Pleasantville, IA

Urban Forestry Management Plan

SUMMER 2021

JEO CONSULTING GROUP

Table of Contents

Table of Contents

Table of Contents

Executive Summary

EXECUTIVE SUMMARY

Overview

This plan was developed to assist the City of Pleasantville in managing its urban forest, including budgeting and future planning. Trees bring numerous benefits to a community, and sound management helps leaders take advantage of these benefits. Management is especially important now considering the serious threats posed by forest pests like the emerald ash borer (EAB). EAB is an invasive insect imported from Eastern Asia on wood shipping crates that kills all species of ash trees except mountain ash. There is a strong possibility that 17% of Pleasantville's city-owned trees will die once EAB becomes established in the community, unless local leaders begin preventative treatment. With proper planning and management, the costs of removing dead and dying trees can be extended over years, mitigating public safety issues.

Inventory and Results

In 2021, JEO conducted a tree inventory using Global Positioning System (GPS) data collectors. The inventory was a complete inventory of street and park trees. Below are some key findings of the 258 trees inventoried.

- Pleasantville's trees provide $32,071 of benefits annually, an average of $124.31 per tree
- There are over 38 species of trees
- The top three genera are: Oak 22%, Maple 18.5%, and Ash 17%
- 50% of trees need some type of management
- 45 trees should be removed

Recommendations

We detail our core recommendations in the Recommendations Section. In the Emerald Ash Borer Plan, we include management recommendations. Below are some key recommendations.

- Out of the 45 trees needing removal, 7 trees are over 24 inches in diameter at 4.5 ft and must be addressed immediately. *City ownership of the trees recommended for removal should be verified prior to any removal*
- 30 of the 44 ash trees should be carefully examined, as they have one or more symptoms that could be related to an EAB infestation.
- All trees should be pruned on a routine schedule: one third of the city every other year.
- Plant a diverse mix of trees that do not include: ash, maple, cottonwood, poplar, box elder, Chinese elm, evergreen, willow or black walnut.
- Check ash trees yearly with a visual survey.
- With the current budget it could take 12 years to remove ash. We suggest that city officials request a budget increase to $4,000 annually and apply for grants to plant replacement trees

Introduction

INTRODUCTION

This plan was developed to assist Pleasantville with managing, budgeting, and future planning of their urban forest. Across the state, forestry budgets continue to decrease as a higher percentage of the budgets are devoted to tree removal. With the anticipated arrival of Emerald Ash Borer (EAB), an invasive pest that kills native ash trees, it is time to prepare for the increased costs of tree removal, treatment, and replacement planting. With proper planning and management of the current canopy in Pleasantville, these costs can be spread out over the years and public safety issues from dead and dying ash trees can be mitigated.

Trees are an important part of Pleasantville's infrastructure and one of the city's greatest assets. The benefits of trees are immense. Trees improve air quality, intercept stormwater runoff, conserve energy, lower traffic speeds, increase property values, reduce crime, improve mental health, and create a desirable place to live, to name just a few. Good urban forestry management will maintain these important benefits for the people of Pleasantville and future generations.

Urban forestry management sets goals and develops management strategies to achieve them. To develop management strategies, a comprehensive public tree inventory must be conducted. The inventory informs maintenance, removal schedules, tree planting, and budgeting. Aligning management actions with the tree inventory results will help meet Pleasantville's urban forestry goals.

Assist Pleasantville with Managing its Urban Forest

Inform on the Benefits of a Healthy Urban Forest

Establish Preventative Treatment for Emerald Ash Borer

Develop Efficient City Tree Management Techniques

Mitigate Public Safety Issues

Findings

INVENTORY

In 2021, JEO conducted a tree inventory that included 100% of the city-owned trees on both streets and parks. The team collected tree data using a handheld Global Positioning System (GPS) receiver. The data collector gives Geographic Information Systems (GIS) coordinates with an accuracy of 3 meters, which can be used in Arc GIS as an active GIS data layer. Because the inventory is a digital document the data can be updated with new information and become a working document.

The data collectors' programming was written to be compatible with a state-of-the-art software suite called i-Tree. i-Tree was developed by the USDA Forest Service to quantify the structure of community trees and the environmental services that trees provide. The i-Tree suite is a public domain which can be accessed for free.

To quantify the urban forest structure and benefits, specific data is collected for each tree. This data includes: location, land use, species, diameter at 4.5 ft, recommended maintenance, priority of that maintenance, leaf health, and wood condition. Additionally, for all ash trees, the team notes signs and symptoms associated with EAB including canopy dieback, epicormic shoots, bark splitting, D-shaped borer exit holes, and wood pecker damage.

INVENTORY RESULTS

JEO entered the data collected for the 258 city trees into the USDA Forest service program Street Tree Resource Analysis Tool for Urban forestry Management as part of the i-Tree suite. Following are results from the i-Tree STREETS analysis.

ANNUAL BENEFITS

Annual Energy Benefits

Trees conserve energy by shading buildings and blocking winds. Pleasantville's trees reduce energy-related costs by approximately $9,016 annually (Appendix A, Table 1). These savings are both in electricity (42.8 MWh) and in natural gas (5,887.4 Therms).

Annual Stormwater Benefits

Pleasantville's trees intercept about 425,073 gallons of rainfall or snow melt per year (Appendix A, Table 2). This interception provides $11,519 in benefit to the city.

Annual Air Quality Benefits

Air quality is a persistent public health issue in Iowa. The urban forest improves air quality by removing pollutants, lowering air temperature, and reducing energy consumption, which in turn reduces emissions from power plants, and lessens emissions of volatile organic matter (ozone). In Pleasantville, it is estimated that trees remove 540 lbs of air pollution (ozone (O3), particulate matter less than 10 microns (PM10), carbon monoxide (CO), nitrogen dioxide (NO2), and sulfur dioxide (SO2)) per year with a net value of $1,522 (Appendix A, Table 3).

Annual Carbon Benefits

Carbon sequestration and storage reduce the amount of carbon in the atmosphere, mitigating climate change. In Pleasantville, trees sequester about 92,091 lbs of carbon per year with an associated value of $691 (Appendix A, Table 5). In addition, the trees store 1,537,247 lbs of carbon, with a yearly benefit of $11,529 (Appendix A, Table 4).

Annual Aesthetics Benefits

The social benefits of trees are hard to capture. The i-Tree analysis does have a calculation for this area that includes aesthetic value, property values, lowered rates of mental illness and crime, city livability and much more. Pleasantville receives $8,844 in annual social benefits from trees (Appendix A, Table 6).

Financial Summary of All Benefits

According to the USDA Forest Service i-Tree STREETS analysis, Pleasantville's trees provide $32,071 of benefits annually. Benefits of individual trees vary based on size, species, health and location, but on average each of the 258 trees in Pleasantville provide approximately $124.31 annually (Appendix A, Table 7).

ENERGY	STORMWATER	AIR QUALITY	CARBON	AESTHETICS	SUMMARY
• Reduce energy cost by **$9,016**	• Intercept **425,073 gallons** • Provides **$11,519** benefit	• Remove **540 lbs** of pollution • Net value of **$1,522**	• Sequester **92,091 lbs** • Value of **$691** • Store **1,537,247 lbs** • Value of **$11,529**	• **$8,844** in social benefits	• **$32,071** annual benefits • Each tree provides **$124.31** annually

FOREST STRUCTURE

Species Distribution

Pleasantville has over 38 different tree species along city streets and parks (Appendix A, Figure 1).

The distribution of trees by genera is as follows:

Oak	57	22%	Birch	3	1%
Maple	48	18.5%	Honeylocust	2	<1%
Ash	44	17%	Tulip tree	2	<1%
Apple (Crab)	28	11%	Catalpa	1	<1%
Hickory	13	5%	Kentucky coffee	1	<1%
Walnut	13	5%	Cottonwood	1	<1%
Basswood/Linden	9	3.5%	Buckeye	1	<1%
Spruce	8	3%	Eastern redbud	1	<1%
Hackberry	7	3%	Cedar	1	<1%
Elm	6	2%	Other deciduous	1	<1%
Plum	4	1.5%	Other Conifer	3	1%
Pine	4	1.5%			

Age Class

Most of Pleasantville's trees (36%) are between 12 and 24 inches in diameter at 4.5 ft (Appendix A, Figure 2).

To prepare for natural mortality and to maintain canopy cover, most trees should be in the smallest size category (a downward slope), indicating youth. Pleasantville's size curve is average, indicating a middle-aged stand.

Condition: Wood and Foliage

Both wood condition and leaf condition are good indicators of the urban forest's overall health. The foliage condition results for Pleasantville indicate that 85% of the trees are in good or fair health, with only 15% of the foliage in poor health, dead, or dying (Appendix A, Figure 3 & Appendix B, Figure 3). Similarly, 82% of Pleasantville's trees are in good or fair health for wood condition (Appendix A, Figure 4 & Appendix B, Figure 3). Eighteen percent of the tree population's wood condition is in poor health, dead, or dying. This 18% is an estimate of trees that need management follow up.

Management Needs

The following outlines the specific management needs of the street and park trees by number of trees and percent of canopy (Appendix B, Figure 3).

Action	Number of Trees	Percentage
Crown Cleaning	77	30%
Crown Reduction	9	3.5%
Tree Removal	45	17%
Crown Raising	2	<1%
Tree Staking	40	15.5%

Canopy Cover

The total canopy with both private and public trees is 302.8 acres or 19% cover. The canopy cover included in the Pleasantville inventory includes approximately 5 acres (Appendix A, Figure 4). The city's canopy goal is to increase canopy by 6% in 30 years. To achieve this goal it is estimated that 8 trees need to be planted annually on public and private lands.

Land Use and Location

The majority of Pleasantville's city and park trees are in planting strips in single family residential neighborhoods (Appendix A, Figure 6 & Appendix A, Figure7). The following describes the land use and locations for the street and park trees.

Land Use	Percentage
Single Family Residential	14.5%
Industrial/Large Commercial	0.5%
Park/Vacant/Other	84.5%
Small Commercial	0.5%
Multifamily Residential	0%

Recommendations

RECOMMENDATIONS

Risk Management

Hazardous trees can be a significant threat to both people and property. Trees that are dead, dying, or have large issues such as trunk cracks longer than 18 inches should be removed. Broken branches and branches that interfere with motorists' vision of pedestrians, vehicles, traffic signs and signals should be removed.

HAZARDOUS TREES

Pleasantville has 45 critical concern trees that need immediate removal. These trees can be seen on the Location of Trees with Recommended Maintenance Map (Appendix B, Figure 4). We recommend starting with the large-diameter, critical concern trees first. There are 7 trees over 24 inches in diameter at 4.5 ft that should be addressed immediately. Please refer to the Proposed Schedule and Budget at the end of this section. After all of the critical concern trees are addressed, there should be follow up on the trees marked as needing maintenance. There are a total of 128 trees with maintenance needs.

POOR TREE SPECIES

After removing the critical concern trees, ash trees in poor health should be assessed for removal (Appendix B, Figure 3 & Appendix B, Figure 4). Of the 45 removals, 39 are ash trees. There are a total of 44 ash trees, and 30 of those have signs and symptoms that have been associated with EAB. *City ownership of the trees recommended for removal should be verified prior to any removal*

Pruning Cycle

Proper pruning can extend the life and good health of trees, as well as reduce public safety issues. In the Management Needs section of the Findings there are four main maintenance issues to be addressed: routine pruning, crown cleaning, crown raising, and crown reduction. Crown cleaning removes dead, diseased, and damaged limbs. Crown raising removes lower branches that are two inches in diameter or larger to provide clearance for pedestrians or vehicles. Crown reduction removes individual limbs from structures or utility wires. We recommend that all trees be pruned on a routine schedule every five to seven years. Please refer to the Proposed Budget and Schedule for further information.

Planting

Most of the planting over the next five years will replace the trees that are removed. We recommend planting 1.2 trees for every tree removed, since survival rates will not be 100%. It is not essential that the new trees be planted in the same location of the trees being removed. However, maintaining the same number of trees helps ensure continuation of the benefits of the existing forest in Pleasantville.

It is important to plant a diverse mix of species in the urban forest to maintain canopy health, since most insects and diseases target a genus (ash) or species (green ash) of trees. Current diversity recommendations advise that a genus (i.e. maple, oak) not make up more than 20% of the urban forest and a single species (i.e. silver maple, sugar maple, white oak, bur oak) not make up more than 10% of the total urban forest. Presently, the forest is heavily planted with oak (22%) and maple (18.5%) (Appendix A, Figure 1). Maples should not be planted until this percentage can be lowered. Also, ash trees have not been recommended since 2002, due to the threat of EAB. Other species to avoid because they are public nuisances include: cottonwood, poplar, boxelder, Chinese elm, evergreen, willow, or black walnut. All trees planted must meet the restrictions in city ordinance 151.02 (Appendix C).

Continual Monitoring

Due to the threat of EAB, it is important to continuously check the health of ash trees. We recommend that ash trees be checked with a visual survey every year for tree decline and for the following signs and symptoms: canopy dieback, epicormic shoots, bark splitting, D-shaped borer exit holes, and wood pecker damage.

EMERALD ASH BORER PLAN

Ash Tree Removal

Tree removal will be prioritized by first removing dead, dying, hazardous trees (Appendix B, Figure 4). Next will be all ash in poor condition that display EAB signs and symptoms (Appendix B, Figure 2 & Appendix B, Figure 3). *City ownership of the tree recommended for removal should be verified prior to any removal*

Treatment of Ash Trees

Chemical treatment can be an effective tool for communities to spread removal costs out over several years while allowing trees to continue providing benefits. However, treatment is not recommended if EAB is more than 15 miles away from the community. For more information on the cost of treatment strategies visit http://extension.entm.purdue.edu/treecomputer/

EAB Quarantines

EAB is an extremely destructive plant pest and it is responsible for the death and decline of millions of ash trees. Ash in both forested and urban settings constitute a significant portion of

the canopy cover in the United States. Current tools to detect, control, suppress and eradicate this pest are not as robust as the USDA would desire. In order to stay ahead of this hard to detect beetle, the USDA is attempting to contain the beetle before it spreads beyond its known positions by regulating articles.

A regulated article under the USDA's quarantine includes any of the following items:

- emerald ash borer
- firewood of all hardwood species (for example ash, oak, maple and hickory)
- nursery stock and green lumber of ash
- any other ash material, whether living, dead, cut or fallen, including logs, stumps, roots, branches, as well as composted and not composted chips of the genus ash (Mountain ash is not included)

In addition, any other article, product, or means of conveyance not listed above may be designated as a regulated article if a USDA inspector determines that it presents a risk of spreading EAB once a quarantine is in effect for your county.

Wood Disposal

A very important aspect of planning is determining how wood infested with EAB will be handled, keeping in mind that quarantines will restrict its movement. Consider who will cut and haul the dead and dying trees? Is there an accessible, secured site big enough to store and sort the hundreds of trees and the associated brush and chips? How will wood be disposed of or utilized? Do you have equipment capable of handling the amount and size of ash trees your tree inventory has identified? Once your county is under quarantine for EAB, contact USDA-APHIS-PPQ at 515-251-4083 or visit the website http://www.aphis.usda.gov/plant_health/plant_pest_info/emerald_ash_b/regulatory.shtml. Wood waste can be normally disposed of if your county is not part of a quarantine.

Canopy Replacement

As budget permits, all removed trees will be replaced. All trees will meet the restrictions in city ordinance 151.02 (Appendix C) "No tree, shrub or other landscaping shall be put on the road right-a-way or any road easement." While trees cannot be planted on the right-of-way or easement, we strongly recommend that residents continue to plant trees on private property and city officials plant trees on city owned property such as parks. We recommend planting species such as honey locust, Kentucky coffeetree, tulip tree, ginkgo, swamp white oak, and eastern redbud.

Postponed Work

While finances, staffing, and equipment are focused on the management of ash, usual services may be delayed. Tree removal requests on genera other than ash will be prioritized by hazardous or emergency situations only.

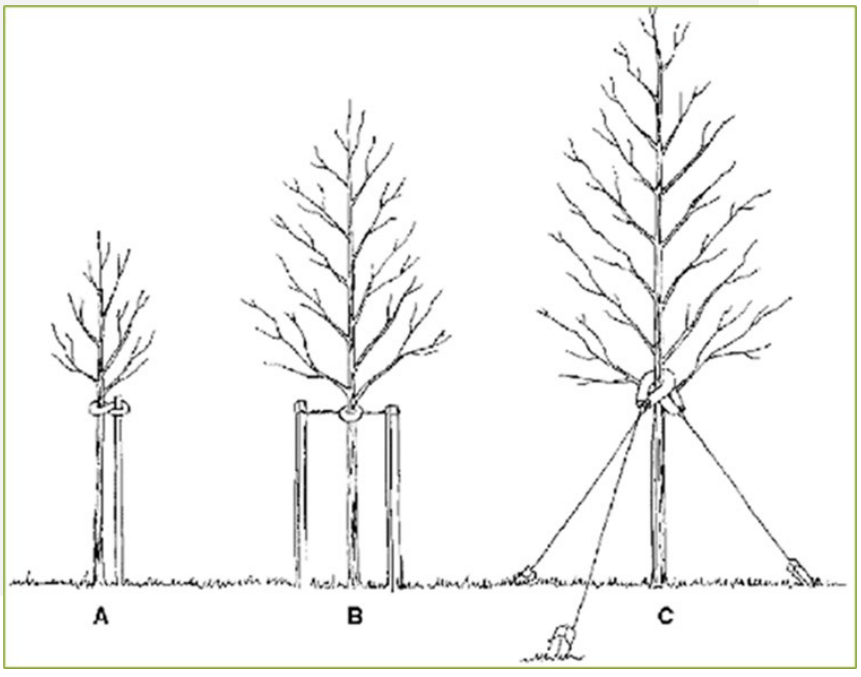
Monitoring

It is recommended that ash trees be checked with a visual survey every year for tree death and for EAB signs and symptoms including canopy dieback, epicormic shoots, bark splitting, D-shaped borer exit holes, and wood pecker damage.

Private Ash Trees

It is strongly recommended that private property owners start removing ash trees on their property upon arrival of EAB if preventative treatments are not being used. City Code 151.06 states “If it is determined with reasonable certainty that any such condition exists on private property and that danger to other trees or to adjoining property or passing motorists or pedestrians is imminent, the Council shall notify by certified mail the owner, occupant or person in charge of such property to correct such condition by treatment or removal within fourteen (14) days of said notification. If such owner, occupant, or person in charge of said property fails to comply within 14 days of receipt of notice, the Council may cause the condition to be corrected and the cost assessed against the property.”

Schedule & Budget



PROPOSED WORK SCHEDULE & BUDGET

Budget Allowance of ~ $2,500/Year – (Based off Reported Yearly Tree Budget)

YEAR 1	Est. Cost
Remove 3 trees recommended for immediate removal	$2,100
Plant 3 trees in open locations	$450
Visual Survey of EAB Signs/Symptoms	n/a
TOTAL	**$2,550**

YEAR 2	Est. Cost
Remove 2 trees recommended for immediate removal	$1,400
Prune 1/3 of city owned trees	$1,290
Visual Survey of EAB Signs/Symptoms	n/a
TOTAL	**$2,690**

YEAR 3	Est. Cost
Remove 3 trees recommended for immediate removal	$2,100
Plant 3 trees in open locations	$450
Visual Survey of EAB Signs/Symptoms	n/a
TOTAL	**$2,550**

YEAR 4	Est. Cost
Remove 2 trees recommended for immediate removal	$1,400
Prune 1/3 of city owned trees	$1,290
Visual Survey of EAB Signs/Symptoms	n/a
TOTAL	**$2,690**

YEAR 5	Est. Cost
Remove 3 trees recommended for immediate removal	$2,100
Plant 3 trees in open locations	$450
Visual Survey of EAB Signs/Symptoms	n/a
TOTAL	**$2,550**

YEAR 6	Est. Cost
Remove 2 trees recommended for immediate removal	$1,400
Prune 1/3 of city owned trees	$1,290
Visual Survey of EAB Signs/Symptoms	n/a
TOTAL	**$2,690**

Estimated costs based on average costs of $700/tree for removal, $150/tree for planting and maintenance, and $15/tree for pruning.

***To remove all ash trees within 6 years alone, the budget would need to be $5,150 a year. If the budget were increased to $4,000 a year all ash could be removed in 8 years.*

PROPOSED WORK SCHEDULE WITH INCREASED BUDGET

Budget Allowance of $4,000/Year – (Budget Increase Suggested to Best Manage City Trees)

YEAR 1	Est. Cost
Remove 5 trees recommended for immediate removal	$3,500
Plant 3 trees in open locations	$450
Visual Survey of EAB Signs/Symptoms	n/a
TOTAL	**$3,950**

YEAR 2	Est. Cost
Remove 3 trees recommended for immediate removal	$2,100
Prune 1/3 of city owned trees	$1,290
Plant 4 trees in open locations	$600
Visual Survey of EAB Signs/Symptoms	n/a
TOTAL	**$3,990**

YEAR 3	Est. Cost
Remove 5 trees recommended for immediate removal	$3,500
Plant 3 trees in open locations	$450
Visual Survey of EAB Signs/Symptoms	n/a
TOTAL	**$3,950**

YEAR 4	Est. Cost
Remove 3 trees recommended for immediate removal	$2,100
Prune 1/3 of city owned trees	$1,290
Plant 4 trees in open locations	$600
Visual Survey of EAB Signs/Symptoms	n/a
TOTAL	**$3,990**

YEAR 5	Est. Cost
Remove 5 trees recommended for immediate removal	$3,500
Plant 3 trees in open locations	$450
Visual Survey of EAB Signs/Symptoms	n/a
TOTAL	**$3,950**

YEAR 6	Est. Cost
Remove 3 trees recommended for immediate removal	$2,100
Prune 1/3 of city owned trees	$1,290
Plant 4 trees in open locations	$600
Visual Survey of EAB Signs/Symptoms	n/a
TOTAL	**$3,990**

Proposed Budget Increase

EAB could potentially kill all ash trees in Pleasantville within four years of its arrival. To remove all ash trees within six years, the budget would need to be increased to $5,150 a year. If the budget were increased to $4,000 per year all ash could be removed within 8 years. Additionally, we recommend that Pleasantville apply for grants to fund replacement trees. Utility Company grants are usually between $500 and $10,000 for community-based, tree-planting projects that include parks, gateways, cemeteries, nature trails, libraries, nursing homes, and schools.

Another option considered by many communities is treating selected trees, either to maintain those trees in the landscape or to delay their removal – to spread out the costs and number of trees needing removal all at once. Trunk injection is administered every two years for the life of the tree. If treatment is discontinued, the tree dies. For instance, in this treatment scenario, the average ash diameter is 20 inches and at $15 per inch, about 4 trees could be treated per year (every other year treatment). Four trees would be selected for treatment, and Pleasantville would still need to find $28,700 for removal. Alternatively, if there are 8 treatable trees, it would cost approximately $2,400 a year for treatment and leave $25,900 for removal. These are alternatives to straight removal of ash trees. However, whether or not the treatment option is selected, there will be an increased cost of dealing with ash trees if EAB is found in Pleasantville. We suggest considering an increased budget to plan for this.

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Appendices

APPENDIX A: i-TREE DATA

Table 1: Annual Energy Benefits

Pleasantville

Annual Energy Benefits of Public Trees

2/10/2022

Species	Total Electricity (MWh)	Electricity ($)	Total Natural Gas (Therms)	Natural Gas ($)	Total ($)	Standard Error	% of Total Trees	% of Total $	Avg. $/tree
Green ash	9.7	735	1,304.0	1,278	2,013	(N/A)	16.7	22.3	46.81
Bur oak	2.5	192	349.6	343	535	(N/A)	16.3	5.9	12.73
Apple	0.9	69	150.6	148	217	(N/A)	10.9	2.4	7.75
Norway maple	5.4	408	770.1	755	1,163	(N/A)	7.8	12.9	58.15
Black walnut	2.1	161	280.3	275	436	(N/A)	5.0	4.8	33.54
Hickory	2.0	149	254.6	250	398	(N/A)	5.0	4.4	30.62
Red maple	1.7	128	240.0	235	364	(N/A)	4.3	4.0	33.05
Sugar maple	1.6	119	221.5	217	336	(N/A)	3.1	3.7	41.99
Spruce	0.4	28	54.6	54	81	(N/A)	3.1	0.9	10.15
Silver maple	2.2	171	295.1	289	460	(N/A)	2.7	5.1	65.68
Northern hackberry	2.4	183	334.5	328	511	(N/A)	2.7	5.7	73.00
Pin oak	1.4	103	187.2	183	287	(N/A)	1.9	3.2	57.35
Northern red oak	0.7	56	104.6	103	158	(N/A)	1.6	1.8	39.60
Basswood	1.1	82	152.4	149	231	(N/A)	1.6	2.6	57.72
Oak	1.0	75	130.2	128	203	(N/A)	1.6	2.3	50.77
Cherry plum	0.0	1	2.5	2	3	(N/A)	1.6	0.0	0.87
American basswood	1.6	125	231.5	227	352	(N/A)	1.6	3.9	87.96
Eastern white pine	0.1	10	16.0	16	26	(N/A)	1.2	0.3	8.66
Siberian elm	1.2	88	153.3	150	238	(N/A)	1.2	2.6	79.33
River birch	0.5	40	79.9	78	118	(N/A)	1.2	1.3	39.49
Conifer Evergreen Medium	0.5	36	66.0	65	101	(N/A)	1.2	1.1	33.53
Tulip tree	0.4	27	50.5	50	77	(N/A)	0.8	0.9	38.36
Honeylocust	0.3	24	43.5	43	66	(N/A)	0.8	0.7	33.23
Maple	0.5	41	70.0	69	110	(N/A)	0.8	1.2	54.82
American elm	0.5	41	72.8	71	112	(N/A)	0.8	1.2	56.00
Kentucky coffeetree	0.0	0	0.5	0	1	(N/A)	0.4	0.0	0.66
White ash	0.1	7	13.3	13	20	(N/A)	0.4	0.2	20.10
Littleleaf linden	0.0	0	0.4	0	1	(N/A)	0.4	0.0	0.57
Elm	0.2	18	27.0	26	44	(N/A)	0.4	0.5	44.23
Northern pin oak	0.2	18	29.5	29	47	(N/A)	0.4	0.5	46.78
Broadleaf Deciduous Large	0.2	18	27.0	26	44	(N/A)	0.4	0.5	44.23
Ohio buckeye	0.1	8	16.9	17	24	(N/A)	0.4	0.3	24.47
Red pine	0.1	10	14.6	14	24	(N/A)	0.4	0.3	24.14
Eastern redbud	0.1	6	12.8	13	18	(N/A)	0.4	0.2	18.19
Catalpa	0.4	29	53.7	53	82	(N/A)	0.4	0.9	82.02
Swamp white oak	0.0	3	6.2	6	9	(N/A)	0.4	0.1	8.99
Cottonwood	0.4	29	53.7	53	82	(N/A)	0.4	0.9	82.02
Eastern red cedar	0.1	8	16.4	16	25	(N/A)	0.4	0.3	24.57
Total	42.8	3,246	5,887.4	5,770	9,016	(N/A)	100.0	100.0	34.95

Table 2: Annual Stormwater Benefits

Pleasantville

Annual Stormwater Benefits of Public Trees

2/10/2022

Species	Total rainfall interception (Gal)	Total ($)	Standard Error	% of Total Trees	% of Total $	Avg. $/tree
Green ash	87,280	2,365	(N/A)	16.7	20.5	55.01
Bur oak	34,450	934	(N/A)	16.3	8.1	22.23
Apple	3,059	83	(N/A)	10.9	0.7	2.96
Norway maple	49,590	1,344	(N/A)	7.8	11.7	67.19
Black walnut	15,299	415	(N/A)	5.0	3.6	31.89
Hickory	14,232	386	(N/A)	5.0	3.3	29.67
Red maple	15,758	427	(N/A)	4.3	3.7	38.82
Sugar maple	14,820	402	(N/A)	3.1	3.5	50.20
Spruce	4,067	110	(N/A)	3.1	1.0	13.78
Silver maple	30,336	822	(N/A)	2.7	7.1	117.44
Northern hackberry	21,448	581	(N/A)	2.7	5.0	83.03
Pin oak	14,181	384	(N/A)	1.9	3.3	76.86
Northern red oak	8,118	220	(N/A)	1.6	1.9	55.00
Basswood	12,632	342	(N/A)	1.6	3.0	85.58
Oak	8,112	220	(N/A)	1.6	1.9	54.96
Cherry plum	30	1	(N/A)	1.6	0.0	0.20
American basswood	26,046	706	(N/A)	1.6	6.1	176.46
Eastern white pine	1,636	44	(N/A)	1.2	0.4	14.78
Siberian elm	14,209	385	(N/A)	1.2	3.3	128.35
River birch	4,971	135	(N/A)	1.2	1.2	44.90
Conifer Evergreen Medium	8,161	221	(N/A)	1.2	1.9	73.73
Tulip tree	4,115	112	(N/A)	0.8	1.0	55.75
Honeylocust	2,925	79	(N/A)	0.8	0.7	39.63
Maple	4,471	121	(N/A)	0.8	1.1	60.58
American elm	4,983	135	(N/A)	0.8	1.2	67.53
Kentucky coffeetree	18	0	(N/A)	0.4	0.0	0.48
White ash	614	17	(N/A)	0.4	0.1	16.63
Littleleaf linden	7	0	(N/A)	0.4	0.0	0.19
Elm	1,466	40	(N/A)	0.4	0.3	39.72
Northern pin oak	1,409	38	(N/A)	0.4	0.3	38.19
Broadleaf Deciduous Large	1,466	40	(N/A)	0.4	0.3	39.72
Ohio buckeye	586	16	(N/A)	0.4	0.1	15.88
Red pine	1,539	42	(N/A)	0.4	0.4	41.70
Eastern redbud	264	7	(N/A)	0.4	0.1	7.17
Catalpa	5,491	149	(N/A)	0.4	1.3	148.79
Swamp white oak	163	4	(N/A)	0.4	0.0	4.41
Cottonwood	5,491	149	(N/A)	0.4	1.3	148.79
Eastern red cedar	1,635	44	(N/A)	0.4	0.4	44.30
Citywide total	425,073	11,519	(N/A)	100.0	100.0	44.65

Table 3: Annual Air Quality Benefits

Pleasantville

Annual Air Quality Benefits of Public Trees

2/10/2022

Species	Deposition (lb)				Total Depos. ($)	Avoided (lb)				Total Avoided ($)	BVOC Emissions (lb)	BVOC Emissions ($)	Total (lb)	Total ($)	Standard Error	% of Total Trees	Avg. $/tree
	O_3	NO_2	PM_{10}	SO_2		NO_2	PM_{10}	VOC	SO_2								
Green ash	8.8	1.4	4.6	0.4	48	46.0	6.7	6.4	43.9	287	0.0	0	118.2	335	(N/A)	16.7	7.80
Bur oak	5.3	0.9	2.4	0.2	28	12.1	1.8	1.7	11.5	75	0.0	0	35.8	103	(N/A)	16.3	2.46
Apple	0.5	0.1	0.3	0.0	3	4.6	0.7	0.6	4.1	28	0.0	0	10.8	31	(N/A)	10.9	1.10
Norway maple	10.1	1.7	4.9	0.4	54	26.0	3.8	3.6	24.4	161	-2.4	-9	72.6	207	(N/A)	7.8	10.34
Black walnut	1.1	0.2	0.7	0.1	6	10.0	1.5	1.4	9.6	63	0.0	0	24.6	69	(N/A)	5.0	5.33
Hickory	1.1	0.2	0.7	0.0	6	9.2	1.4	1.3	8.9	58	0.0	0	22.7	64	(N/A)	5.0	4.92
Red maple	3.9	0.7	1.8	0.2	21	8.1	1.2	1.1	7.7	51	-1.3	-5	23.4	66	(N/A)	4.3	6.04
Sugar maple	1.7	0.3	0.9	0.1	9	7.5	1.1	1.0	7.1	47	-1.4	-5	18.4	51	(N/A)	3.1	6.38
Spruce	0.4	0.1	0.4	0.0	3	1.8	0.3	0.2	1.7	11	-1.3	-5	3.5	9	(N/A)	3.1	1.11
Silver maple	4.9	0.8	2.4	0.2	26	10.6	1.6	1.5	10.2	66	-2.6	-10	29.6	83	(N/A)	2.7	11.87
Northern hackberry	3.7	0.6	1.9	0.2	20	11.6	1.7	1.6	10.9	72	0.0	0	32.1	92	(N/A)	2.7	13.14
Pin oak	2.4	0.4	1.2	0.1	13	6.5	0.9	0.9	6.2	40	-4.5	-17	14.1	37	(N/A)	1.9	7.32
Northern red oak	1.8	0.3	0.8	0.1	9	3.5	0.5	0.5	3.3	22	-2.5	-9	8.4	22	(N/A)	1.6	5.50
Basswood	1.6	0.3	0.7	0.1	8	5.2	0.8	0.7	4.9	32	0.0	0	14.2	41	(N/A)	1.6	10.13
Oak	0.7	0.1	0.4	0.0	4	4.7	0.7	0.7	4.5	29	0.0	0	11.9	34	(N/A)	1.6	8.38
Cherry plum	0.0	0.0	0.0	0.0	0	0.1	0.0	0.0	0.1	0	0.0	0	0.2	0	(N/A)	1.6	0.11
American basswood	4.3	0.7	2.0	0.2	23	7.9	1.1	1.1	7.5	49	-3.4	-13	21.4	59	(N/A)	1.6	14.78
Eastern white pine	0.2	0.0	0.1	0.0	1	0.6	0.1	0.1	0.6	4	-0.6	-2	1.2	3	(N/A)	1.2	0.97
Siberian elm	2.8	0.5	1.3	0.1	15	5.5	0.8	0.8	5.2	34	0.0	0	16.9	49	(N/A)	1.2	16.32
River birch	1.0	0.2	0.5	0.0	5	2.6	0.4	0.4	2.4	16	-0.2	-1	7.2	20	(N/A)	1.2	6.82
Conifer Evergreen Medium	1.4	0.3	1.1	0.2	9	2.3	0.3	0.3	2.1	14	-3.2	-12	4.9	11	(N/A)	1.2	3.81
Tulip tree	0.5	0.1	0.2	0.0	3	1.7	0.2	0.2	1.6	11	0.0	0	4.7	13	(N/A)	0.8	6.67
Honeylocust	0.5	0.1	0.3	0.0	3	1.5	0.2	0.2	1.4	9	-0.4	-1	3.9	11	(N/A)	0.8	5.41
Maple	1.1	0.2	0.5	0.0	6	2.5	0.4	0.4	2.5	16	-0.4	-1	7.2	20	(N/A)	0.8	10.15
American elm	1.0	0.2	0.5	0.0	5	2.6	0.4	0.4	2.4	16	0.0	0	7.3	21	(N/A)	0.8	10.53
Kentucky coffeetree	0.0	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0	0.0	0	0.0	0	(N/A)	0.4	0.08
White ash	0.0	0.0	0.0	0.0	0	0.4	0.1	0.1	0.4	3	0.0	0	1.0	3	(N/A)	0.4	2.91
Littleleaf linden	0.0	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0	0.0	0	0.0	0	(N/A)	0.4	0.07
Elm	0.1	0.0	0.1	0.0	1	1.1	0.2	0.2	1.1	7	0.0	0	2.6	7	(N/A)	0.4	7.42
Northern pin oak	0.2	0.0	0.1	0.0	1	1.1	0.2	0.2	1.1	7	-0.1	0	2.8	8	(N/A)	0.4	7.92
Broadleaf Deciduous Large	0.1	0.0	0.1	0.0	1	1.1	0.2	0.2	1.1	7	0.0	0	2.6	7	(N/A)	0.4	7.42
Ohio buckeye	0.1	0.0	0.0	0.0	0	0.5	0.1	0.1	0.5	3	0.0	0	1.2	3	(N/A)	0.4	3.47
Red pine	0.2	0.0	0.1	0.0	1	0.6	0.1	0.1	0.6	4	-0.5	-2	1.2	3	(N/A)	0.4	2.82
Eastern redbud	0.0	0.0	0.0	0.0	0	0.4	0.1	0.1	0.3	2	0.0	0	0.9	3	(N/A)	0.4	2.55
Catalpa	0.8	0.1	0.4	0.0	4	1.9	0.3	0.3	1.8	12	0.0	0	5.5	16	(N/A)	0.4	15.71

Pleasantville

Annual Air Quality Benefits of Public Trees

2/10/2022

Species	Deposition (lb)				Total Depos. ($)	Avoided (lb)				Total Avoided ($)	BVOC Emissions (lb)	BVOC Emissions ($)	Total (lb)	Total ($)	Standard Error	% of Total Trees	Avg. $/tree
	O_3	NO_2	PM_{10}	SO_2		NO_2	PM_{10}	VOC	SO_2								
Swamp white oak	0.0	0.0	0.0	0.0	0	0.2	0.0	0.0	0.2	1	0.0	0	0.4	1	(N/A)	0.4	1.21
Cottonwood	0.8	0.1	0.4	0.0	4	1.9	0.3	0.3	1.8	12	0.0	0	5.5	16	(N/A)	0.4	15.71
Eastern red cedar	0.3	0.1	0.3	0.0	2	0.5	0.1	0.1	0.5	3	-0.9	-3	1.0	2	(N/A)	0.4	2.19
Citywide total	63.3	10.7	32.2	3.0	345	204.5	29.8	28.4	193.9	1,273	-25.6	-96	540.0	1,522	(N/A)	100.0	5.90

Table 4: Annual Carbon Stored

Pleasantville

Stored CO2 Benefits of Public Trees

2/10/2022

Species	Total Stored CO2 (lbs)	Total ($)	Standard Error	% of Total Trees	% of Total $	Avg. $/tree
Green ash	286,170	2,146	(N/A)	16.7	18.6	49.91
Bur oak	179,630	1,347	(N/A)	16.3	11.7	32.08
Apple	10,102	76	(N/A)	10.9	0.7	2.71
Norway maple	164,653	1,235	(N/A)	7.8	10.7	61.74
Black walnut	38,844	291	(N/A)	5.0	2.5	22.41
Hickory	37,887	284	(N/A)	5.0	2.5	21.86
Red maple	42,197	316	(N/A)	4.3	2.7	28.77
Sugar maple	47,705	358	(N/A)	3.1	3.1	44.72
Spruce	2,204	17	(N/A)	3.1	0.1	2.07
Silver maple	106,746	801	(N/A)	2.7	6.9	114.37
Northern hackberry	56,670	425	(N/A)	2.7	3.7	60.72
Pin oak	63,295	475	(N/A)	1.9	4.1	94.94
Northern red oak	38,708	290	(N/A)	1.6	2.5	72.58
Basswood	51,208	384	(N/A)	1.6	3.3	96.02
Oak	24,259	182	(N/A)	1.6	1.6	45.49
Cherry plum	55	0	(N/A)	1.6	0.0	0.10
American basswood	166,314	1,247	(N/A)	1.6	10.8	311.84
Eastern white pine	1,175	9	(N/A)	1.2	0.1	2.94
Siberian elm	67,735	508	(N/A)	1.2	4.4	169.34
River birch	15,907	119	(N/A)	1.2	1.0	39.77
Conifer Evergreen M	12,448	93	(N/A)	1.2	0.8	31.12
Tulip tree	15,958	120	(N/A)	0.8	1.0	59.84
Honeylocust	6,756	51	(N/A)	0.8	0.4	25.34
Maple	11,569	87	(N/A)	0.8	0.8	43.39
American elm	20,636	155	(N/A)	0.8	1.3	77.38
Kentucky coffeetree	12	0	(N/A)	0.4	0.0	0.09
White ash	1,035	8	(N/A)	0.4	0.1	7.76
Littleleaf linden	13	0	(N/A)	0.4	0.0	0.09
Elm	3,672	28	(N/A)	0.4	0.2	27.54
Northern pin oak	3,624	27	(N/A)	0.4	0.2	27.18
Broadleaf Deciduous	3,672	28	(N/A)	0.4	0.2	27.54
Ohio buckeye	1,101	8	(N/A)	0.4	0.1	8.26
Red pine	1,170	9	(N/A)	0.4	0.1	8.78
Eastern redbud	908	7	(N/A)	0.4	0.1	6.81
Catalpa	25,943	195	(N/A)	0.4	1.7	194.57
Swamp white oak	218	2	(N/A)	0.4	0.0	1.64
Cottonwood	25,943	195	(N/A)	0.4	1.7	194.57
Eastern red cedar	1,102	8	(N/A)	0.4	0.1	8.27
Citywide total	1,537,247	11,529	(N/A)	100.0	100.0	44.69

The value of stored carbon dioxide is calculated as the total amount of carbon dioxide sequestered annually over the life of each tree, summed for the population. This value should not be added to the Replacement Value or double-counting of the carbon dioxide storage benefit will occur.

Table 5: Annual Carbon Sequestered

Pleasantville

Annual CO $_2$ Benefits of Public Trees

2/10/2022

Species	Sequestered (lb)	Sequestered ($)	Decomposition Release (lb)	Maintenance Release (lb)	Total Released ($)	Avoided (lb)	Avoided ($)	Net Total (lb)	Total Standard ($) Error	% of Total Trees	% of Total $	Avg. $/tree
Green ash	22,404	168	-1,374	-97	-11	16,238	122	37,171	279 (N/A)	16.7	23.8	6.48
Bur oak	5,332	40	-864	-35	-7	4,243	32	8,677	65 (N/A)	16.3	5.6	1.55
Apple	1,479	11	-49	-19	-1	1,534	12	2,946	22 (N/A)	10.9	1.9	0.79
Norway maple	7,655	57	-790	-55	-6	9,023	68	15,833	119 (N/A)	7.8	10.2	5.94
Black walnut	4,562	34	-186	-21	-2	3,565	27	7,920	59 (N/A)	5.0	5.1	4.57
Hickory	4,174	31	-182	-20	-2	3,284	25	7,256	54 (N/A)	5.0	4.7	4.19
Red maple	3,148	24	-203	-17	-2	2,837	21	5,765	43 (N/A)	4.3	3.7	3.93
Sugar maple	3,173	24	-229	-17	-2	2,625	20	5,553	42 (N/A)	3.1	3.6	5.21
Spruce	337	3	-11	-7	0	612	5	931	7 (N/A)	3.1	0.6	0.87
Silver maple	8,653	65	-512	-24	-4	3,769	28	11,886	89 (N/A)	2.7	7.6	12.73
Northern hackberry	2,851	21	-272	-22	-2	4,049	30	6,605	50 (N/A)	2.7	4.2	7.08
Pin oak	2,804	21	-304	-14	-2	2,281	17	4,767	36 (N/A)	1.9	3.1	7.15
Northern red oak	387	3	-186	-10	-1	1,235	9	1,426	11 (N/A)	1.6	0.9	2.67
Basswood	2,685	20	-246	-12	-2	1,802	14	4,230	32 (N/A)	1.6	2.7	7.93
Oak	2,210	17	-116	-9	-1	1,669	13	3,753	28 (N/A)	1.6	2.4	7.04
Cherry plum	35	0	0	-1	0	22	0	56	0 (N/A)	1.6	0.0	0.10
American basswood	8,394	63	-798	-21	-6	2,762	21	10,337	78 (N/A)	1.6	6.6	19.38
Eastern white pine	123	1	-6	-2	0	229	2	343	3 (N/A)	1.2	0.2	0.86
Siberian elm	2,264	17	-325	-13	-3	1,938	15	3,865	29 (N/A)	1.2	2.5	9.66
River birch	945	7	-76	-6	-1	887	7	1,750	13 (N/A)	1.2	1.1	4.38
Conifer Evergreen Mediun	524	4	-60	-10	-1	792	6	1,247	9 (N/A)	1.2	0.8	3.12
Tulip tree	931	7	-77	-4	-1	601	5	1,451	11 (N/A)	0.8	0.9	5.44
Honeylocust	947	7	-32	-3	0	526	4	1,438	11 (N/A)	0.8	0.9	5.39
Maple	1,407	11	-56	-5	0	908	7	2,254	17 (N/A)	0.8	1.4	8.45
American elm	677	5	-99	-5	-1	900	7	1,472	11 (N/A)	0.8	0.9	5.52
Kentucky coffeetree	3	0	0	0	0	4	0	7	0 (N/A)	0.4	0.0	0.05
White ash	182	1	-5	-1	0	156	1	331	2 (N/A)	0.4	0.2	2.49
Littleleaf linden	18	0	0	0	0	4	0	22	0 (N/A)	0.4	0.0	0.16
Elm	445	3	-18	-2	0	393	3	819	6 (N/A)	0.4	0.5	6.14
Northern pin oak	386	3	-17	-2	0	395	3	762	6 (N/A)	0.4	0.5	5.71
Broadleaf Deciduous Large	445	3	-18	-2	0	393	3	819	6 (N/A)	0.4	0.5	6.14
Ohio buckeye	224	2	-5	-1	0	176	1	393	3 (N/A)	0.4	0.3	2.95

Annual CO ₂ Benefits of Public Trees

2/10/2022

Species	Sequestered (lb)	Sequestered ($)	Decomposition Release (lb)	Maintenance Release (lb)	Total Released ($)	Avoided (lb)	Avoided ($)	Net Total (lb)	Total Standard ($) Error	% of Total Trees	% of Total $	Avg. $/tree
Red pine	116	1	-6	-2	0	216	2	324	2 (N/A)	0.4	0.2	2.43
Eastern redbud	114	1	-4	-1	0	124	1	232	2 (N/A)	0.4	0.1	1.74
Catalpa	960	7	-125	-4	-1	650	5	1,481	11 (N/A)	0.4	0.9	11.11
Swamp white oak	96	1	-2	-1	0	65	0	158	1 (N/A)	0.4	0.1	1.18
Cottonwood	960	7	-125	-4	-1	650	5	1,481	11 (N/A)	0.4	0.9	11.11
Eastern red cedar	43	0	-5	-2	0	187	1	222	2 (N/A)	0.4	0.1	1.67
Citywide total	92,091	691	-7,382	-472	-59	71,744	538	155,982	1,170 (N/A)	100.0	100.0	4.53

Table 6: Annual Social and Aesthetic Benefits

Pleasantville

Annual Aesthetic/Other Benefits of Public Trees

2/10/2022

Species	Total ($)	Standard Error	% of Total Trees	% of Total $	Avg. $/tree
Green ash	2,072	(N/A)	16.7	23.4	48.18
Bur oak	569	(N/A)	16.3	6.4	13.55
Apple	80	(N/A)	10.9	0.9	2.87
Norway maple	717	(N/A)	7.8	8.1	35.84
Black walnut	499	(N/A)	5.0	5.6	38.36
Hickory	464	(N/A)	5.0	5.2	35.66
Red maple	394	(N/A)	4.3	4.5	35.85
Sugar maple	352	(N/A)	3.1	4.0	44.06
Spruce	111	(N/A)	3.1	1.3	13.91
Silver maple	691	(N/A)	2.7	7.8	98.71
Northern hackberry	392	(N/A)	2.7	4.4	56.01
Pin oak	272	(N/A)	1.9	3.1	54.49
Northern red oak	29	(N/A)	1.6	0.3	7.25
Basswood	218	(N/A)	1.6	2.5	54.61
Oak	207	(N/A)	1.6	2.3	51.77
Cherry plum	0	(N/A)	1.6	0.0	0.03
American basswood	512	(N/A)	1.6	5.8	127.88
Eastern white pine	44	(N/A)	1.2	0.5	14.61
Siberian elm	145	(N/A)	1.2	1.6	48.22
River birch	89	(N/A)	1.2	1.0	29.61
Conifer Evergreen Medium	46	(N/A)	1.2	0.5	15.20
Tulip tree	80	(N/A)	0.8	0.9	40.16
Honeylocust	195	(N/A)	0.8	2.2	97.49
Maple	175	(N/A)	0.8	2.0	87.48
American elm	94	(N/A)	0.8	1.1	47.18
Kentucky coffeetree	5	(N/A)	0.4	0.1	5.26
White ash	33	(N/A)	0.4	0.4	33.42
Littleleaf linden	3	(N/A)	0.4	0.0	2.74
Elm	46	(N/A)	0.4	0.5	45.86
Northern pin oak	39	(N/A)	0.4	0.4	39.16
Broadleaf Deciduous Large	46	(N/A)	0.4	0.5	45.86
Ohio buckeye	26	(N/A)	0.4	0.3	26.22
Red pine	32	(N/A)	0.4	0.4	32.32
Eastern redbud	6	(N/A)	0.4	0.1	6.40
Catalpa	67	(N/A)	0.4	0.8	66.60
Swamp white oak	13	(N/A)	0.4	0.1	12.89
Cottonwood	67	(N/A)	0.4	0.8	66.60
Eastern red cedar	14	(N/A)	0.4	0.2	13.68
Citywide total	8,844	(N/A)	100.0	100.0	34.28

Table 7: Summary of Benefits in Dollars

Pleasantville

Total Annual Benefits, Net Benefits, and Costs for Public Trees

2/10/2022

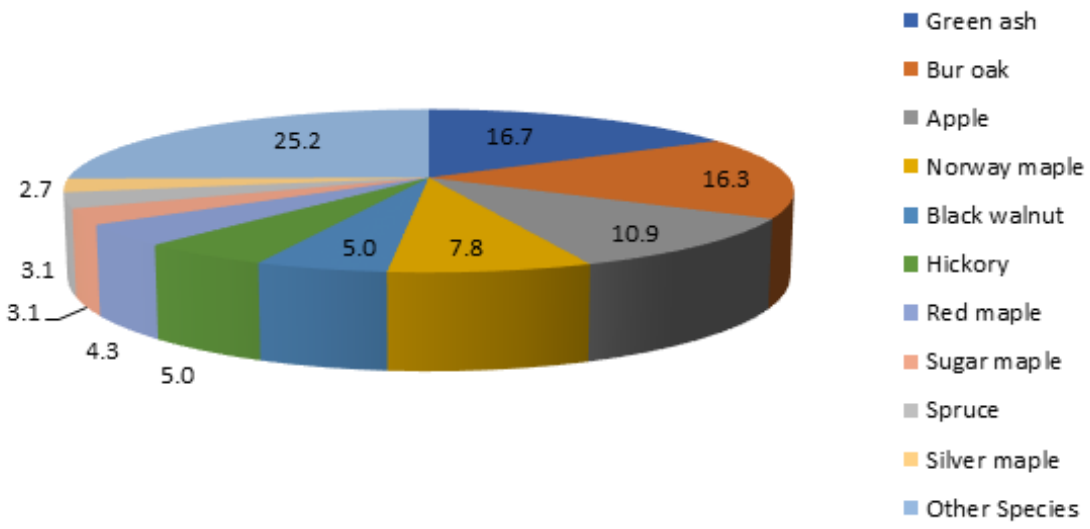
Benefits	Total ($)	Standard Error	$/tree	Standard Error	$/capita	Standard Error
Energy	9,016	(N/A)	34.95	(N/A)	0.00	(N/A)
CO2	1,170	(N/A)	4.53	(N/A)	0.00	(N/A)
Air Quality	1,522	(N/A)	5.90	(N/A)	0.00	(N/A)
Stormwater	11,519	(N/A)	44.65	(N/A)	0.00	(N/A)
Aesthetic/Other	8,844	(N/A)	34.28	(N/A)	0.00	(N/A)
Total Benefits	32,071	(N/A)	124.31	(N/A)	0.00	(N/A)
Costs						
Planting	0		0.00		0.00	
Contract Pruning	0		0.00		0.00	
Pest Management	0		0.00		0.00	
Irrigation	0		0.00		0.00	
Removal	0		0.00		0.00	
Administration	0		0.00		0.00	
Inspection/Service	0		0.00		0.00	
Infrastructure Repairs	0		0.00		0.00	
Litter Clean-up	0		0.00		0.00	
Liability/Claims	0		0.00		0.00	
Other Costs	0		0.00		0.00	
Total Costs	0		0.00		0.00	
Net Benefits	32,071	(N/A)	124.31	(N/A)	0.00	(N/A)
Benefit-cost ratio	0.00	(N/A)				

Figure 1: Species Distribution

Pleasantville

Species Distribution of Public Trees

2/10/2022



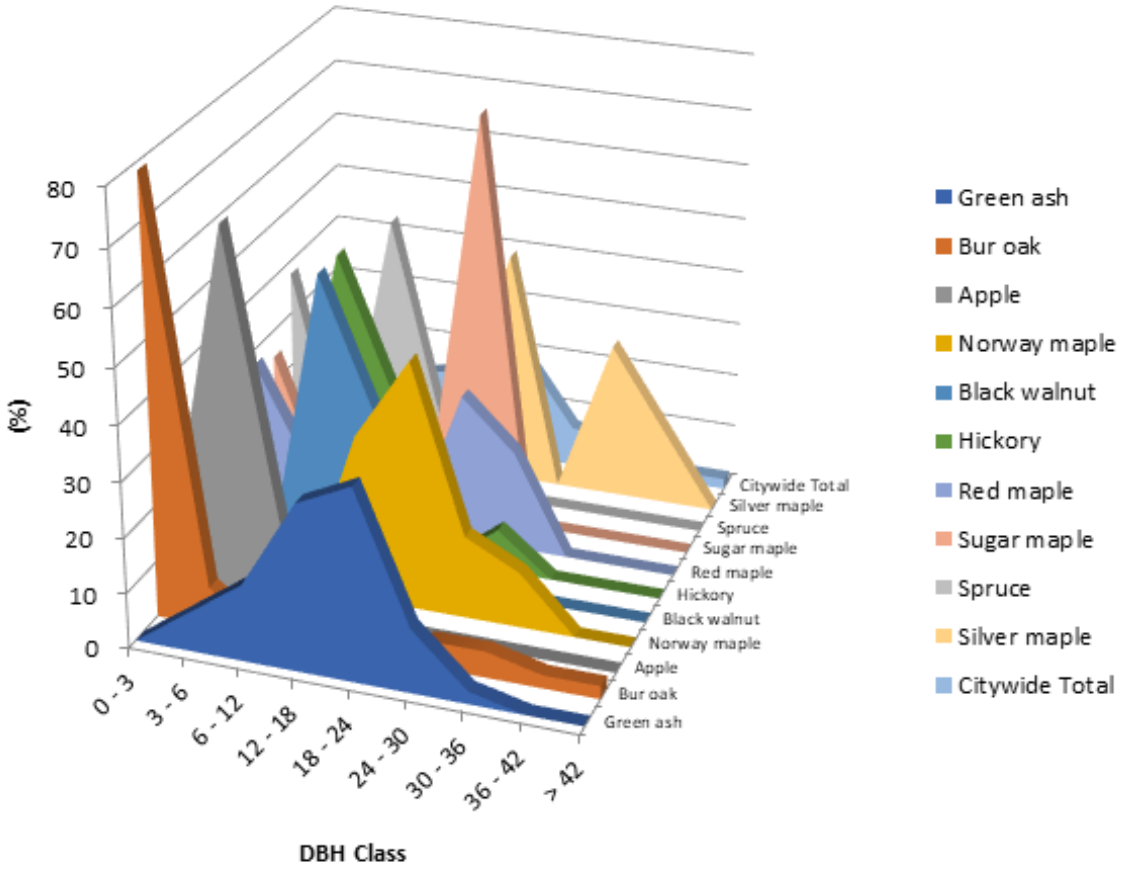
Species	Percent
Green ash	16.7
Bur oak	16.3
Apple	10.9
Norway maple	7.8
Black walnut	5.0
Hickory	5.0
Red maple	4.3
Sugar maple	3.1
Spruce	3.1
Silver maple	2.7
Other Species	25.2
Total	100.0

Figure 2: Relative Age Class

Pleasantville

Relative Age Distribution of Top 10 Public Tree Species for All Zones (%)

2/10/2022



	DBH class (in)								
Species	0-3	3-6	6-12	12-18	18-24	24-30	30-36	36-42	> 42
Green ash	0.00	6.98	13.95	30.23	34.88	11.63	2.33	0.00	0.00
Bur oak	78.57	7.14	0.00	0.00	0.00	4.76	4.76	2.38	2.38
Apple	14.29	67.86	14.29	3.57	0.00	0.00	0.00	0.00	0.00
Norway maple	0.00	0.00	0.00	30.00	45.00	15.00	10.00	0.00	0.00
Black walnut	0.00	0.00	53.85	30.77	15.38	0.00	0.00	0.00	0.00
Hickory	0.00	7.69	53.85	30.77	0.00	7.69	0.00	0.00	0.00
Red maple	27.27	9.09	18.18	0.00	27.27	18.18	0.00	0.00	0.00
Sugar maple	25.00	0.00	0.00	0.00	75.00	0.00	0.00	0.00	0.00
Spruce	37.50	0.00	50.00	12.50	0.00	0.00	0.00	0.00	0.00
Silver maple	0.00	0.00	0.00	14.29	42.86	0.00	28.57	14.29	0.00
Citywide Total	21.71	11.24	13.95	15.89	20.54	7.36	5.43	1.94	1.94

Figure 3: Foliage Condition

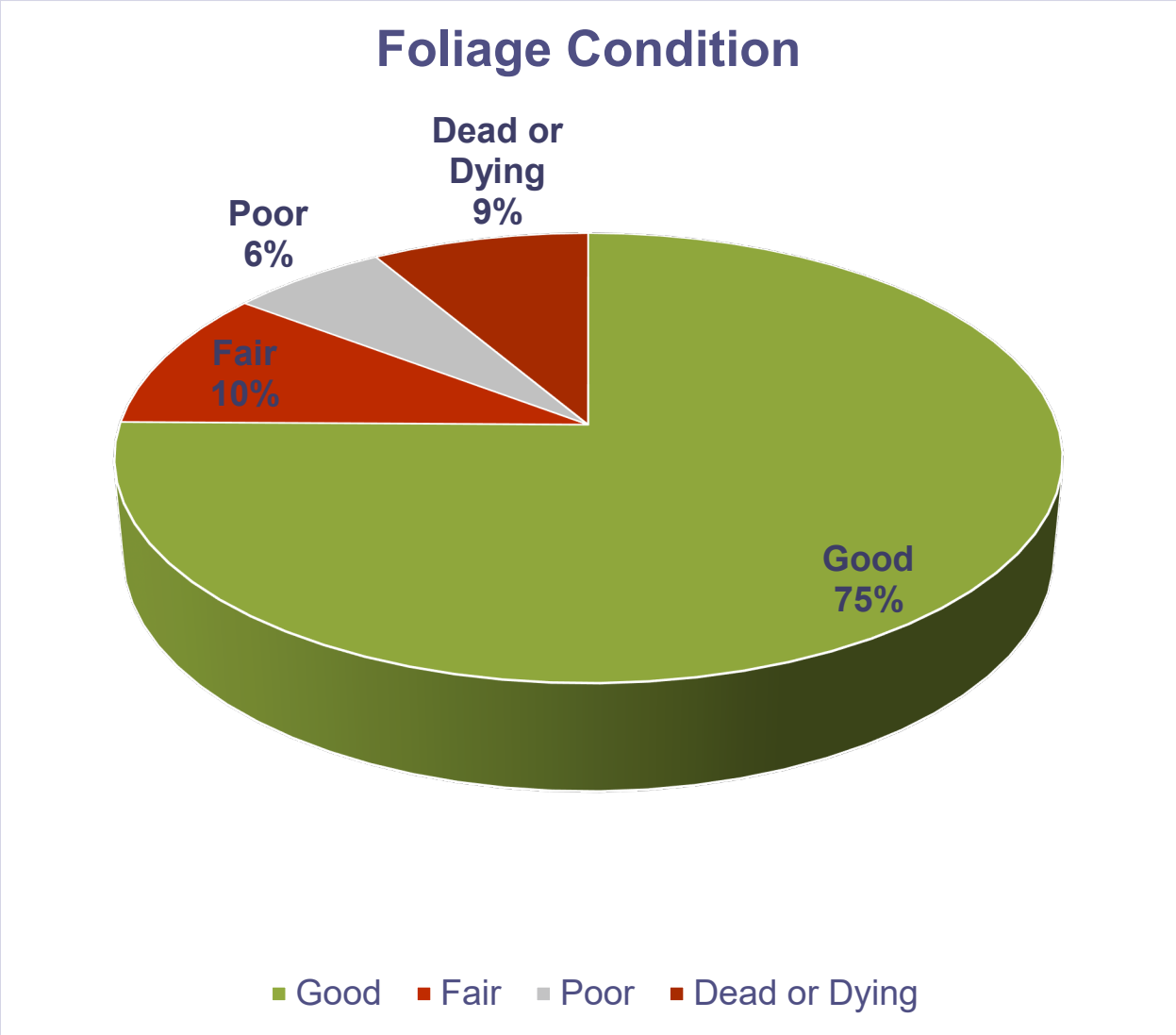


Figure 4: Wood Condition

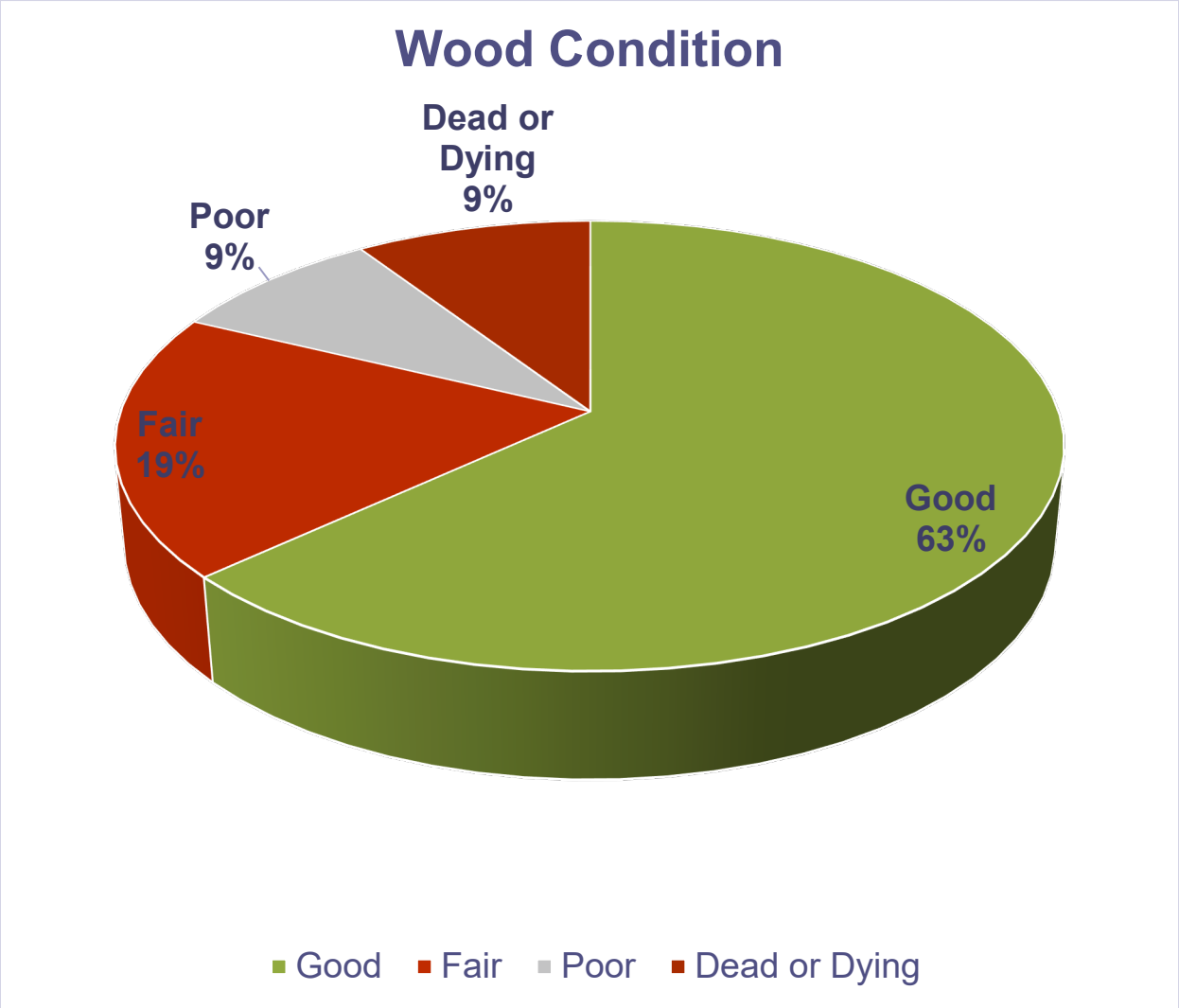
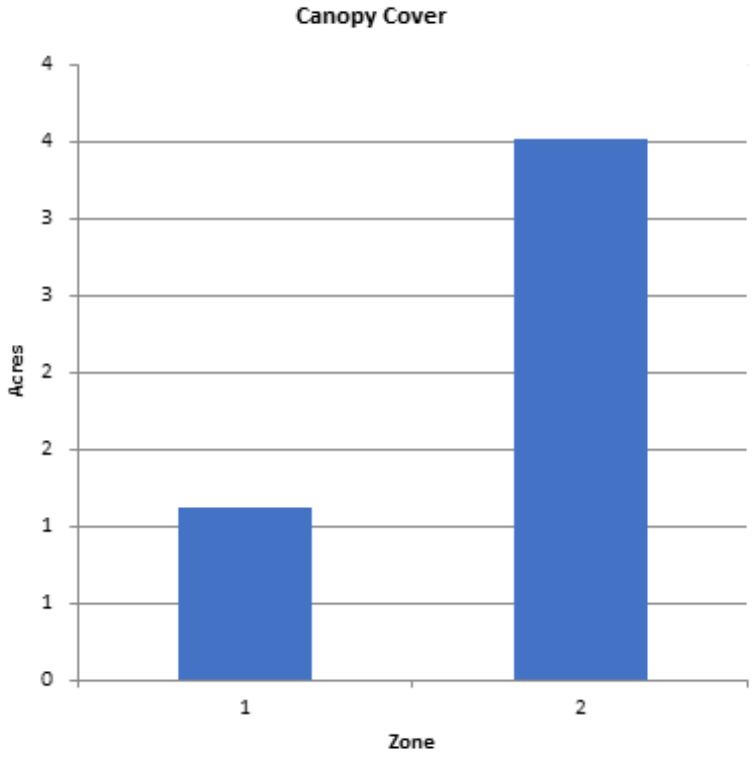


Figure 5: Canopy Cover in Acres

Pleasantville

Canopy Cover of Public Trees (Acres)

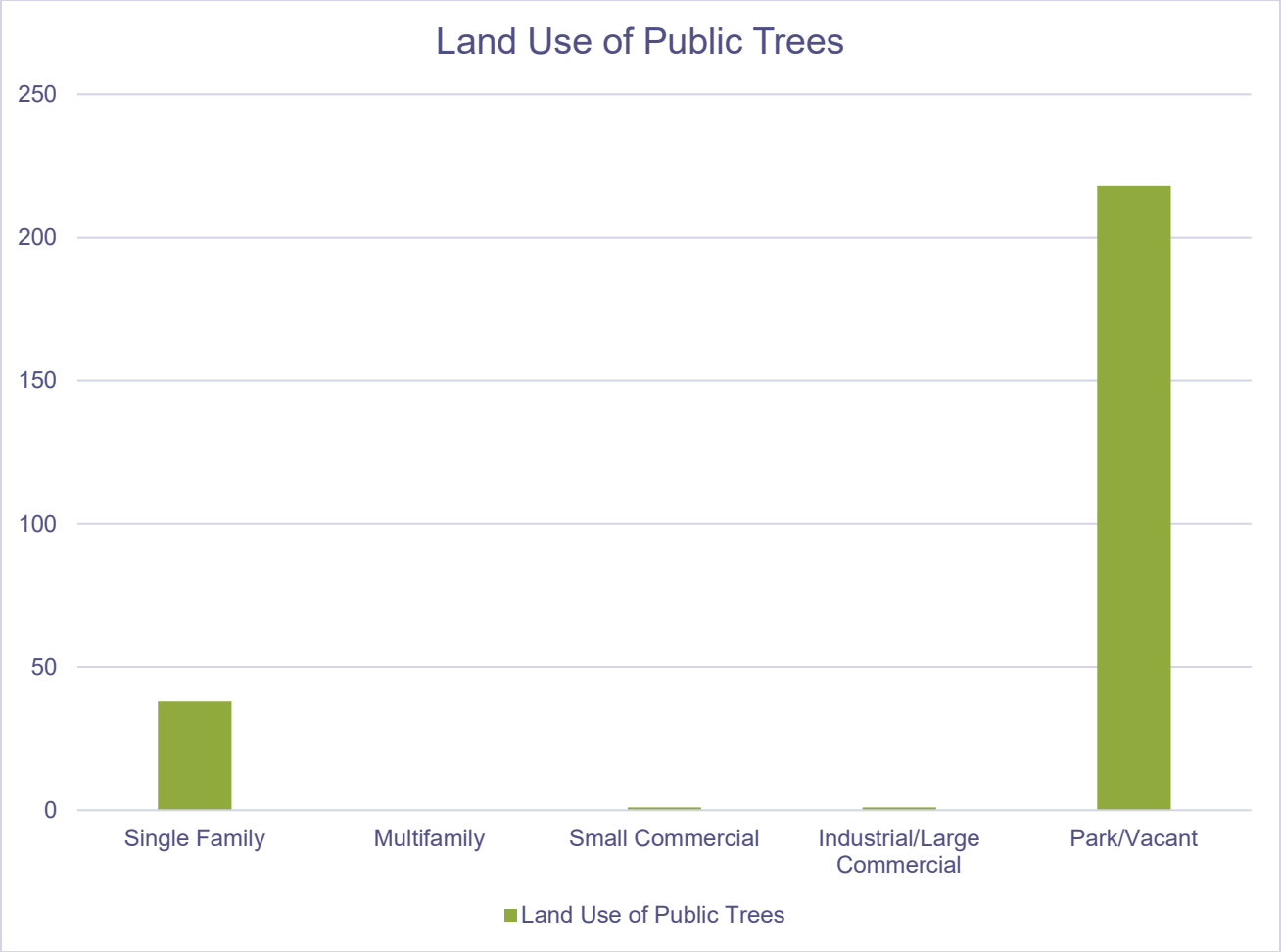
2/10/2022



Zone	Acres	% of Total Canopy Cover
1	1	24.3
2	4	75.7
Citywide total	5	100.0

	Total Land Area	Total Street and Sidewalk Area	Total Canopy Cover	Canopy Cover as % of Total Land Area	Canopy Cover as % of Total Streets and Sidewalks
Citywide Total	0	0	5	0.00	0.00

Figure 6: Land Use of City/Park Trees



APPENDIX B: ArcGIS MAPPING

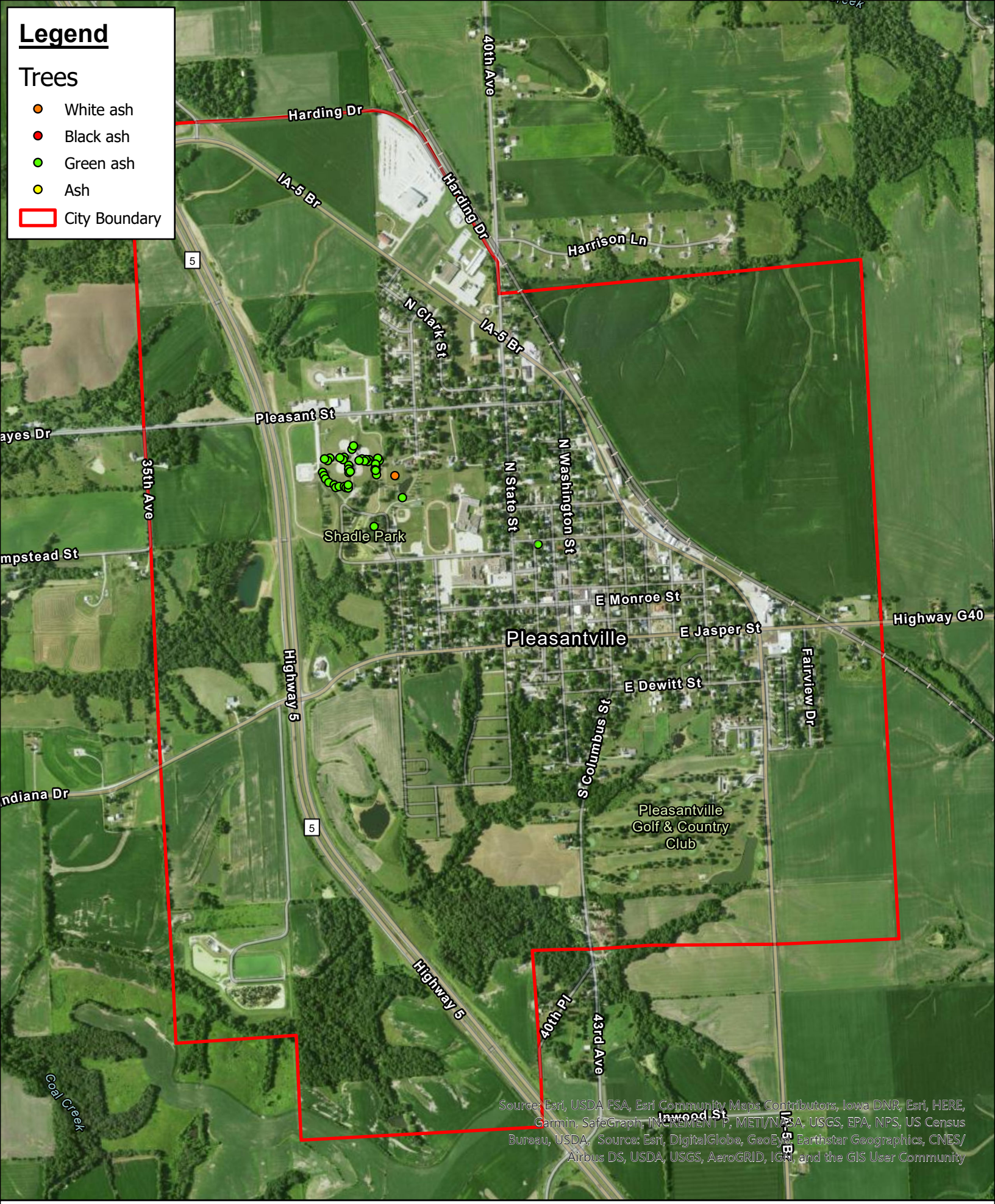
Figure 1: Location of Ash Trees

Figure 2: Location of EAB Symptoms

Figure 3: Location of Poor Condition Trees

Figure 4: Location of Trees with Recommended Maintenance

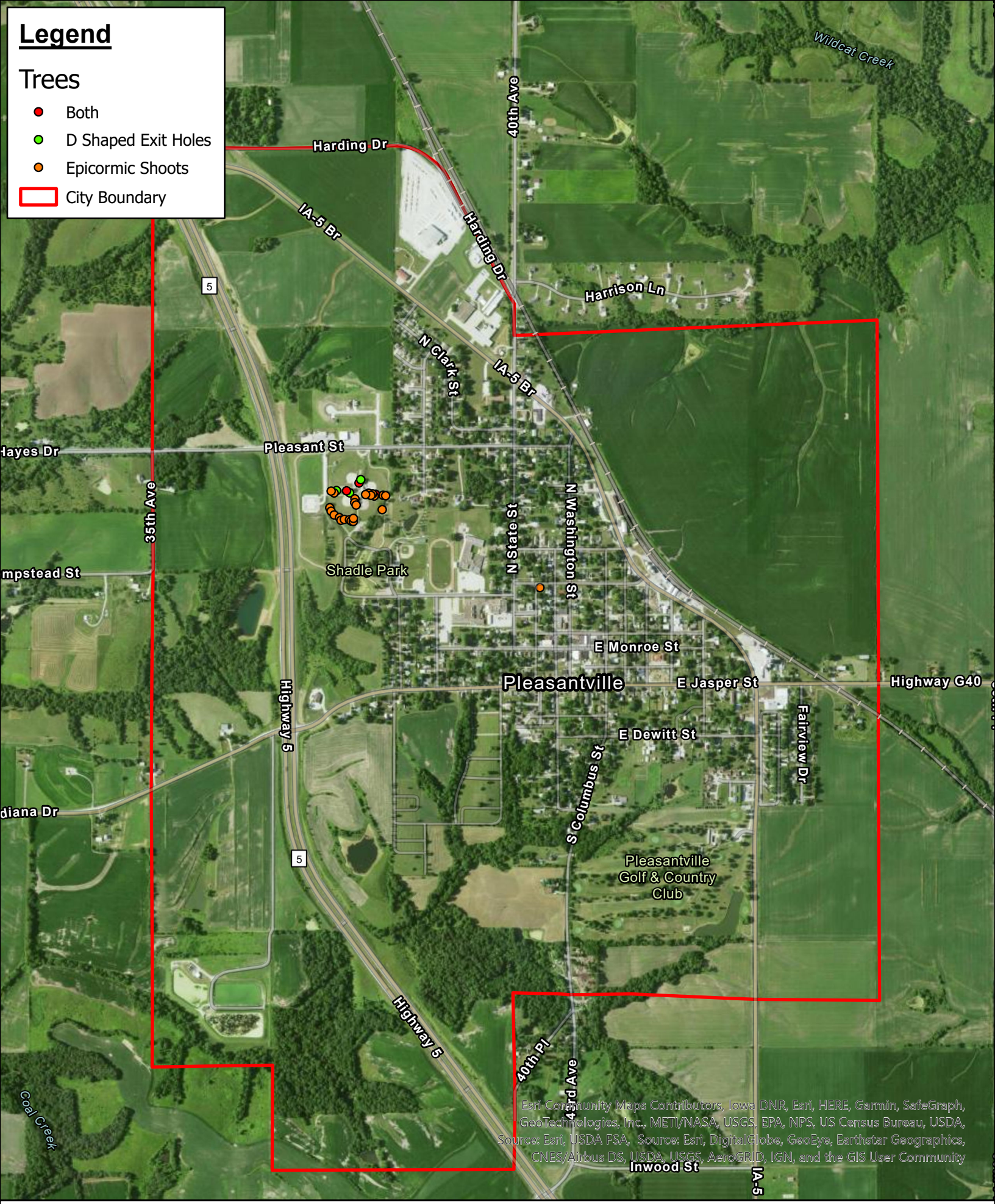
City ownership of the trees recommended for removal should be verified prior to any removal



Ash Tree Location

0 500 1,000 2,000 Feet

N



EAB Signs/Symptoms

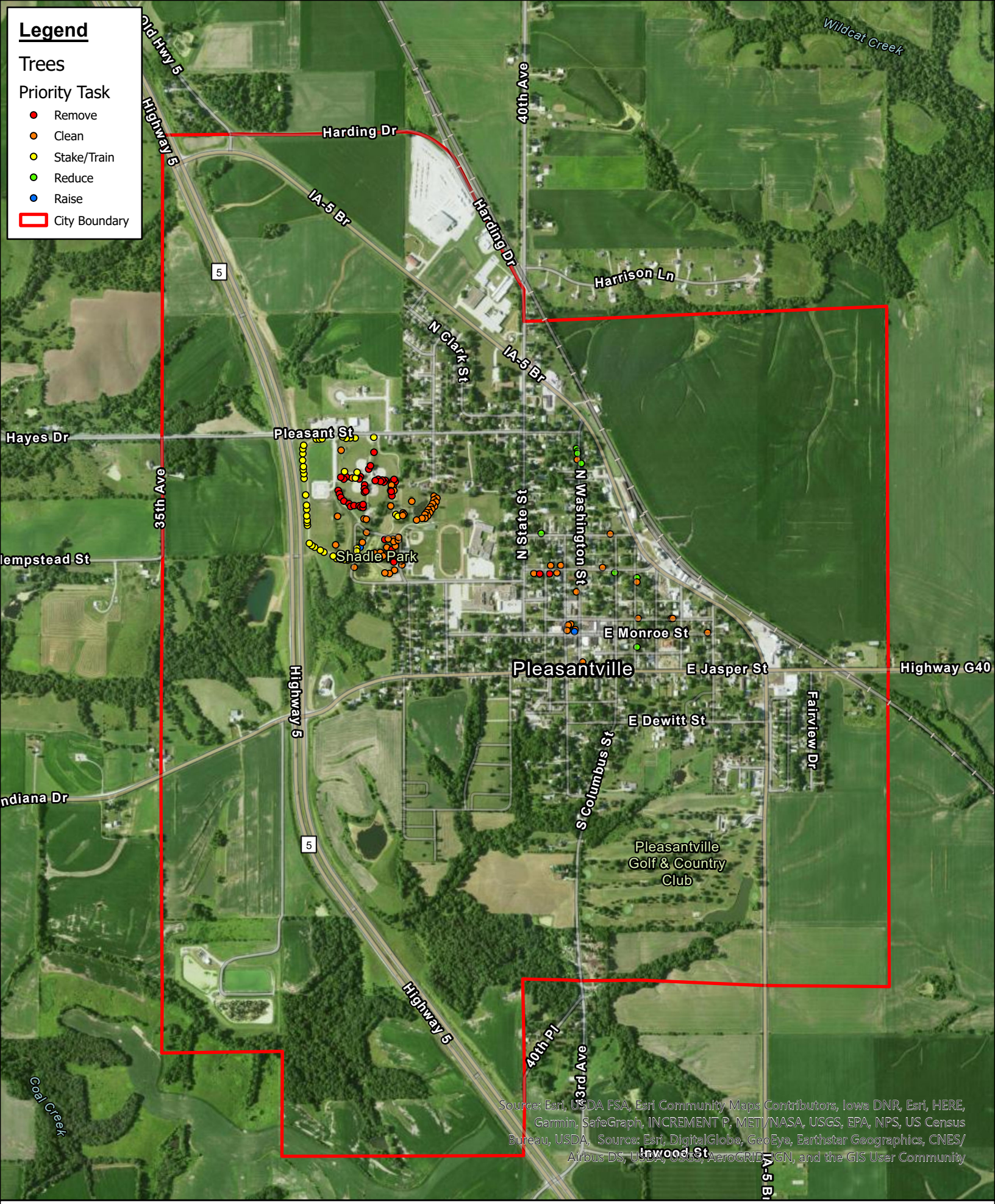
0 500 1,000 2,000 Feet

N

Poor Condition Trees

0 500 1,000 2,000 Feet

N



Priority Task

0 500 1,000 2,000 Feet

N

APPENDIX C: PLEASANTVILLE TREE ORDINANCES

151.01 DEFINITIONS.
For use in this chapter, “parking” means that part of the street, avenue, or highway in the City not covered by sidewalk and lying between the lot line and the curb line or, on unpaved streets, that part of the street, avenue, or highway lying between the lot line and that portion of the street usually traveled by vehicular traffic.

151.02 PERMITS FOR PLANTING TREES IN BOULEVARDS.
No tree, shrub or other landscaping shall be put on the road right-a-way or any road easement. (Ord. 1601, passed 12-21-2015)

151.03 TREE TRIMMING.
The owner or agent of the abutting property shall keep the trees on, or overhanging the street, trimmed so that all branches will be at least fifteen (15) feet above the surface of the street and eight (8) feet above the sidewalks. If the abutting property owner fails to trim the trees, the City may serve notice on the abutting property owner requiring that such action be taken within five (5) days. If such action is not taken within that time, the City may perform the required action and assess the costs against the abutting property for collection in the same manner as a property

151.04 REGULATIONS FOR PLANTING TREES IN BOULEVARDS.

Except as allowed in Section 151.03, it is unlawful for any person to trim or cut any tree in a street or public place unless the work is done under the supervision of the City.

151.05 REMOVAL OF BOULEVARD TREES.

Any dead, diseased, or damaged tree or shrub that may harbor serious insect or disease pests or disease injurious to other trees is hereby declared to be a nuisance.

151.06 REMOVAL OF TREES ON PRIVATE PROPERTY.

The Council shall inspect or cause to be inspected any trees or shrubs in the City reported or suspected to be dead, diseased or damaged, and such trees and shrubs shall be subject to the following:

1. City Property. If it is determined that any such condition exists on any public property, including the strip between the curb and the lot line of private property, the Council may cause such condition to be corrected by treatment or removal. The Council may also order the removal of any trees on the streets of the City which interfere with the making of improvements or with travel thereon.

2. Private Property. If it is determined with reasonable certainty that any such condition exists on private property and that danger to other trees or to adjoining property or passing motorists or pedestrians is imminent, the Council shall notify by certified mail the owner, occupant or person in charge of such property to correct such condition by treatment or removal within fourteen (14) days of said notification. If such owner, occupant, or person in charge of said property fails to

comply within 14 days of receipt of notice, the Council may cause the condition to be corrected and the cost assessed against the property. (Code of Iowa, Sec. 364.12[3b & h])

The State of Iowa is an Equal Opportunity Employer and provider of ADA services.

Federal law prohibits employment discrimination on the basis of race, color, age, religion, national origin, sex or disability. State law prohibits employment discrimination on the basis of race, color, creed, age, sex, sexual orientation, gender identity, national origin, religion, pregnancy, or disability. State law also prohibits public accommodation (such as access to services or physical facilities) discrimination on the basis of race, color, creed, religion, sex, sexual orientation, gender identity, religion, national origin, or disability. If you believe you have been discriminated against in any program, activity or facility as described above, or if you desire further information, please contact the Iowa Civil Rights Commission, 1-800-457-4416, or write to the Iowa Department of Natural Resources, Wallace State Office Bldg., 502 E 9th St, Des Moines IA 50319.

If you need accommodations because of disability to access the services of this Agency, please contact the Director at 515-725-8200.