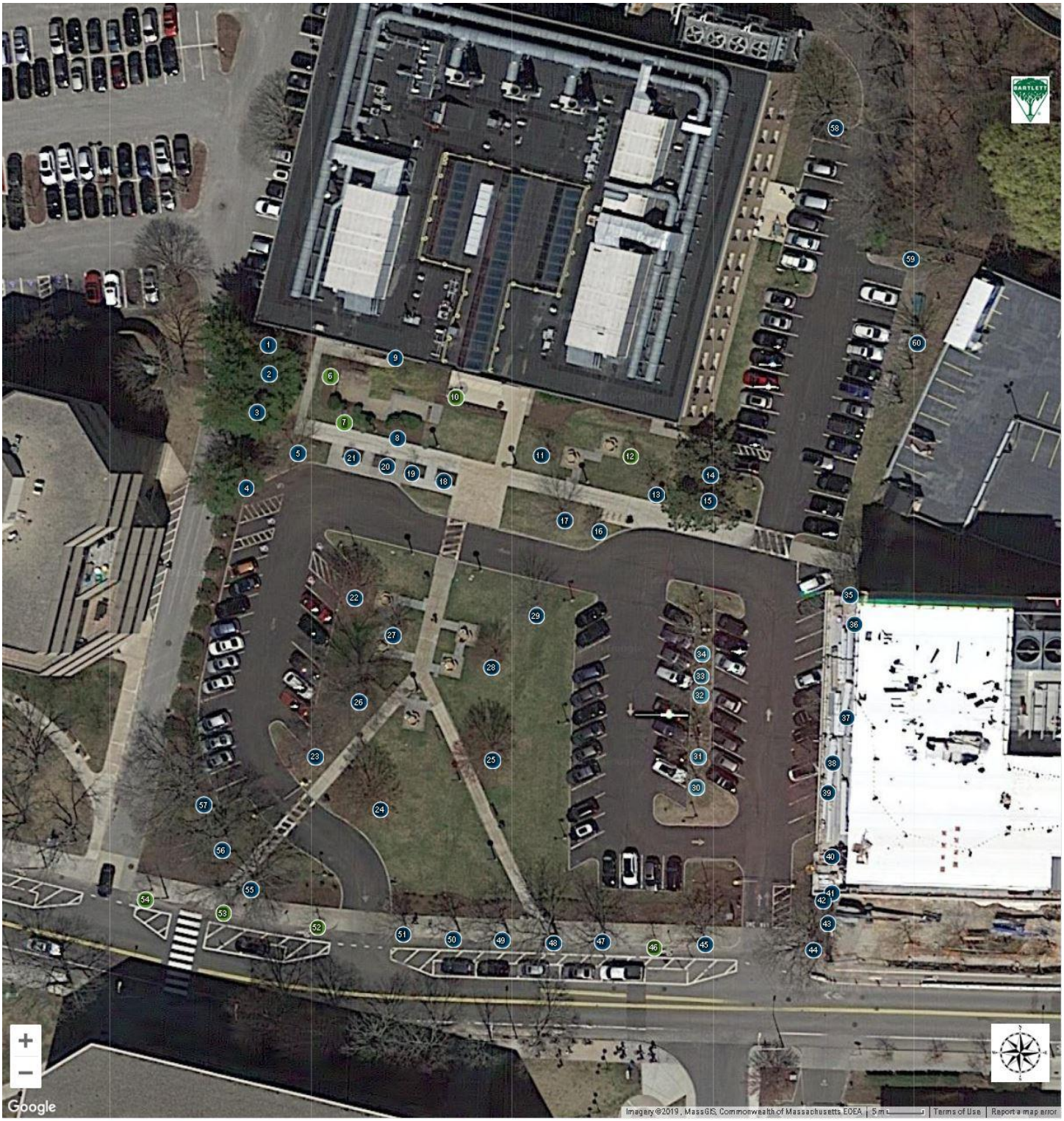
The breakdown of tree age class follows:

AGE CLASS BREAKDOWN

Age Class	Quantity	% of Total
Mature	47	77%
Semi-mature	5	9%
Young	8	14%



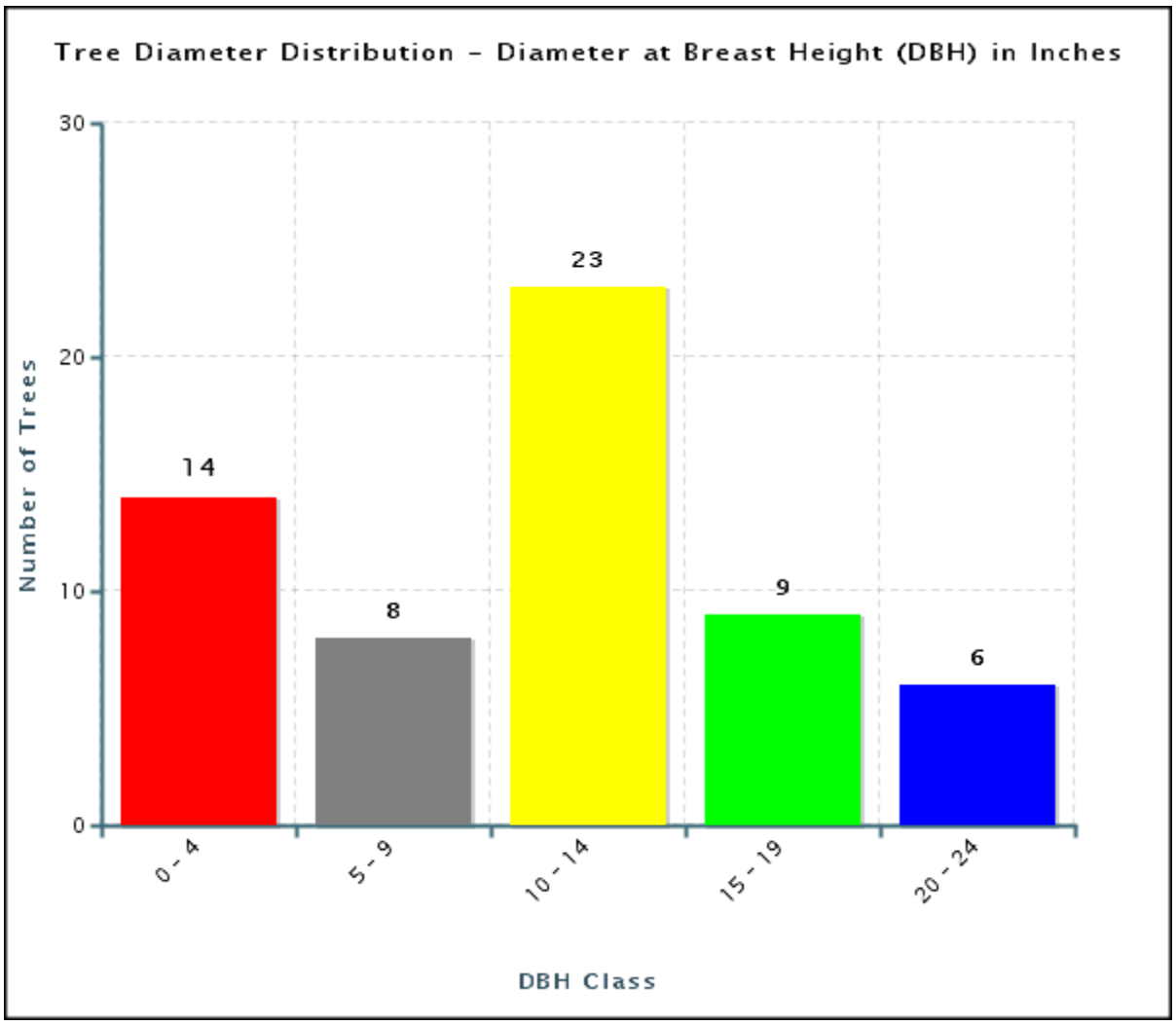
INVENTORIED TREES BY AGE CLASS



Age: Young Semi-Mature Mature

Tree Size (DBH)

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



ENTIRE INVENTORY

ENTIRE INVENTORY (57 Trees)

Tree ID	Common Name	Genus	Species	DBH	Height Class	Age Class	Stems	Condition Class
1	Pine-Eastern White	*Pinus*	*strobus*	21	Large	Mature	1	Fair
2	Pine-Eastern White	*Pinus*	*strobus*	20	Large	Mature	1	Fair
3	Pine-Eastern White	*Pinus*	*strobus*	21	Large	Mature	1	Good
4	Pine-Eastern White	*Pinus*	*strobus*	23	Large	Mature	1	Poor
5	Yellowwood	*Cladrastis*	*kentukea*	12	Large	Mature	1	Good
6	Silverbell-Carolina	*Halesia*	*carolina*	4	Medium	Young	1	Fair
7	Silverbell-Carolina	*Halesia*	*carolina*	4	Medium	Young	1	Poor
8	Dogwood-Kousa	*Cornus*	*kousa*	2,2,2,2,2	Medium	Mature	5	Good
9	Dogwood-Kousa	*Cornus*	*kousa*	2,2,2,2,1,1	Medium	Mature	6	Fair
10	Honeylocust-Thornless Common	*Gleditsia*	*triacanthos* var. inermis	4	Medium	Young	1	Poor
11	Dogwood-Flowering	*Cornus*	*florida*	4,3,3	Medium	Mature	1	Fair
12	Lilac-Japanese Tree	*Syringa*	*reticulata*	3	Medium	Young	1	Good
13	Dogwood-Flowering	*Cornus*	*florida*	4	Medium	Mature	1	Good
14	Pine-Pitch	*Pinus*	*rigida*	16	Medium	Mature	1	Fair
15	Pine-Pitch	*Pinus*	*rigida*	18	Medium	Mature	1	Good
16	Dogwood-Kousa	*Cornus*	*kousa*	3,2,2,2,2	Medium	Mature	5	Fair
17	Yellowwood	*Cladrastis*	*kentukea*	12	Medium	Mature	1	Good
18	Magnolia	*Magnolia*	sp.	2	Medium	Mature	1	Good
19	Magnolia	*Magnolia*	sp.	3,2,2	Medium	Mature	1	Poor
20	Magnolia	*Magnolia*	sp.	3,2,2	Medium	Mature	3	Fair
21	Magnolia	*Magnolia*	sp.	3	Medium	Mature	1	Fair
22	Maple-Red	*Acer*	*rubrum*	12	Medium	Mature	1	Good
23	Maple-Red	*Acer*	*rubrum*	11	Medium	Mature	1	Good
24	Maple-Red	*Acer*	*rubrum*	12	Medium	Mature	1	Good
25	Maple-Red	*Acer*	*rubrum*	13	Medium	Mature	1	Good
26	Birch-River	*Betula*	*nigra*	19,17	Medium	Mature	2	Good
27	Cherry-Flowering	*Prunus*	*serrulata*	11	Medium	Mature	1	Good

Tree ID	Common Name	Genus	Species	DBH	Height Class	Age Class	Stems	Condition Class
28	Cherry-Flowering	*Prunus*	*serrulata*	12	Medium	Mature	1	Good
29	Yellowwood	*Cladrastis*	*kentukea*	10	Medium	Mature	1	Good
30	Maple-Norway	*Acer*	*platanoides*	11	Medium	Semi-mature	1	Good
31	Maple-Norway	*Acer*	*platanoides*	10	Medium	Semi-mature	1	Good
32	Maple-Norway	*Acer*	*platanoides*	10	Medium	Semi-mature	1	Good
33	Maple-Norway	*Acer*	*platanoides*	9	Medium	Semi-mature	1	Good
34	Maple-Norway	*Acer*	*platanoides*	10	Medium	Semi-mature	1	Good
35	Maple-Sugar	*Acer*	*saccharum*	13	Medium	Mature	1	Good
36	Maple-Sugar	*Acer*	*saccharum*	14	Medium	Mature	1	Poor
37	Maple-Sugar	*Acer*	*saccharum*	12	Medium	Mature	1	Fair
38	Maple-Sugar	*Acer*	*saccharum*	10	Medium	Mature	1	Good
39	Maple-Sugar	*Acer*	*saccharum*	11	Medium	Mature	1	Good
40	Maple-Sugar	*Acer*	*saccharum*	13	Medium	Mature	1	Poor
41	Magnolia	*Magnolia*	sp.	6	Medium	Mature	1	Fair
42	Magnolia	*Magnolia*	sp.	7	Medium	Mature	1	Fair
43	Magnolia	*Magnolia*	sp.	6	Medium	Mature	1	Poor
44	Honeylocust-Thornless Common	*Gleditsia*	*triacanthos* var. inermis	22	Medium	Mature	1	Good
45	Honeylocust-Thornless Common	*Gleditsia*	*triacanthos* var. inermis	19	Medium	Mature	1	Fair
46	Honeylocust-Thornless Common	*Gleditsia*	*triacanthos* var. inermis	4	Medium	Young	1	Fair
47	Honeylocust-Thornless Common	*Gleditsia*	*triacanthos* var. inermis	17	Medium	Mature	1	Fair
48	Honeylocust-Thornless Common	*Gleditsia*	*triacanthos* var. inermis	17	Medium	Mature	1	Fair

Tree ID	Common Name	Genus	Species	DBH	Height Class	Age Class	Stems	Condition Class
49	Honeylocust-Thornless Common	*Gleditsia*	*triacanthos* var. inermis	14	Medium	Mature	1	Fair
50	Honeylocust-Thornless Common	*Gleditsia*	*triacanthos* var. inermis	11	Medium	Mature	1	Fair
51	Honeylocust-Thornless Common	*Gleditsia*	*triacanthos* var. inermis	9	Medium	Mature	1	Good
52	Honeylocust-Thornless Common	*Gleditsia*	*triacanthos* var. inermis	6	Medium	Young	1	Fair
53	Honeylocust-Thornless Common	*Gleditsia*	*triacanthos* var. inermis	6	Medium	Young	1	Fair
54	Honeylocust-Thornless Common	*Gleditsia*	*triacanthos* var. inermis	5	Medium	Young	1	Fair
55	Honeylocust-Thornless Common	*Gleditsia*	*triacanthos* var. inermis	22	Medium	Mature	1	Fair
56	Honeylocust-Thornless Common	*Gleditsia*	*triacanthos* var. inermis	18	Medium	Mature	1	Fair
57	Honeylocust-Thornless Common	*Gleditsia*	*triacanthos* var. inermis	19	Medium	Mature	1	Fair
58	Maple-Norway	*Acer*	*platanoides*	17	Medium	Mature	1	Fair
59	Maple-Sugar	*Acer*	*saccharum*	12	Medium	Mature	1	Poor
60	Maple-Sugar	*Acer*	*saccharum*	13	Medium	Mature	1	Good

APPENDIX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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

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 Z60.1â€“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 nonfruiting 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)-2001Pruning] [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 o 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

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]