CITY OF UNIVERSITY CITY
REGULAR MEETING OF THE URBAN FORESTRY COMMISSION
Centennial Commons 7210 Olive Blvd.
Wednesday, March 8, 2023
6:00 P.M.

AGENDA

On March 20, 2020, City Manager Gregory Rose declared a State of Emergency for the City of University City due to the COVID-19 Pandemic. Due to the ongoing efforts to limit the spread of the COVID-19 **virus, those who are not fully vaccinated are asked to wear face coverings.**

A. MEETING CALLED TO ORDER

B. ROLL CALL

C. APPROVAL OF AGENDA

D. APPROVAL OF MINUTES – November 9, 2022

E. CITIZEN PARTICIPATION

F. DEPARTMENT REPORT
       a. Tree Removal Contract-Monster
       b. Ash Removal Replacement Contract-Omni
       c. Misc. Tree Work Contract-Monster
       d. Tree Trimming Contract-Monster
       e. In House Crew

G. COUNCIL LIAISON REPORT

H. UNFINISHED BUSINESS

I. NEW BUSINESS
       a. Sweetgum Trees
       b. Arbor Day Celebration Ideas
       c. Urban Forest Management Plan
       d. Position Appointments

J. COMMISSION COMMENTS

K. ADJOURNMENT

INTRODUCTION

PURPOSE OF THE PLAN

The City of University City's Urban Forestry Management Plan ("Plan") is a 30-year plan that provides a comprehensive strategic framework to focus and expand the City's Urban Forestry program to meet a range of policy, educational and management goals. The Plan is intended as a tool to explore community concerns and management conflicts, while offering a series of implementation actions based on extensive stakeholder and community outreach.

This Plan outlines the City of University City's plan to integrate management of the many issues and opportunities posed by University City's tree resource, and will serve as a road map to improve the City's urban tree management and stewardship in a coordinated, cooperative approach with City departments, committee's and private land owners.

As a strategic and forward-looking document, this Plan does not alter or supersede the requirements of the University City Municipal Code, however, it does suggest modifications and expansions to City codes to improve long-term tree stewardship, and any proposed code revisions will be reviewed and considered through future public process.

Lastly, the Plan was prepared through a systematic and comprehensive review of existing City regulations, standards and other adopted plans, and discussions with key stakeholders. This is a unique, holistic urban forestry management plan for the City of University City based on local needs and priorities, as determined through this process.

WHAT IS THE URBAN FOREST?

Stated simply, University City's urban forest consists of all trees, woody shrubs and ground cover plant communities in the city on both public as well as private property, however, the primary scope of this plan is to focus on trees – the largest, longest-lived and more significant member of the landscape community. This urban forest includes street trees, park trees, forested parklands, trees on institutional campuses, and trees in many private ownership settings. The urban forest touches the lives of University City's citizens every day. Whether it's enjoying a walk along the Millar park trail or a picnic in Heman Park, it is trees that comprise the urban forest and trees that make the experience magical.

WHY IS IT IMPORTANT?

It is nearly impossible to overstate the value of trees in our urban areas. Properly placed trees reduce energy consumption, filter pollutants, and slow flooding. They stabilize soil, enhance the ecological environment, and increase property values. Urban trees also provide an invaluable psychological relief from the concrete and asphalt of the City. The value of these benefits is immeasurable.

Water Quality & Stormwater Retention

Urban forests absorb rainfall, control surface water run-off, filter ground water and assist in ground water recharge. According to one study, 37,500 tons of sediment per square mile per year comes off of developing and developed landscapes, and urban trees could reduce this value by 95%.

Urban tree canopy significantly reduce flooding and soil erosion by slowing water runoff and holding on to soil. When raindrops are intercepted by a tree's canopy, the rate at which the rainwater hits the ground is significantly reduced. The slowed rainwater absorbs into the soil as it filters across vegetation and roots, reducing the amount of water that reaches the creeks and storm sewers. In addition, soil movement is reduced as a result of plant roots holding on to the soil. Without plant roots, soil has no ability to resist the erosive effect of rushing water.

Energy Savings & Carbon Capture

Trees reduce the demand for energy consumption by casting shade and blocking winds. By shading concrete and asphalt, trees reduce the absorbed and radiated heat that turns our cities into urban heat islands. Trees shade cars and houses, keeping them cooler in the summer months. And they block cold winter winds, allowing buildings and homes to remain warmer in the winter. These things reduce the demand for air conditioning or heating, which results in less energy being spent. Less energy expenditures mean fewer fossil fuels are burned and less carbon dioxide goes into the atmosphere, reducing the potential for global warming. Less global warming results in more stable temperatures and decreased demand for fossil fuel consumption. This cycle of energy conservation is perpetuated as trees and other urban plantings naturally reduce the demand for heating and cooling. The cycle is enhanced by carbon sequestering, because in addition to reducing the carbon emissions from energy consumption, trees sequester tremendous amounts of carbon from the atmosphere to carry out their process of photosynthesis.

Air Quality Improvements

Trees are beneficial as air filters as they absorb gaseous pollutants such as ozone, nitrogen oxides and sulfur dioxide; and they filter particulate matter such as dust, ash, pollen and smoke. Reductions in these pollutants results in improved public health and reduces the severity of ozone-induced asthmatic responses and other respiratory

illnesses. Urban trees absorb carbon dioxide, a major greenhouse gas, at an approximate rate of 230-lbs per year per tree. According to the U. S. Department of Agriculture, "one acre of forest absorbs six tons of carbon dioxide and puts out four tons of oxygen. This is enough to meet the annual needs of 18 people.

The Economics of Aesthetics

Improving aesthetics of our City has tangible economic benefits. Networks of natural areas and trails gives the City a reputation for being a good place to live and visit. Increased recreational and community activity attracts new businesses, fosters expressions of creativity and stimulates tourism. Due to the changing nature of business needs, businesses locate or re-locate based on a community's quality of life, including an abundance of open space, nearby recreation and pedestrian-friendly neighborhoods. Nationwide, easy access to parks and open space has become a new measure of community wealth – an important way to attract businesses and residents by guaranteeing both quality of life and economic health.

Aside from the potential price effect on residential property sales (3.7% - 7%), trees in retail settings increase shoppers' willingness to pay for goods and services by 12%. Shoppers also indicate that they are willing to drive farther and stay longer if a retail district is well-landscaped with trees. Also, respondents consistently reported greater willingness-to-pay values for goods and services in the landscaped mall at an overall rate of 8.8%.

Increases in land values or sale prices as a result of quality landscaping and the presence or retention of trees offers a secondary benefit to the local jurisdiction. The adjustments directly relate to additional revenue from sources such as real estate transfer taxes and property tax assessments.

Wildlife & Habitat

The urban forest, including the trees, canopy, understory, and woody and leaf debris, provides habitat, food and shelter for birds, insects, and other urban wildlife. If large, contiguous or linked, the urban forest provides a buffer from the built environment, while acting as a travel corridor, for wildlife. It also offers a critical environmental education resource for local students, bird watchers and nature enthusiast. While the urban forest provides an environmental structure for wildlife, challenges exist with providing and promoting native vegetation. "Urban sites rarely provide environmental and plant growth conditions found in the natural habitat. Increasingly advocacy for use of native plants in urban landscapes often overlooks the poor match between the plant material and the site". While the challenging conditions of an urban setting may cause stress or growing problems for certain native plants, others may thrive.

Health & Well-Being

Public spaces with trees receive more visitors, increasing the frequency of casual social

interactions and strengthening the sense of community. Trees along transportation corridors narrow a driver's field of vision, reducing traffic speeds and increasing pedestrian safety by providing a natural, physical barrier. Studies have found that urban highways lined with trees decrease driver stress, resulting in fewer incidents of road rage.

Trees foster safer, more sociable neighborhood environments and have been shown to reduce levels of crime, including domestic violence. Views of nature reduce the stress response of both body and mind when stressors of urban conditions are present. Hospital patients with window views of trees recover significantly faster and with fewer complications than comparable patients without access to such views.

Summary

With all of the benefits trees and landscaping provide, it is easy to see the need to protect and expand the City's urban forest. The City of University City recognizes the importance of green areas and is making direct efforts to insure the continued development of this invaluable resource. Steps the City has taken include aggressive planting, cyclical pruning, removal of hazardous trees and a complete digital inventory of all trees on City property. The city is also working towards providing educational opportunities for residents, and most importantly, enacting legislation which protects the existing urban forest and insures its continued expansion. This legislation allows University City to move forward, knowing a better City environment will be left to all those who follow.

Keeping University City beautiful, reducing pollution and erosion, conserving energy, and providing a calm, peaceful environment will require continual team effort, but together the City and its constituents can make it happen.

VISION & MISSION

VISION

The City of University City embraces its urban forest as an integral part of the community's infrastructure, which contributes to the healthy lifestyle of its residents; connects and enhances natural areas and habitat; provides ecological services, such as cleansing the region's air, capturing stormwater and sequestering carbon; and contributions to the economic prosperity of the city.

The Urban Forestry program is vibrant, robust, and held as a critical City service. The program draws strength from active, committed staff, committees, and volunteers.

MISSION STATEMENT

"To Enhance, Protect and Manage our Urban Forest"

The University City Parks and Recreation Department's urban Forestry Program strives to promote a safe, healthy, and diverse urban forest by preserving, managing, and enhancing tree resources, while promoting active community participation through public education and outreach.

In cooperation with community residents and program stakeholders, the urban forestry program has outlined the following tenets to guide urban forestry management in University City:

- **Inform** – Expand program awareness through innovative, visible outreach and education campaigns.

- **Protect** – Recognize the environmental, economic, cultural, and social benefits offered by the urban forest and refine and implement policies to protect public tree resources, while seeking substantial participation from landowners to protect private trees.

- **Expand** – Enable growth of public and private tree resources to optimize the urban tree canopy through plantings, outreach, and other incentives.

- **Manage** – Improve and institutionalize the care, maintenance, and operating principles for the long-term viability of a mixed-aged, sustainable urban tree resource.

- **Partner** – Increase community, private sector and other City department's involvement in planning, management, and funding of the urban forest.

GOALS & OBJECTIVES

INTRODUCTION

Defining specific goals of the Plan will help guide development and prioritization of the broad range of actions necessary to achieve our vision of a sustainable urban forest in University City. The overarching goal of the Plan is to guide the city's efforts to recover the loss of tree canopy and enhance all tree-related benefits by recommending strategies and actions to improve the city's urban forest management in an equitable, economic, and sustainable manner.

CANOPY COVERAGE

A good measure of the health and value of an urban forest is the percentage of land within the city that has tree canopy cover. To measure success in canopy cover enhancement, canopy cover goals first must be established, which then will help the City of University City to rally the community around a clear set of common targets. These goals also help to plan implementation steps that consider planting opportunity, planting limitations and other priorities specific to individual land-use types.

The City of University City currently has a canopy cover of approximately thirty-eight (38%) percent which is above the national average of twenty (25%) percent; St. Louis Regional average of thirty-three (33%) percent, but slightly below the U.S. Forest Service and City's goal of forty (40%) percent. Although the canopy coverage is close to an acceptable level right now our urban forest has a high percentage of mature trees which are beginning to be removed and will need removal at a greater rate soon.

To achieve an overall goal of 40% canopy cover in 30 years, goals have been defined for each of the tree elements of the plan.

Tree Resources

- Understand the characteristics and complexity of University City's urban forest.
- Maintain trees to promote health and longevity.
- Maximize canopy cover and optimize age and species diversity.
- Maximize the ecological and environmental benefits of the urban forest.

Management Framework

- Facilitate interdepartmental communication and cooperation to provide decision-makers the information they need.

- Develop and implement resource management tools.
- Preserve and protect existing trees and encourage new tree planting throughout the city.
- Model good stewardship in City practices.

Community Framework

- Enhance public awareness of the urban forest as a community resource.
- Engage the community in active stewardship of the urban forest.
- Promote citizen-government-business partnerships.

Achieving these goals will result in the following outcomes:

- Improved condition of the urban forest in terms of increased canopy, health, and diversity.
- Increased ecological service benefits such as storm water mitigation benefits.
- Clear policy framework to guide City actions.
- Consistent approach to urban forest management and public outreach among City departments and committees.
- Improved management and accountability within City government.
- Equitable distribution of urban forest resources across the city.
- Engaged and informed community.

RECOMMENDED GOALS OF THE PLAN

Through public participation, input from the Urban Forestry Committee, University City in Bloom Committee, and City staff, considerable time and emphasis has been placed on developing a comprehensive vision. Accordingly, seven (7) major goals and objectives emerged at priorities for the City of University City.

1. Preservation and Protection

The City should continue to review and improve ordinances, guidelines, and policies regarding tree planting and tree and forest protection and create or enact new legislation and policies as needed. These policies will serve as an official statement by the City regarding the importance and value of trees in the community.

2. Enhancement and Restoration

University City's canopy cover has been estimated at thirty-eight (38%) percent, and is disappearing in part, due to mature tree removal and lack of new and replacement tree planting on public and private properties. Without an adequate forest canopy cover, University City will not realize the many tangible and intangible benefits trees provide, and the character of the city will ultimately suffer. It is the City's goal to achieve an average of forty (40%) percent canopy cover for the City.

3. **Expansion**

City should look at planting new trees, especially in areas such as streets lacking in right of way trees and parks. Increased inter-departmental communications, such as Public Works sidewalk repair and replacement, will aid in expanding the tree population as well increase the overall health of the urban forest. Detailed information about nearby structures, utility conflicts, sidewalks and other hardscapes, clear zones and may other factors such as species diversity must be considered prior to planting to ensure the right tree is planted in the right place.

4. **Monitoring** and **Documentation**

Upkeep and expansion of the tree inventory is required to better understand and plan appropriate management of the urban forest. The City shall track the trees that are planted or removed on public properties will ensure the forest assessment and urban canopy calculation stays reasonably up to date and can help analyze expected changes to overall forest age, diversity, and health. Records of tree work can alert staff and the public how forest management efforts are paying off over time, and if adjustments to the rate, direction, or priorities of forest management are still on track with community goals. Noting the presence of disease or pests with early detection can be critical in containing threats to the overall forest. It is vital to monitor both the forest and the plan over time if the goals are to be met in a responsible manner.

5. **Education** and **Outreach**

A focused, extensive campaign is required to improve awareness of the program and reach new volunteers. Citizens, businesses, City staff and leaders, and developers need continued education and marketing targeted to increase their awareness of the benefits of trees. They need to be aware of the availability of City resources and the various ways they can become more involved in the urban forest management program and be a part of the solution.

6. **Sustainability** and **Maintenance**

This initiative relies on on-going, expanded coordination for the planning, care, and replacement of City trees. Specific attention should be directed toward tree-induced street/sidewalk infrastructure damage, systematic pruning of trees, along with elevating the role planting/re-planting projects in parks and other City-owned property and rights-of-way to improve wildlife habitat, canopy, species diversity and age diversity.

7. **Organizational Development** and **Funding.**

Currently, the components of and resources for University City's urban forest management program are under the Parks and Recreation department as it pertains to trees maintained by the city. The portion of the urban forest that exists on private land is maintained by private landowners, St. Louis County Department of Transportation, and the city's Planning and Development Department. Critical to the program's success is adequate funding, a centralized focus and improved interdepartmental coordination and communication.

OUR URBAN FOREST

INTRODUCTION

University City's urban forest covers 5.8 square miles of publicly and privately-owned land within the city limits. The obvious differences between urban spaces, streetscapes, parklands, remnant forests and other land-use types create a collection of management units that together form University City's urban forest ecosystem.

The following are the four management units for the Urban Forestry Management Plan:

1. Street trees along non-county roads and medians
2. Public parks
3. The Loop in University City
4. Street trees along county road and medians

1. STREET TREES ALONG NON-COUNTY RAODS AND MEDIANS

This element of the city's urban forest is found on streets and medians that are maintained by the city itself. The trees are all located within the city's right of way in front of homes and businesses. In most of the city this area is located within the area between the street and the sidewalk. In areas without sidewalks the right of way is generally 5-8 feet in from the street. Each street can have a different right of way width, but the city-maintained trees can be easily identified because they are planted in uniform rows.

Current Condition

Street trees along non-county roads make up approximately 75% of the city's tree inventory. This population of trees ranges from mature to juvenile trees with the majority of them being mature and approaching their life expectancy.

Some streets are fully stocked with street trees while others are lacking due to removing older trees and residents not requesting to have new trees planted.

Issues/Opportunities

-   Since street trees make up most of the managed trees in the city's urban forest, they provide the most opportunity to expand the overall canopy. The goal of the urban forestry program is to replace every tree that is removed within the street tree management unit of the urban forest.

- The management of street trees provides an excellent opportunity to beautify the city.
- Trees in front of homes have been proven to increase property values for residential homes. Therefore by maintaining a healthy street tree population the city can put value back into the community.

- One issue facing street tree management would be the annual management cost. Whether maintained by an outside contractor or in-house staff these street trees must be pruned on a cyclical basis and removed when necessary.

- Another issue faced when managing street trees is the publics view on trees in front of their homes. Some resident's views on trees have been soured through past life experiences or yearly maintenance such as raking leaves in the fall. It is important to the overall health of the city's urban forest to educate the public on the importance of trees in the urban landscape.

- The issue of liability with street trees is a constant management issue due to the risk posed by trees around people. Trees can fail during storm events and cause damage to private property. The widely accepted Tree Risk Assessment method developed by the International Society of Arborist is implemented to identify hazardous trees before they cause damage to people or property.

2. PUBLIC PARKS

Public parks in University City are a pride of the community. We have 20 maintained parks in the city as well as woodland hiking trail. Within public parks the city has approximately 3,000 trees ranging from mature to juvenile in age.

Current Condition

Generally speaking, trees in the parks are in better condition than street trees due to the more favorable growing conditions. Parks trees require less routine maintenance than trees in right of way areas.

Issues/Opportunities

- Park trees provide many benefits to the residents of University City whether they are aesthetic beauty, shade, or improved mental wellbeing.

- Park trees do pose a liability risk due to the public recreating around them. The Tree Risk Assessment method is also used for park trees.

3. THE LOOP IN UNIVERSITY CITY

This category includes University City's business district known as The Loop. The Loop is comprised of businesses and restaurants. The Loop is a staple for University City and is well known throughout the St. Louis area. The trees located on the loop are all planted in tree pits in front of businesses and are maintained by city staff.

Current Condition

The Loop Trees are inventoried with the street trees mentioned earlier in this section. The Loop trees are planted in the most unfavorable growing conditions in the city known as "tree pits". These unfavorable growing conditions result in shorter life expectancy for the trees. Currently these trees are juvenile to mature in age.

Issues/Opportunities

- The opportunity for the Loop trees to make a visual impact on pedestrians and people driving through is dependent on the health, age, and selection of trees in this area.

- The issue of the growing conditions of these trees resulting in shorter lived trees could be improved by adding in more root space under the sidewalk and adding irrigation to the tree pits.

- Tree pits and growing stock are not uniform in The Loop and could greatly benefit from an overall uniform look and management approach.

4. STREET TREES ALONG COUNTY ROADS AND MEDIANS

Trees along county roads such as Delmar, Midland, Hanley, and North and South are not maintained by the city but rather by St. Louis County Department of Transportation.

Current Condition

Inventory doesn't currently exist for this category. The trees in this category are all mature trees and are approaching their life expectancy. St. Louis County is not replacing any trees in this area.

Issues/Opportunities

- With these areas making up a large portion of the city used by residents and non-residents alike they have a large impact on the overall view of the city from an aesthetic point of view.

- With the number of mature trees on county roads and the rate at which they are being removed and not replanted the city's main corridors will look very different in the future.

- The city does have an opportunity as well as an issue with the option to take responsibility of these trees from the county government. This would ensure the proper management of the trees as well as improve the overall tree canopy in the city. This would keep the same charm and character that is important to the city of University City and its residents. With that being said, it would also increase the budget requirement for the Forestry Division.

INVENTORY & ASSESSMENT

INTRODUCTION

A comprehensive resource management plan must begin with a thorough understanding of the resource itself. This is accomplished through an inventory and assessment process. This process identifies the current state or condition of the resource and highlights both challenges and opportunities for future resource management.

Accordingly, the Parks, Recreation, and Forestry Department contracted with the Davey Resource Group to conduct an inventory and assessment of 11,895 (98.1% trees and 1.9% stumps) trees and stumps in tree lawns and all parks in University City. This inventory was partially funded through Missouri Department of Conservation's grant program. Tree data was collected and analyzed, providing information on the species composition, relative size (DBH), health, and maintenance recommendations for the urban forest.

SPECIES COMPOSITION AND DIVERSITY

The science of arboriculture and urban forestry has changed drastically since the City of University City's urban forest canopy was originally established. Urban foresters were not aware of the potential detriment of a monoculture of species or the importance and benefits of age diversity. Urban foresters have also learned that routine maintenance is essential to maintaining vigor and vitality in the development and enhancement of the urban forest.

While the U.S. Forest Service suggests cities should have no less than forty (40%) percent canopy cover, our urban forest consists of nine (38.2%) percent of tree canopy coverage. Renewal and maintenance is necessary to preserve and expand its beauty and benefits to our community. In addition to maintaining the goal of at least forty (40%) percent canopy cover, there are two (2) key elements to preserving and enhancing the canopy: age diversity and species diversity.

Age Diversity

A healthy canopy is a lot like a healthy community, it benefits from trees of all ages just as a community benefits from having residents of all ages. If a balance between removals and replacements continues as the dying and declining trees are removed the City will move toward having a well age diversified urban forest within ten years.

Species Diversity

It is highly recommended that the City continue planting different species to increase its overall diversity, as urban forests compete with many other human needs in a built environment, such as buildings, homes, sidewalks, roads, size of tree lawns, and utility facilities. Species composition takes generations to change considering the lifespan of trees. It is important to mention that previous City Foresters have done a good job of planting a diverse selection of species. While we do still have an overabundance of a few species including Pin Oak as these trees are removed and replaced with a diverse panting stock species composition will continue to trend in the right direction. **It is important to put "the right tree in the right place" or the tree will either fail to thrive or create a myriad of side-effects that will be costly and detrimental to human habitation**. In our urban environment, we must choose to diversity rather than chancing devastation and deforestation as a result of a species monoculture. Maintaining healthy trees and planting different species are key aspects of preventing forest devastation.

The U. S. Forest Service recommends the urban forest be comprised of mostly species native to the region focusing on age, size, and species diversity. Research has proven to avoid a monoculture; the urban forest should have a diverse composition having no one species comprising more than ten (10%) percent and no one genus comprising more than twenty (20%) percent of the planting population. This breakdown has been argued to be not strict enough for the amount of invasive pest and common pathogens found in the urban landscape. Some argue that the goal should be changed to no more than five (5%) percent of one genus and ten (10%) percent one species. Species diversity, wood type, wind resistance, and insect/disease resistance should be highly considered.

The overall Inventoried tree population in 2022 was comprised of one hundred and sixty two (162) species representing seventy one (71) genera:

- *Quercus*(Oak) = 21.3%
  - *Quercus palustris*(Pin Oak)=14.7%
- *Acer*(Maple) = 12.1%
- *Platanus(*Sycamore) = 3.6%
- *Tilia*(Linden) = 3%
- *Liquidambar*(Sweetgum) = 2.9%
- *Fraxinus*(Ash) = 2.6%

As depicted above, only the Oak and Maple genera exceed the industry standard of 10% of the total trees inventoried within the urban forest, which is recommended to reduce the chance of exotic diseases or insects devastating the forest. The Oak genus is made up of 19 different species, but Pin Oak makes up 14.7% of all of the trees in our urban forest. Such problems have occurred in many communities with the loss of millions of American Elms and currently exist with the infestation of the Emerald Ash

Borer (EAB) attacking Ash trees, where over 25 million Ash trees have died in recent years. The City of University City is not immune to these types of devastations; in fact urban trees are more susceptible to disease than those in a natural, undisturbed environment.

Size Class Distribution

Tree species have different life spans and mature at different diameters, heights, and crown spreads. This means that actual tree ages cannot be assumed from the diameters of trees. However, general classifications of size, such as small, medium, and large, can be used to describe the general characteristics of the urban forest. This is not a substitute for age classes, which can give the actual age and maturity of trees, but it can provide a general idea of the variability in University City's tree population.

Of the total inventory, 29.69% = Small Trees, 25.04% = Medium Trees, and 45.26% = Large Trees. Small trees for the purpose of this management plan are considered to be 8 inches diameter and under, medium trees are from 9-18 inches in diameter, and large trees are over 19 inches in diameter. Therefore, University City has an uneven distribution of trees with the majority in the large category, as determined by their diameter class. The large distribution of larger trees is sign that we have an uneven aged forest. While larger trees provide more economical benefits they reach a point where they have reached their life expectancy and begin to decline. This life expectancy is greatly reduced from the same tree outside of the urban environment.

Normal recommendations in urban forest management call for achieving, over time, an appropriate age mixture by removing and replanting a certain percentage of trees each year. A good ratio for an urban tree population is a 20/60/20 mix of small, medium and large trees, reflecting the percentage of trees in each size group and representing a uniform spread of tree ages from young to mature to over mature.

PRIORITY TREE MAINTENANCE RECOMMENDATIONS

When maintaining urban trees, it must be realized that the potential for loss is an important factor in prioritizing treatments and making effective use of available funds. Monitoring the condition of significant trees and making efforts to maintain their health is essential. The loss of trees over time is an inevitable natural process. However, to control the decline, removal, and replacement of trees in a timely and cost-effective manner is the goal of the management process.

The highest priority maintenance recommendations that were identified in 2022 primarily pertained to protecting public safety. All pruning and removal maintenance recommendations were based on the existence of potential safety risks to the citizens of University City and/or their property.

Tree Removals

Trees fail from natural causes, such as disease, pests, and weather conditions, and from physical injury due to vehicles, vandalism, poisoning, and root disturbances, among others. Trees recommended for removal in the 2022 inventory assessment were those that were potential safety risks or were in such poor condition that they were likely to fail or die within the next few years. Of the total trees inventoried, 270 or 2.2% of the inventoried trees were recommended for removal.

Priority Pruning

Priority pruning consists of the removal of dead, dying, weak, or otherwise hazardous branches on the main trunks, as well as those within the canopy area of trees. A tree recommended for Priority Pruning has a risk rating of moderate to high risk, based on a tree risk assessment, associated with the defective branch or tree part. Pruning of these trees should reduce the risk to an acceptable level. 270 or 2.2% of the inventoried trees in University City were current candidates for Priority Pruning.

Routine and Training Pruning

Routine Pruning consists of the removal of dead, dying, diseased, interfering, objectionable, and weak branches on the main trunks, as well as those within the canopy area of trees. 2106 or 17.7% of the inventoried trees in University City were candidates for Routine Pruning. A systematic routine pruning cycle of all public trees was implemented to decrease the occurrence of potentially dangerous broken branches and large deadwood.

Trees requiring routine pruning generally do not present a moderate to high risk as defined by a tree risk assessment. This will allow the City to budget and schedule most of its tree maintenance projects in a cost-efficient and timely manner.

SWOT ANALYSIS

A Strengths, Weaknesses, Opportunities, and Threats (SWOT) assessment was also completed as a means to organize input and comments provided by the program affiliates and stakeholders, committees and City staff. The lists that follow off a synthesis of the range of insights, perspectives and opinions regarding the current and future state of the University City Urban Forestry program; this information has helped inform the development of the program goals, objectives and specific action steps in this Plan. Please note that it is common for a specific issue to be identified in multiple, even contradictory, sections of the SWOT matrix because different perspectives yield different perceptions.

STRENGTHS

- Technically trained and competent staff.
- Program linked with the Urban Forestry Committee and the Parks and

Recreation Committee – Council-appointed committee's assisting the program and advocating on its behalf.

- Program can rely, in part, on the previously completed and adopted inventory and analysis.
- Program can rely, in part, on existing regulations.
- City has been designated a "Tree City USA" for nine (40) consecutive years
- Parks and Recreation Department has received several grants.
- Urban Forestry program has implemented available brochures, handouts, etc. about tree planting, care, maintenance, etc.
- Strong and engaged group of local master gardeners and members of the garden club who care about the City and the role of trees.
- Strong young to mature tree diversity achieved by previous city foresters.
- Increased budget for contract services.

WEAKNESSES

- Limited staff resources to meet the demands of program objectives, citizen communication and outside requests.
- Limited funding for program, with current budget tied to the General Fund.
- Public has limited awareness of and exposure to the Urban Forestry program, along with its functions, purpose or goals.
- Rudimentary information posted on program website; limited web presence.
- Due to demands on staff, there is limited enforcement/oversight of existing regulations; Program is largely complaint-driven.
- The topping of trees by private land owners.
- Deferred maintenance, such as pruning and replacement, at City-owned sites.
- Fragmented philosophies and communication between the varying committees/staff/residents.
- Over mature trees of the same species beginning to decline at a rapid rate
- Lack of enforcement of current ordinances
- Limited staff

OPPORTUNITIES

- University City is a diverse community with a range of groups/associations willing to help; Passionate, active citizenry.
- The City can lead through example, create Program momentum and set standards for tree care and maintenance.
- Coordination, communication and training can be improved to address consistency and enhance problem-solving and collaboration.
- Outside funding sources, such as federal, state, and private foundation grants, corporate sponsorships and donations may be available in limited fashion for urban forestry uses.
- Potential to develop street tree planting plan of trees along major corridors and

subdivisions.
- Potential to develop tree planting plan of trees within existing parks, public facilities, and rights-of-way.
- Planting of trees to control species and age diversity, and increase canopy coverage.
- Hire more staff to better address urgent pruning, removal, and planting needs.
- Educate city staff involved in enforcing tree ordinance.
- Maintain and update tree inventory to create an accurate picture of state or the urban tree canopy.
- Strengthen permit application process as it relates to public and private trees.

THREATS

- Vast number of committees and special groups competing for limited resources may fragment and cause loss of focus of Program objectives.
- Positions being cut and not re-hired.
- Inflationary staff and equipment cost increases may affect the pace at which the Program expands to meet program objectives and/or manages operational and administrative challenges.
- Past budget shortfalls have led to deferred maintenance, such as pruning and replacement, at City-owned sites.
- General sense of tax fatigue may require creative solutions and strategies for long-term funding.
- Changing maintenance and care practices of private landowners over time – less watering and pruning.
- Even-age and same-species tree stands may fail or decline at same time creating a substantial maintenance and operations burden.
- Unpruned young trees may become future City liability if structural pruning not addressed soon.
- The sense of Program accomplishment might wane due to the long timeframe needed to achieve the stated goal of increased canopy.
- The potential of new pest/invasive breakouts requiring coordination with State and untested response protocols.
- Illegal, unwarranted and/or inappropriate removals and pruning on private lands.

Through the SWOT analysis, a wide range of issues and opportunities surfaced, and the significant findings can be summarized as follows:

The Program is led by a capable, technically-competent and energetic staff, whose focus is limited by a wide scope of program responsibilities. Residents of University City can offer a wealth of insight, support and energy to renew and expand the program, while acting as a conduit to connect with their neighbors and friends about the importance, and proper care, of the urban forest. The Program can rely on existing ordinances as a framework for managing the urban forest, but revisions,

clarifications and expansions to ordinance language should be considered, while balancing concerns regarding the over-regulation of private lands.

While uncertainty exists over future funding levels, the apparent public passion for trees is favorable to the successful implementation of this Plan. Focused and strenuous marketing and community outreach efforts must be made to connect with and educate private property owners of the value in managing their tree resources and to heighten the level of awareness of and care for the urban forest. This commitment to education and outreach must become a central tenet of future efforts and for any growth of the Urban Forestry program, and the placement of this theme as the leading element of the following Program Goals and Objectives further strengthens it importance.

MAINTENANCE OPERATIONS

INTRODUCTION

Urban trees typically require maintenance. A comprehensive mature tree care program primarily centers on routine or preventive pruning, and the ability to provide fertilization, irrigation, insect and disease control, and cabling, and bracing when necessary. The goals are to promote health, provide safe and functioning public spaces, and maximize the environmental, social, and economic benefits of trees and understory.

Tree maintenance tasks and frequency vary depending on age, species, establishment, and site characteristics. Generally, the first three years of a tree's life, also known as the plant establishment period, are the most maintenance intensive. Establishment requires attention to tree selection, site preparation, planting, watering, staking, pruning, and mulching to assure their survival. Pruning, disease and insect management are critical throughout a tree's life.

The benefits and values of trees are maximized when trees reach maturity and become established in their growing location. To maintain this high level of benefits for a longer period, the City should commit to providing regular scheduled maintenance to its mature trees and prepare for non-routine arboriculture treatments as needed.

Routine Pruning Program

Routine Pruning should occur on a cyclical basis for the entire tree population once all priority maintenance removal and pruning activities have been completed. This activity is extremely beneficial for the overall health and longevity of all public trees. Through routine pruning, potentially serious problems can be avoided because the trees can be closely inspected during these pruning cycles. Proper decisions can be made on declining trees, and any trees that become potential hazards can be managed appropriately before any serious incidents occur. The Parks, Recreation, and Forestry Department has developed an organized, documented approach to cyclical tree maintenance that can be managed by City staff.

Fertilization

Mature trees should not be placed on a scheduled fertilization program without a documented need. If soil analyses show a distinct and serious nutrient deficiency, or if the tree's root system or growing area has been damaged or contaminated, then the time and expense of fertilization may be worthwhile to save the tree.

The City Forester can use their expertise to determine if and when public trees need

fertilization and the appropriate fertilizer formulation and delivery method.

Irrigation

All trees need supplemental watering when there are drought conditions. Under drought conditions, the City, volunteers, and/or the abutting property owner would accomplish watering mature and young trees. This supplemental irrigation can be accomplished for trees with a water truck and hose and/or deep root watering lance, or with watering aids, such as a tree gator or tree diapers. Citizens and abutting business owners should be encouraged to water street trees frequently during the summer, even when there are not drought conditions.

Insect and Disease Control

Generally, mature trees do not have significant insect and disease problems if they are healthy and well-cared for. Some degree of insect infestation and disease incidence will always be present, as this is the norm for the natural world. However, trees in street and other highly urbanized settings can be predisposed to insect and disease problems since they are growing in unnatural and constrained environments. Therefore, it is prudent to include insect and disease monitoring as a routine part of the tree inspection program.

Emergency Response

An integral part of urban forest management must include an established procedure for emergency response. Individual tree-related emergencies, such as tree failures and large limb failures, are usually isolated events that can be effectively handled by having an emergency protocol for hazardous trees.

For large-scale storm events that result in substantial amounts of damage and debris from trees, a formal tree emergency protocol should be in place, outlining emergency response steps, safety standards, debris removal plans, public communication means, and contact lists.

Maintenance of Private Trees

While the City of University City does have some influence on preserving trees on private property, ensuring that private citizens know what appropriate tree maintenance is can be a challenge as evidenced by the all too frequent topping practice still employed by some tree maintenance firms. Encouraging private citizens to preserve trees can also be a challenge given concerns with leaf drop, views, solar access, competing uses of space, and the cost of hiring professional tree care workers. Likewise, encouraging private homeowners to plant more trees can be a challenge for the same reasons.

Standards of Practice

City staff and their contractors follow industry standards as defined in the International Society of Arboriculture's (ISA) *Tree Pruning Guidelines* and/or those in the ANSI A300 pruning standards. It is suggested that City tree-crew personnel be trained, tested, and that the City Forester be an I.S.A. "Certified Arborist".

TREE PLANTING RECOMMENDATIONS

Considering the ongoing land development and the City's goal to increase canopy cover, tree planting should be a major goal for the City. Not considering private property, the streets, parks and other public areas offer ample opportunities for new tree planting. Therefore, it is important to make sure this goal is carried out in the most effective way possible. The trees planted now will have a great impact on the City's future character and livability.

Given the ambitious goal of increasing the City's canopy cover, it is imperative that the Parks, Recreation, and Forestry Department develop a *Master Planting Plan.* Such a plan would detail the exact location of every available public tree/plant planting site within the City, provide information of the size and type of the growing space, indicate the presence of utilities, and ultimately assign an appropriate species to that site. This information is tied into the overall tree inventory.

Trees and Climate Change

The debate may still be underway regarding how human actions may influence and impact the scope and timing of potential global warming and companion climate change. However, one thing we do know with greater certainty is that many plant species do not require a substantial change in their environmental conditions to be greatly affected. It is entirely possible that the species composition of University City's urban forest in the future will include species that we currently do not or cannot grow. Urban foresters, landscape architects, horticulturalists, and park planners will need to be particularly attentive to changes and trends in the environment that may require them to make adjustments to our planting palettes. As well, changes in climate may also make it easier for invasive non-native species, flora and fauna, to find a new home to the detriment of our indigenous species.

Invasive Species

All natural systems change over time. If we want these changes to enhance the urban forest, they must be actively managed. Nationally-based studies repeatedly support the fact that the resource deteriorates when human intervention is not a proactive part of the urban forest management. This decline can be seen in many of University City's parks and natural areas where invasive species have taken over and are preventing native species from growing because historically these areas were considered "natural" and did not require maintenance. Proactive management is needed to keep our trees

sustainable and in balance with other urban priorities.

Over the years many trees and shrub/ground cover species have been introduced to the University City region only to see them become invasive, threatening the native species. Shrubs and ground covers such as burning bush and Wintercreeper, and other invasives like Japanese hops, garlic mustard, and bush honeysuckle threaten our forest floors and riparian corridors. Not only should we avoid planting these species, we should also support programs that will remove these invasive plants over time.

Trees and Views

Private views, or the potential for private views, often include publicly-owned trees. For some, there is value in seeing distant panoramas and for others their view out to the street is an important value that contributes to quality of life. For many, neighboring trees either frame a "territorial" view or are the view. Views are subjective and are defined by changing landscapes that often involve other property ownership.

Currently City of University City policy on trees, clearly states that public trees can't be topped. However, the City policy is to permit view relief only if it can be accomplished through pruning that meets the City of University City's arboricultural standards, and is performed by certified arboricultural contractors under the direction of the City Forester.

TOOLS FOR INVENTORY AND ASSESSMENT

A common requirement for all resource managers is a thorough understanding of the resource itself. To that end, University City has implemented an overall street and park tree inventory that is managed digitally. This tool is critical in providing the following benefits:

1. Tree risk assessment and inventory.
2. Better maintenance records with records linked to inventory data.
3. Better tools/models for determining value and benefits of the urban forest.

As previously stated, having a good understanding of the resource and its condition is always the first requirement of good resource management. In addition, detailed information on resources expended for maintenance would help staff better plan and budget work. The ability to assign value to the benefits of the forest would aid in creating a business case for valuing green infrastructure in the same way the City considers the capital investment and maintenance needs of its engineered infrastructure. In turn, this could lead to creative mechanisms for funding appropriate levels of maintenance of the urban forest resource.

<u>Tree Risk Assessment and Inventory</u>

Through both the inventory and ongoing maintenance process, a Tree Risk Assessment has been completed of all Public trees within the City and should be updated every

three to five years. The following levels of assessment should be used.

1. <u>Level 1</u> (Limited Visual) assessment shall be made by City personnel on a routine basis. This is a rapid assessment (drive-by) looking for trees with serious defects.

2. <u>Level 2</u> (Basic) Visual inspection (360 degree) of the crown, trunk, and exposed roots from all sides shall be made by City personnel if deemed necessary after performing a Level 1 assessment.

3. <u>Level 3</u> (Advanced) assessment should be made by the City Forester as deemed necessary. A close look for defect conditions (loads, root rot, trunk decay, problems in the crown or other factors that require specialized training or equipment). A level 3 assessment indicates that specialty tools such as a resistograph or an aerial inspection has been completed.

   The City Forester further needs to assess the likelihood of failure (Defects, loads, response growth etc.) by rating the likelihood of failure as
   1) Improbable; 2) Possible; 3) Probable; and Imminent. He shall also assess the likelihood of impacting a target (Occupancy rate, and target protection area) by rating the likelihood of impact as 1) Very low; 2) Low, 3) Medium; and 4) High.

   He then shall assess the overall risk level by rating the risk as 1) Extreme; 2) High Risk; 3) Moderate; or 4) Low Risk by using the matrix defined by The International Society of Arborist using likelihood of failure and likelihood of impacting a target.

Maintaining the Tree Inventory

The City's inventory should be updated on a regular basis to reflect new plantings, removals, and maintenance procedures performed. An accurate inventory is the best way for the City to monitor the progress and cost-efficiency of its tree care operations. The primary benefit of an accurate tree inventory is that the community can budget, plan, and anticipate tree-related problems and situation in the most cost-effective manner possible.

The best way to maintain the inventory is to commit to regular, routine data entry. The urban forestry staff has created a form for use in the field that contains similar data as the software program. This form is to be used to record new plantings, work histories, changes in tree conditions, and maintenance recommendations. On a daily, weekly, or monthly basis, the information collected should be entered into the inventory database.

It is further recommended that a thorough inventory be performed every five years or more frequently if rapid changes in the urban forest occur, such as severe storms, serious insect and disease problems, or a dramatic increase in new tree planting.

TREE RESOURCE ASSESSMENT

The urban forest can be evaluated using many factors, including extent of tree canopy, species diversity, age, and health of trees. University City's canopy cover is around nine (38.2%) percent. Shrinking canopy cover necessarily has the companion effect of reducing the value of environmental and ecological services of the urban forest. These facts underpin the importance of preserving University City's existing trees.

Urban trees are under pressures not present in native forests and require active management intervention to sustain them. Urban trees lack some of the natural buffers and protection found in wild lands. In native forest, the correct combination of soil micro-organisms, understory plants, and ample seed source, number of trees and variance in topography, and stable hydrology all contribute to impede or stop extensive destruction due to diseases, insects, and invasive plants.

Tree selection in the urban environment is usually driven by site conditions that have been shaped by previous development and current land use much more so than to the natural conditions that sustain native forests.

Sites within the City that are well suited to the protection, planting and long-term management of native species common to our native forests are important to identify and to preserve.

Sites that have been significantly altered and constrained by development provide uniquely challenging opportunities for protection, planting, and long-term management of species biologically adapted-either by nature or by the horticultural industry- to thrive under the conditions presented.

Forest are not static, native forests undergo change through succession, and urban forests undergo change in reaction to impacts by humans with species selection requiring ongoing adaptation to optimize the potential of the site. Factors to consider beyond the visually obvious (size, shape, and aesthetic appeal) include:

- Horticultural requirements for drainage, soil conditions and solar exposure.
- Community interests and priorities.
- Habitat value for urban wildlife.
- Size of available space and location of buildings, paved surfaces and utilities.

Other pressures on trees in the urban environment are form development. These threats include land clearing to accommodate growth and views and tree removal to reduce conflicts between trees, power lines, and street signs and to provide sight lines along roadways.

MEMORANDUM

DATE: May 18, 2015

TO: Michael Herring, City Administrator

FROM: Mike Geisel, Director of Public Services

RE: Urban Forestry update

As you are aware, at the last City Council meeting (Monday, May 4, 2015) Councilmember Flachsbart announced that a resident had contacted him with specific concerns relative to Sweet Gum trees. Councilmember Flachsbart then requested that the resident's questions/concerns be referred to the Planning/Public Works Committee, for review and discussion. The specific queries were:

1. That sweet gum trees (the kind that drop prickly balls all over) be declared to be "hazardous trees."

    Implication: I believe this would mean that, over a number of years, we would remove all those presently in place as street trees.

2. That residents who have a sweet gum tree in their yard must maintain a walkway free of gumballs in front of their home, either on a sidewalk or on a two-foot wide portion of the street.

    Implication: This would mean that pedestrians would be able to walk in front of the house without concerns about twisting an ankle from slipping on a gumball.

3. That it would be an offense to blow sweet gum balls into the street or to have them discharged from a mower into the street without cleaning them up within one hour of the time they are blown there. If a resident hires a lawn service to take care of their lawn, the resident would be responsible for ensuring that the lawn service follows this practice.

    Implication: This would suggest that persons purposefully responsible for "sweet gum fruit" within the street or onto a sidewalk would be ticketed under the municipal code.

As you are also aware, a similar discussion occurred with City Council in the spring of 2014, which resulted in an affirmation of current City practice, and said practice was further clarified by an amendment to City policy. I have attached hereto, the community forestry update packet (marked as exhibit III.D for the Planning and Public Works Committee) including the cover memo dated 2/18/2014. I have also included revised policy PW 51 reflecting the Street Tree Removal procedure, which was approved by City Council on 5/5/2014.

However, in reviewing the specific requests, it became clear that any discussion related to street tree removal, nuisance and\or hazardous trees, involved a broader discussion of the Department's urban forestry activities and budgetary implications. As reported in 2014, a significant effort had been made over the prior five years to reduce the population of Green Ash Trees in the City due to the probability of the Ash Borer and the liability associated therewith. As described in 2014, the Department has effectively and successfully reduced the proportion of Green Ash street trees within the City to a reasonable and manageable proportion. **The Green Ash population continues to be the largest street tree concern for the City of Chesterfield. While the City has been effective in reducing the Green Ash population substantially, Green Ash are still the dominant species comprising approximately 22% of the City's street tree population. As has previously been reported, the Emerald Ash Borer (EAB) represents a serious concern and infestations have been reported in nearby communities in virtually every direction. If the City of Chesterfield were to experience an EAB infestation, it could virtually decimate the Green Ash population and the City could face expenses up to $4.6 million over a short three to five year period.**

As affirmed by City Council in 2014 (Policy # PW51), with the exception of "nuisance trees" the City does not generally remove trees within the right of way, unless they are dead, dying, or diseased. Our current street tree inventory includes almost 23,000 trees (see table 1), and the City removes approximately 475 trees per year (see table 2) which roughly equates to a 2% annual mortality rate. By any estimate, that reflects a high degree of survivability in a very harsh environment, and reflects well on the City's urban forestry program. Of the total annual removals, almost 2/3rds are removed using in-house assets, while slightly more than 1/3rd are removed contractually (see table 3). In an effort to offset the loss of our street trees, the City Council authorized the Street Tree Replacement program, which affords a resident the ability to have a new, nursery quality tree placed in the right of way at their property, for a $100 application fee. The City bids and manages a tree planting contract twice per year, and subsidizes the actual cost for the trees. While certainly not as initially popular as we would have hoped, the word has spread and the total number of trees planted annually has grown considerably. Over the last four and one-half years, the City has funded 862 tree installations through this program, at a total cost of $183,070. Due to the overwhelming number of requests in 2014, City Council provided supplemental funding for the program.

Without regard to a current concern for disease or nuisance, there is an expected steady-state tree mortality expected annually. It is reasonable to expect to remove approximately 400 – 450 trees from within the City's rights of way each year, simply due to normally anticipated attrition. Of this amount, the proportions removed contractually, as compared to those removed by in-house staff will vary dependent on other infrastructure needs as well as the complexity of the individual removals. The Department of Public Services does not have a separate budget line item for

street trees. All contracted services related to street trees are typically funded through the miscellaneous contractual account as are a variety of other contractual services. **In a typical year, the City expends approximately $200,000 for contractual services related to street tree removal and stump grinding, simply due to normally anticipated tree mortality and incidents. This level of funding is not intended to address specific disease or systemic nuisance concerns.**

With regard to resident suggestion #1, designating Sweet Gum trees as "Hazardous"; it should be clear that the City is responsible for trees within the right-of-way. The City spends a considerable level of effort and significant levels of funds to minimize the associated liability. As previously described, our first priority is to remove dead, dying, or otherwise hazardous trees. By definition, these are City liabilities which pose a direct threat to residents, motorists, homes, and vehicles. In addition to full removals, Staff expends a great deal of effort in trimming for clearance purposes and removal of dangerous limbs. In the course of our daily operations, City Staff prioritizes the effort based on safety and severity. The purpose of describing this process and including it herein is related to the residents request to identify Sweet Gum Trees as "hazardous" trees. The terms "hazardous" and "nuisance" are not interchangeable and have significantly different actions associated with them. Trees and conditions within the right of way which are determined to be "Hazardous" are immediately prioritized over all other related discretionary activities. The City has a responsibility to ameliorate known hazardous conditions. Further, once a tree has been identified to be a hazard, there is no longer any discretion related to the impact on the adjacent properties or the desires of the abutting resident. The City would move to remove any identified hazards without respect to the desires of the resident, or the impact on the neighborhood. In short, it would dictate the forced removal of otherwise healthy Sweet Gum Trees, potentially in conflict with the adjacent property owner's expressed desires. Finally, based upon the known population of 1,817 existing Sweet Gum Trees within the right-of-way and the average cost of removal of $960, the estimated cost to remove these trees is $1,744,320. Assuming, that the City would continue to replace removed Sweet Gum trees through our Street Tree Replacement program, that would add an estimated additional $559,640, bringing **the total cost to eliminate the existing Sweet Gum street tree population, to an estimated $2,300,960.** Even without reference to the cost to do so, given the City's limited injury experience associated with Sweet Gum trees and the liability concerns associated with such a designation, **I do NOT recommend identifying Sweet Gums Trees to be designated as a "Hazardous" tree, but do recommend that they remain designated as a "Nuisance" tree, providing for discretion of their removal as conditions dictate**.

During my investigation of the City's financial exposure with Sweet Gum trees, I became aware of an emerging concern related to Pin Oak trees. While the Green Ash concern has been addressed in a reasonable way, the Sweet Gum concern has been addressed as a nuisance, the new burgeoning concern is Horned Oak Gall

which is affecting our Pin Oak population. In fact, the City has received more requests for removal of diseased Pin Oak trees than all other tree species combined, including the Sweet Gum population. As more fully described by Melinda Mohrman, City Arborist, Horned Oak Gall may affect up to 40% of our Pin Oak street tree population, or 1,200 trees. Pin Oaks, as a species, are typically larger and have been the most expensive to remove. On average, the City's cost to remove a Pin Oak is $1,145, and if you apply the same expectation for tree replacement, the average actual cost for removal and replacement of a diseased Pin Oak, would be $1,453 per tree. It should be noted that Horned Oak Gall is a progressive disease. While the Horned Oak Gall may infest and become evident, the Pin Oak trees typically experience several years declining. In 2014, City Staff received 83 requests to remove Pin Oak Trees diseased with Horned Oak Gall, but only approved and removed 37. The other 46 trees, while diseased, had not declined sufficiently to warrant a current hazard and dictate removal. They will continue to decline along with newly infected Pin Oak trees, resulting in additional requests for their removal in the coming years. **Accordingly, the potential financial costs associated with Pin Oak Trees, is roughly $1,743,600.** For reasons previously described, the Pin Oak, while their decline is more prevalent than that of the Sweet Gum, is currently being managed by City Council Policy. I do not recommend any administrative policy changes related to the Pin Oaks, as they are treated as a "diseased" tree. Professional, objective inspections, along with annual funding levels, dictate the appropriate City response.

As affirmed by City Council in 2014, unlike hazardous or nuisance trees identified by the City, the Department of Public Services removes nuisance trees within the right of way at a residents request, only as budgets permit, only after consultation with the residents, only after assessing the impacts to a neighborhood, and only if the resident agrees to participate in the street tree replacement program. A significant number of resident requests for nuisance tree removals are rejected by the Department of Public Services. Such requests are dependent on the time and proximate conditions. When a request for inspection and removal is rejected, such requests are documented and terminated. A request to remove a nuisance tree is either approved or rejected. They do not accumulate on a waiting list. What should be evident is that **the Department rejects almost a third of the tree removal requests based upon City Policy and funding**. It appears that the resident request, as described at the 5/4/2015 meeting of City Council is contrary to Policy PW 51 and that diseased Pin Oaks are at least as significant as our Sweet Gum population.

With regard to resident suggestion #2, requiring residents who have a sweet gum tree in their yard must maintain a walkway free of gumballs in front of their home, either on a sidewalk or on a two-foot wide portion of the street, appears to ignore the City's responsibility for the rights-of-way. Notwithstanding the form of the request, which appears to refer only to trees on private property, within "their" yard, I assume

that the intent was to include Sweet Gum Trees within and outside of the public rights-of-way. After all, it matters not to the pedestrian whether the fruit on the sidewalk was deposited by a private or public donor.

It should be noted, that suggestion #2 may conflict with suggestion #3 to some degree. If it is illegal to knowingly deposit gumballs within the right-of-ways, it seems contradictory to require that gumballs within the right-of-way have to be removed within one hour of their placement.

While there are municipalities that assign responsibility for sidewalks maintenance, clearing of sidewalks during snow events, and even replacement of sidewalks onto the adjacent resident; that has not been the City of Chesterfield's policy to date. While not offering a legal opinion, I believe it is difficult to hold a property owner responsible for the care and condition of public infrastructure assets, due to a single specific hazard. If the City were to decide that residents are to be responsible for the sidewalks and\or street in front of their homes, that responsibility would necessarily apply for all reasonably anticipated hazards. Such responsibility normally would apply to snow removal, sidewalk heaving, leaf accumulation, and weathering. I believe it is difficult to assign the responsibility and the associated risk of liability for a single defined hazard when there are multiple identifiable hazards. As such, **I do not recommend any policy or legislative changes that would result in assigning responsibilty for public infrastructure, to the adjacent resident, as suggested.**

With regard to resident suggestion #3, to make it a municipal offense to deposit Sweet Gum Balls in the street or on a sidewalk; it is my belief that it is already an offense to blow, or otherwise intentionally cause Sweet Gum fruit balls to be deposited in the right of way, or, for that matter in any public place. Please note that Chapter 26, section 15(c) of the Chesterfield City Code states:

> *It shall be unlawful for any person to litter, scatter, place or in any way deposit or cause to be scattered, placed or deposited any article or thing within the public right of way or upon public property.*

Clearly, this does not address a concern where Sweet Gum fruit drops from a tree, either on public right-of-way or private property, and ends up on a sidewalk or street through natural processes. *Accordingly, I believe that the residents suggestion is already provided for in the Chesterfield City Code and no further action is required.*

As you know, the Sweet Gum tree is not an approved street tree. The City does not permit or authorize the planting of any new Sweet Gum trees within the public right-of-way. While clearly there is a significant concern about existing Sweet Gum Trees within the right-of-way, Council has also expressed a desire to take a

cautious, measured, and consultive approach in removing those trees. There are a number of residents who have expressed concern as to the City's removal of otherwise healthy Sweet Gum Trees. And finally, none of the issues will be completely eliminated, even if all public Sweet Gum Trees are removed. The existence of such trees within private property will most certainly result in fruit deposited within the right of way through normal environmental processes.

The resident suggestions provided me an opportunity to review our progress and internal procedures. It afforded us an opportunity to update our urban forestry condition from what was reported in February of 2014. This review has enlightened me in the breadth and complexity of our urban street tree condition. While our actions have been effective and consistent with City policy, there are a number of emerging issues that have been identified and for which Council may provide additional direction.

- The Green Ash, and the potential for the predicted Emerald Ash Borer infestation remains the single largest concern for the City's urban street trees. In the event an infestation were to occur, the City could expect to expend $4.6 million in a three to five year period.

- The Department Annual contractual expenses related to "Steady State" street tree maintenance is roughly $200,000 annually. This amount has been included in the 2015 budget.

- Due to policy requirements and budgetary limitations, roughly, one third of voluntary resident requests to remove street trees are rejected due to policy or funding levels. In 2014, City Council provided supplemental funding for Urban Foresty expenses.

- Horned Oak Gall is an emergent and growing concern for the City's Pin Oak population. There are significantly more requests for voluntary Pin Oak removal due to Horned Oak Gall, as compared to Sweet Gum trees.

- Unlike the predicted Emerald Ash Borer infestation, Horned Oak Gall is present, prevalent and a growing concern within the City of Chesterfield. City staff estimates, at current inventory levels and at current costs; the potential expense to remove Pin Oak trees diseased with Horned Oak Gall, is roughly $1,743,600. Please note that is not an elimination of the Pin Oak population, but an estimate of the population which is susceptible to this disease.

- Program cost to eradicate Sweet Gum Trees within the right-of way is estimated to be $2,300,960.

- Roughly, one third of voluntary resident requests to remove street trees are rejected due to policy or funding levels.

While I have attempted to summarize the issues to the best of my ability, this has been an extensive investigation and explanation. While Sweet Gum trees are certainly a nuisance, they are not, in Staff's opinion, the most significant street tree concern. There are existing, growing, and predicted concerns for our street trees. I look forward to presenting this material to the Planning and Public Works Committee of Council at their 5/21/2015 meeting.

As always, if you have any questions or require additional information, please advise.

Attachments

Cc Jim Eckrich, Public Works Director – City Engineer
   Melinda Mohrman, City Arborist

Table 1. 2015 Street Tree Population- 22,933

Species	Number	Percentage of Population
Green Ash	5,045	22%
Pin Oak	2,957	13%
Red Maple	2,555	11%
Sweetgum	1,871	8%
Callery Pear	1,402	6%
White Ash	1,122	5%
Silver Maple	991	5%
Sugar Maple	813	4%
Honeylocust	670	3%
Flowering Crabapple	245	1%
Other	5,262	23%
	22,933	

Table 2. Removals by species

Year	Ash	Pear	Red Maple	Honeylocust	Silver Maple	Sweetgum	Pin Oak	Sugar Maple	Other	Total
2012	390	25	22	21	17	17	16	15	45	568
2013	151	44	29	25	11	27	15	19	53	374
2014	168	47	19	18	23	90	37	7	65	474
totals	709	116	70	64	51	134	68	41	163	1416
annual average	236	39	23	21	17	45	23	14	54	472

Table 3. Removals

Year	PW	Contractual	Totals
2012	471	97	568
2013	250	128	378
2014	123	351	474
totals	844	576	1420
annual avg.	281	192	473

Table 4. Average Removal Cost per Species (cost include stump Grinding)

Species	Average Size	Average Cost per tree	Removed in 2014	Total Cost in 2014
Sweetgum	23" dbh	$960	90	$86,400
Green Ash	17" dbh	$545	168	$91,560
Pin Oak	25" dbh	$1,145	37	$42,365
Other (pear, honeylocust, maple)	16" dbh	$553	157	$86,821
	Overall Average	$801	Total Cost	$307,146

Table 5. Sweetgum Removals

Year	Total Population	Requested Removals	Trees Removed	Cost
2012	1951	17	17	$16,320
2013	1934	27	27	$25,920
2014	1907	128	90	$86,400
2015	1817	18		
Total estimated cost to remove remaining population of Sweet Gum Trees ~$1,744,320				

Table 6. Street Tree Replacement, City Cost

Year/Season	Total Applications	Total Trees Planted	Average Cost/Tree	Total Project Cost
2010 Spring	40	63	$150	$9,470
2010 Fall	57	91	$155	$13,995
2011 Spring	15	20	$160	$3,180
2011 Fall	74	95	$160	$15,260
2012 Spring	31	50	$167	$8,355
2012 Fall	62	84	$248	$20,830
2013 Spring	25	37	$250	$9,250
2013 Fall	75	104	$267	$27,780
2014 Spring	50	66	$225	$14,840
2014 Fall	141	202	$230	$48,070
2015 Spring	37	50	$308	$12,040
Total Applications	607	862	$2,320	$183,070
3 yr avg.	64	90.5	$231	$21,521
5 yr avg	55.1818182	78.363636	$211	$16,643

MEMORANDUM

DATE: **May 12, 2015**

TO: **Mike Geisel, Director of Public Services**
              Jim Eckrich, Public Works Director/City Engineer

FROM: **Mindy Mohrman, City Arborist/Urban Forester**

RE: **Horned Oak Gall on Pin Oak**

The city performs approximately 350-400 priority (dead or hazardous) tree removals per year. The street tree inventory shows that the majority of our street tree population has reached maturity, and accordingly we have been experiencing an increase in health and disease issues that require removal. Pin Oak is the city's second most populated street tree at 13%, or approximately 3000 trees. Most of the trees are concentrated in the same areas, so they tend to have health issues related to overpopulation. Additionally, 80% of Pin Oaks are approximately the same age and are well past maturity. The main health issue affecting Pin Oaks is Horned Oak Gall, a very common condition that affects only this species and causes the tree to decline and drop a varying amount of debris, including whole branches, at certain times of the year. This condition is permanent, typically worsens over time, and affects approximately 50% of the mature Pin Oak population or about1200 trees. A tree can have Horned Oak Gall for many years before it begins to decline, but as the tree ages it is less tolerant of the stress that the condition causes. The city receives an increasing number of calls from residents requesting removal of pin oaks every year, and we should expect that the number of Pin Oaks that require removal each year will be increasing for the next several years. **Ultimately, the removal of all Pin Oaks affected with Horned Oak Gall will total $1.4 million.**

It is important to note that although Pin Oaks typically have this condition for many years before their health is affected, the condition can still cause a varying amount of debris to drop from the tree even while it is otherwise healthy. The galls themselves are hard, woody spheres that can be quite messy and can also damage mower blades and cause tripping hazards. The city gets many requests to remove trees that are otherwise healthy due to the dead branches and debris associated with the condition. In 2014, the city received 83 requests to inspect Pin Oak trees for removal, and determined that 37 of these trees required removal. Trees that are not approved for removal are typically pruned as needed.

Table 1 and Table 2 below show the current population of Street Trees and the average cost for removal by species, respectively. Following that, the attached photos are examples of Horned Oak Gall on Pin Oak and its progression. All of the trees pictured were requested for removal by the adjacent property owner.

Current Street Tree Population- 22,933

Species	Number	Percentage of Population
Green Ash	5045	22%
Pin Oak	2957	13%
Red Maple	2555	11%
Sweetgum	1871	8%
Callery Pear	1402	6%
White Ash	1122	5%
Silver Maple	991	5%
Sugar Maple	813	4%
Honeylocust	670	3%
Flowering Crabapple	245	1%
Other	5262	23%

Average Removal Costs Per Species (including stump grinding)

Please note that a certain proportion of these trees are removed by PW staff each year, so the average cost of contracted removal was used to figure approximate costs.

Species	Average Size	Average Cost	Trees Removed in 2014	Total Costs in 2014
Green Ash	17" dbh	$545	168	$91,560
Sweetgum	23" dbh	$960	90	$86,400
Pin Oak	25" dbh	$1145	37	$42,365
Other (pear, honeylocust, maple)	16" dbh	$553	157	$86,821

Candidates for removal- canopy has become generally thin (50% or less have leafed out) and the tree has a large amount of dead branches throughout
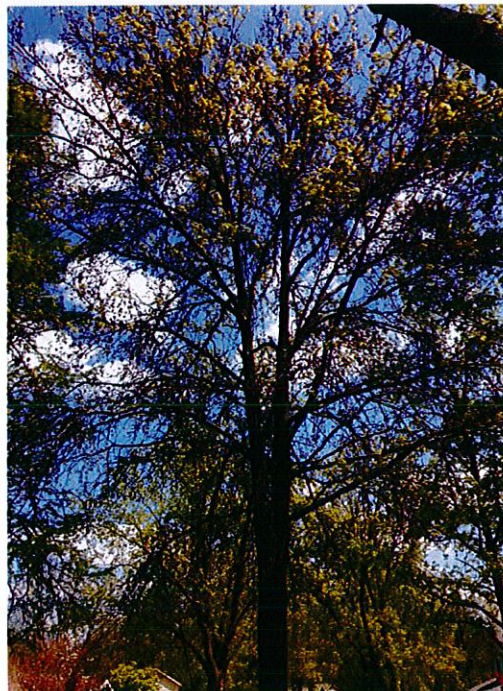
Borderline- canopy is around 60-70% full, dead branches are located mostly in the lower canopy.

Shows dead branches in lower canopies
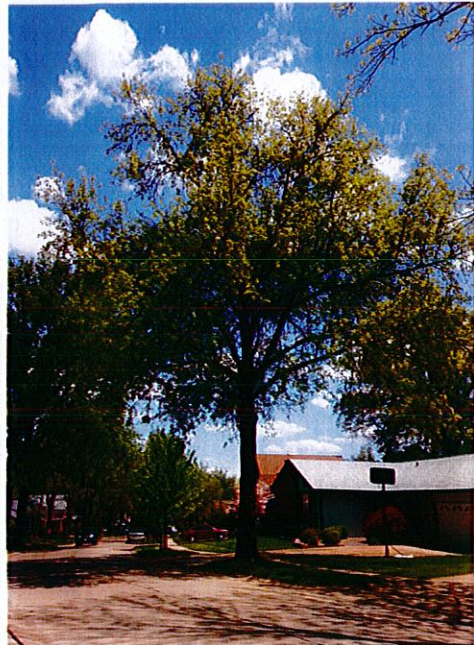
Dead branches were recently pruned

Requested for removal, not approved- canopy is 70% full or more, no large dead branches present. Residents request the removal of trees like this due to smaller dead twigs and gall material falling. Galls can be messy and cause damage to mower blades.

MEMORANDUM

DATE: **April 7, 2015**

TO: **Mike Geisel, Director of Public Services**

FROM: **Mindy Mohrman, City Arborist/Urban Forester**

RE: **Nuisance Tree Removal Update**

Requests continue to increase for the removal of Sweetgum trees. In 2010 the street tree inventory showed that the population of Sweetgum trees totaled 1991 trees or about 9% of the total population of street trees. Currently, the population of Sweetgum trees totals 1817 trees, or 8% of the total population.

Starting in 2012, the city began removing sweetgum trees by request. In 2012 and 2013, 17 and 27 trees were requested for removal and subsequently removed. In 2014 an official policy was adopted that would limit the number of sweetgum trees removed in one area at one time, and would require the replacement of the sweetgum tree with an approved species. Please note that a certain proportion of these trees were removed by PW staff each year, so I used the average cost of contracted removal (Shown in Table 2) to figure approximate costs.

Table 1. Sweetgum Removal

Year	Total Population	Number Requested	Number Removed	Cost
2012	1951	17	17	$16,320
2013	1934	27	27	$25,920
2014	1907	128	90	$76,800
2015 (pending)	1817	18		
Total Cost to Remove Remaining Population..$1,744,320.00				

Table 2. Average Removal Costs per Species (costs include stump Grinding)

Species	Average Size	Average Cost per tree	# removed in 2014
Sweetgum	23	$960	90
Green Ash	17	$545	168
Pin Oak	25	$1145	37
Other (pear, honeylocust, maple)	16	$553	157

If you need additional information or have any questions please advise.

cc: Jim Eckrich, Director of Public Works/City Engineer

MEMORANDUM

DATE: March 31, 2014

TO: Michael Herring, City Administrator

FROM: Mike Geisel, Director of Public Services

RE: Street Tree Policy

As you know, at the last Planning and Public Works Committee, we discussed the current Council policy related to tree removals within the City right of way. The Committee confirmed staff's interim process and directed us to revise the policy accordingly. Once revised, the policy was to be returned for review by the committee.

Accordingly, attached is the revised policy, reflecting the direction provided by the Planning and Public Works Committee. I request that this revised policy be placed on the next committee agenda for review, approval, and subsequently to be forwarded to the City Council for adoption.

If you have any questions or require additional information, please advise.

Attachments

Cc Jim Eckrich, Public Works Director\City Engineer

CITY OF CHESTERFIELD
POLICY STATEMENT

PUBLIC WORKS		**NO.**	**51**
SUBJECT Street Tree Removals		**INDEX**	**PW**
DATE ISSUED	6/1/2009	**DATE REVISED**	5/5/2014

POLICY

The Department of Public Services is responsible for identifying trees within the right of way which are to be removed. Department personnel shall determine the condition of a street tree by visual inspection. If Department Staff determines that a street tree is hazardous, dead, dying or diseased, Staff shall prioritize and schedule the removal of the street trees to the extent that funding permits.

Priority for removal shall be given to those street trees that pose an immediate, imminent or potential danger to the safety and welfare of the general public.

In general, the City does not permit the removal of an otherwise healthy tree within the right of way. If a property owner desires to remove a healthy tree within the right of way, adjacent to his\her property, the Public Works Director MAY authorize a no cost special use permit for the property owner to remove the tree at no cost to the City. All other permit conditions and insurance requirements will be as required by the Public Works Director.
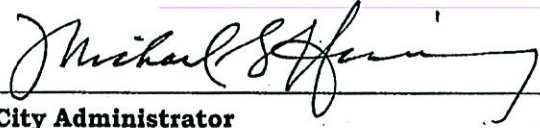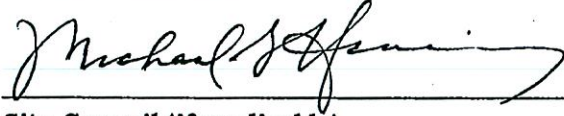
In some instances, otherwise healthy trees may become a nuisance. The Public Works Director may remove trees which, in his opinion, are detrimental to the public interests. Examples of such potential nuisances include but are not limited to: obstructing sight distance, shielding street lights, damaging sidewalks or sewers, low hanging branches which provide inadequate sidewalk or street clearance, deposition of pods, fruit or seeds, and trees with thorns.

Although not an approved species for new street trees within the City of Chesterfield, there exist a substantial number of Sweetgum trees throughout the City. Due to problems related to the prickly fruit which are unique to this tree species, some residents desire their removal. When a resident requests

removal of an otherwise healthy Sweetgum tree located within the City's public right of way, The Public Works Director may consider its removal under the following conditions:

1) The resident participates in the street tree replacement program. A replacement tree must be selected and the appropriate fee paid for each tree requested to be removed.

2) The Public Works Director, or his designee shall attempt to communicate with the Subdivision trustees and advise them of the requested removal. While the ultimate authority and decision to remove the tree rests with the Public Works Director, the trustees may provide additional information, awareness and assistance for the Director to make an appropriate decision.

3) The City of Chesterfield takes pride in its tree lined streets and is desirous of maintaining the character of neighborhoods. Whenever possible, the Public Works Director should consider recent removals of street trees in the immediate vicinity and attempt to minimize the impact of the tree(s) removal on the overall character of the community.

RECOMMENDED BY:

MOTews PPW Committee   __5/5/2014__
Department Head/Council Committee (if applicable)   Date

Michael Geffner   __5/5/2014__
City Administrator   Date

Michael Geffner   __5/5/2014__
City Council (if applicable)   Date

Memorandum
Department of Public Services

To: Mike Herring, CA

From: Mike Geisel, DPS

Date: 2/18/2014

Re: Community Forest Update

Chesterfield
Parks & Recreation

The City's Public Works crews have been trimming street trees for clearance and dead limbs since the early 1990's. While the program began out of necessity to provide clearance over the City streets and sidewalks, it has grown into a popular and active urban forestry program. Currently, the City maintains more than 22,000 trees within our rights-of-ways. As you are aware, the region experienced a major ice storm in 2007 that resulted in significant damage to the trees in the City. This ice storm resulted in a FEMA disaster declaration, required weeks of cleanup and debris removal by the City's maintenance crews. Chesterfield Public Works crews disposed of more than 800 dump truck loads of tree and limb chippings that were collected and run through our shredders. Equally as important to the trees and limbs that fell and were disposed of directly after the storm, was the realization that there remained a large population of damaged, dying, and diseased street trees. As a result of the City's ongoing attention, the City managed tree population is thriving and the City's liabilities are being actively addressed.

Street Tree Population Update

After the ice storm, it became readily apparent that the City required a comprehensive inventory of the City's street trees in order to appropriately address liabilities and to develop an overall maintenance strategy. The extent of the problem had yet to be fully identified. With the assistance of State grant funding, the City initiated a contract for a Street Tree Inventory to identify the location, type, size, health, and maintenance needs of our public street trees. By the end of 2012, the City had implemented all of the maintenance recommendations and had completed removal of all "priority one hazardous" trees. Due to this work, subsequent storm events resulted in less tree damage and fewer losses. We have also decreased our response times to citizen complaints and improved our reporting and record keeping. All along the way, we have updated the inventory to ensure its accuracy as trees were removed and\or added. At some juncture in the future, the inventory will have to be updated to reflect current condition assessments of all street trees.

The main benefit of having the inventory was the ability to use the information to develop a "big picture" of our total population, and use that to more effectively create a maintenance management strategy. We know that our street

tree population mainly consists of only five different species, with Ash species making up the majority at 36% in 2010. In addition, many of these Ash trees are of the same age, and are in a state of decline due to a combination of factors brought on by overpopulation. A healthy, sustainable urban forest should consist of a diverse stand of mixed age and mixed species trees, ideally with no one group making up more than 10% of the total population. In order to address this issue, the City has been identifying and removing declining ash trees and has reduced our ash population to 24%. We should expect to remove a similar quantity of ash trees for the next several years as this aging population continues to decline. Other overpopulated species include Pin Oak, Callery Pear, Red Maple, and American Sweetgum.

Our tree removals were down more than 40% in 2013. This is due to the fact that we have, "caught up" with the damage from the 2007 ice storm, and all of the "priority one" hazard trees that were identified in the Street Tree Inventory. We have also "caught up" in removing the overwhelming dominance of Green Ash trees that made us susceptible to the Ash Borer and serious disease issues. So, the take away here is, we have caught up and are maintaining the status quo with removals. We've reduced our removals by more than 40% over the prior four years.

Major Threat: Emerald Ash Borer

The Emerald Ash Borer is an invasive insect that has been devastating Ash populations throughout the Midwest and has now established populations in areas of Missouri. Although it has not been confirmed in the St. Louis region, we should be prepared for the probability of an infestation. Data from infested communities shows that individual Ash trees can be killed within less than a year of infestation. Entire Ash tree populations within a region can be completely decimated within five years of an infestation. Due to the fact that we have a large population of Ash that is in decline, the threat of an EAB infestation is very real. Currently, there are approximately 7,000 Ash trees on City streets. If an infestation were to occur, we should expect the remainder of our ash trees to require removal within five years at a projected cost of more than three million dollars. Obviously, it is in our best interest to continue to prioritize the removal of declining ash trees to reduce the population should an infestation occur.

Residential Street Tree Planting Program

Since creating the planting program, the City has received very favorable

feedback from participating residents. The purpose of the street tree replacement program is not only to add to the diminishing tree population, it also encourages increased age and species diversity, thus improving the health and reducing the maintenance needs of our community tree population overall. Unfortunately, participation rates remain low. In a typical year, the City plants approximately 200 new street trees. Realizing that we have removed as many as 600 trees in a single year, it is evident that our street tree population is diminishing. Trees provide significant economic and functional benefits to the community by increasing real estate value, reducing storm water runoff, and reducing energy expenses. When properly maintained, trees return overall benefits and value to the community far in excess of the time and money invested in them for planting, pruning, protection, and removal. Using data from the street tree inventory, we can estimate that the combined value of our community trees totals over 31 million dollars.

Nuisance Trees
In accordance with City policies, ***the Department of Public Services removes street trees that are dead, dying, diseased or otherwise hazardous.*** *Under normal circumstances, the Department will not remove a healthy tree.* However, the Department routinely receives complaints about Sweetgum trees due to the nuisance that the seeds create. We are also aware of insurance claims that have originated due to pedestrians slipping, falling, or tripping over the Sweetgum balls. Residents frequently request that the Sweetgum trees in front of their residence be removed.

The City Council has previously encouraged the Department to remove the Sweetgum trees when requested by the adjacent resident. ***In 2013, the Department of Public Works implemented an internal policy that Sweetgum trees would only be removed if the resident agreed to participate in the street tree replacement program, effectively replacing the removed tree with a new tree of an acceptable species.*** In general, that policy has been effective. However, there are individual, concentrated populations of Sweetgum trees where their removal has caused some degree of concern by neighborhood residents. Let me emphasize, no healthy Sweetgum tree has been removed except at the request of the abutting property owner. Complaints have been received by other neighbors in the subdivision that the removal of healthy, mature Sweetgum trees are impacting the overall character of the neighborhood. While this issue is

generic, the concentration of Sweetgum trees is most dramatic in the Greenfield Village subdivision. *We have not removed a large number of Sweetgum trees overall. Although we have more than 2,000 Sweetgums along City streets throughout the City. We have removed a total of 50 of the Sweet Gums overall, of which, only 14 were in Greenfield Village. We have current requests for eight additional Sweetgum tree removals in the Greenfield Village subdivision.* What has generated the current concern and need for direction is a single corner lot, where four of a total of five Sweetgum trees were removed at the owner's request. Two of these trees were generally problematic for the owner, and the other two were problematic to the City due to their proximity to the intersection. The owner had specific problems with two trees, one on each side of his driveway. The next two, were right at the intersection, blocked both visibility and were right next to a street light.

While it is clear that our overall street tree maintenance strategy is well received and effective, we seek clarity as to Council's directive relative to the removal of Sweetgum trees as a nuisance. Accordingly, **I request that this update be provided to the Planning and Public Works Committee for review and consideration. At which time we can discuss the overall program and receive direction from the Committee relative to the removal of Sweetgum trees.**

If you need additional information or have any questions please advise

Attachments

cc: Jim Eckrich, Director of Public Works/City Engineer
       Mike O'Connor, Superintendent of Maintenance Operations
       Melinda Mohrmann, City Arborist

MEMORANDUM

DATE: February 4, 2014

TO: Mike Geisel, Director of Public Services

FROM: Mindy Mohrman, City Arborist/Urban Forester

RE: Street Tree Management Plan

This memo will serve as a review and update of the recommendations in the Street Tree Management Plan that was based on the information obtained in the 2010 Street Tree Inventory.

After the major ice storm in early winter of 2007, City maintenance crews worked 11,370 man-hours cleaning up fallen trees and debris. More than 800 truck loads of chipped tree debris were collected and disposed of by City crews. In the months that followed, trees continued to fail due to damage sustained during the storm. It was impossible to account for the amount of loss, and how these losses affected the street tree population city wide. At the time, the City had no inventory or accounting of the street trees on our public streets, or the condition that these trees were in. Additionally, it was important to have an accurate assessment of how many more trees had sustained damage that might require action.

In 2009, the City sought grant funding to initiate a comprehensive inventory and assessment of the City's street trees. The inventory, which also created a GIS database, provides the City with an accurate account of the current street tree population, and information about each tree including species, size, and condition. With this information, we make better budgeting decisions for maintenance and we are able to schedule pro-active maintenance actions that reduce tree failure. The inventory enables us to see where aging populations of street trees are located so that we can focus tree planting efforts where they are most needed and areas where overpopulation of one species requires extra effort to increase diversity with newly planted trees.

Street Tree Population Update

The Street Tree Inventory completed in 2010 revealed a population of 22,523 street trees. Currently, including all removals and planting done in the past three years, the city's street tree population is estimated at 21,114. After completion of the inventory, removal numbers went up for the next two years as city staff worked to remove a large number of dead and declining trees that were identified as hazards. On average, removals totaled approximately 600 trees in 2010, 2011, and 2012. In 2013, removals were drastically reduced to 374 trees, which reflects a mortality rate of less than 2%. This tells us that street tree management efforts have been effective and we are now working with a healthier overall population. With ongoing efforts to remove declining and overpopulated trees and plant a diverse species mix, this trend should continue.

Status of Management Recommendations

- **Perform identified tree removals and high risk pruning:** Immediate maintenance recommendations provided by the consultant included removal of 1,344 dead, declining, or hazardous trees which were prioritized into three categories: Priority 1, or immediate hazards, Priority 2, trees which are in declining condition or have defects which indicate structural problems, or Priority 3, trees which are dead or declining but pose very little risk to the public. Additional recommendations included clearance pruning and large tree pruning to remove dead or hanging branches. By the end of 2012, the city had completed performing all relevant maintenance recommendations. Removals are now scheduled on an as-needed and ongoing basis, and pruning is performed during regular scheduled pruning cycles, or as needed in the case of hazardous limbs.

- **Reduce populations of overplanted species:** Ash species in particular had the highest population of trees overall, as well as the highest population of declining trees. At the completion of the inventory, Ash species totaled 36% of the total population. After performing the removals recommended by our consultant, the city began an "Ash Management Program" to reduce ash species in subdivisions where populations were highest and health was poor and declining. These efforts resulted in an additional 756 removals of declining ash trees, and have reduced this population to 22%. Ideally, the population should be under 10%, and staff is removing Ash trees on an ongoing basis as they continue to decline.

- **Increase diversity by planting a greater selection of species:** Steps were taken to begin improving diversity by eliminating species that were known to be overplanted from the list of acceptable street trees, and creating the Residential Street Tree Planting Program. A major component of the program includes reviewing each planting location to avoid over-planting one species of tree in one area. However, it is a disturbing trend that even with a healthier population of trees, we are still removing more trees than are being replaced or planted. In 2013, 374 trees were removed, and 139 trees were planted on city streets. Chesterfield has many neighborhoods where older populations of trees are naturally declining. The planting program is optional, and many residents are opting not to replace trees as they are removed.

- **Develop a young tree "training" pruning program:** Training is a type of pruning that is performed on young trees as they develop, in order to encourage strong structural habits that will reduce tree maintenance issues or hazards in the future. The Street Tree Management Plan recommended that the city develop on ongoing, cyclical program to perform this pruning in a portion of the city each year. While this would be a benefit to overall urban forest health, this requires a large amount of additional staff time and specialized training, and is not part of the city's maintenance activities. Currently, participation in the Residential Street Tree Planting Program requires an agreement that basic tree care, including early pruning (outside of clearance or hazard pruning) will be performed by the homeowner.

- **Prepare for exotic invasive pests such as Emerald Ash Borer:** As you are aware, we have had several conversations about EAB and what the city is doing to prepare for a possible infestation. Through the Ash Management Program, we continue to prioritize the removal of declining Ash trees, and are making positive steps in this process. Currently, there are approximately 7000 Ash trees on city streets. If an infestation were to occur, we should

expect the remainder of our ash trees to require removal within five years at a projected cost of 3 million dollars. We should continue to reduce the population, and expect to have budget reserves to cover this cost should an infestation occur.

If you need additional information or have any questions please advise.

cc: Jim Eckrich, Director of Public Works/City Engineer
        Mike O'Connor, Superintendent of Maintenance Operations, Public Works

PUBLIC WORKS		NO.	51
SUBJECT Street Tree Removal		INDEX	PW
DATE		DATE	
ISSUED 6/1/2009		REVISED	

POLICY

The Department of Planning and Public Works is responsible for identifying trees within the right of way which are to be removed. Department personnel shall determine the condition of a street tree by visual inspection. If it is determined that the street tree is dead, diseased, dying, or creates a potential hazard, Staff shall prioritize and schedule the removal of the street trees to the extent that funding permits. Priority for removal shall be given to those street trees that pose an immediate, imminent or potential danger to the safety and welfare of the general public.

RECOMMENDED BY:

_____   6/1/09
Department Head/Council Committee (if applicable)   Date

APPROVED BY:

City Administrator   Date

_____   6/1/09
City Council (if applicable)   Date

City of Chesterfield

City of Chesterfield Residential Street Tree Program
Tree Guide
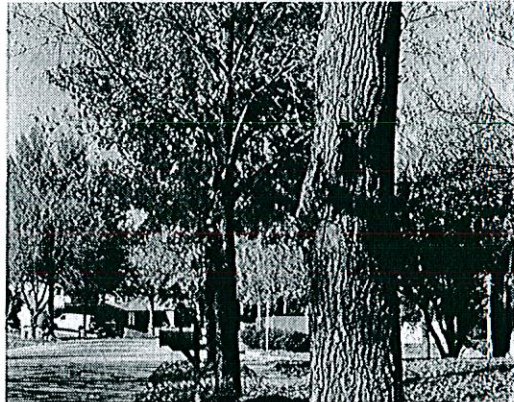
- The purpose of this guide is to assist the homeowner in finding the right tree for their right of way space—the space between the sidewalk and the street.

- An acceptable space must meet the following requirements:
    1. The planting area, typically the grass area between the street and the sidewalk, must be a minimum of five (5) feet wide.
    2. Trees shall not be planted closer than three (3) feet to any curb.
    3. Trees shall not be planted within twenty-five (25) feet of street lights.
    4. Trees shall not be planted within ten (10) feet of street inlets or manholes.
    5. Trees shall not be planted within thirty (30) feet of an existing tree.
    6. No trees shall be planted directly underneath overhead utility lines.
    7. No trees shall be planted within the sight triangle at an intersection that at maturity, have bottom branches lower than seven (7) feet above the elevation of the adjacent pavement.

- If the homeowner has a lawn sprinkler system, an underground electronic dog fence, or any other system located within the area where a tree is to be planted, the homeowner is responsible for marking these systems, and relocating the systems at their sole expense, as necessary.

- When choosing a tree, make note of the tree species growing in your area. Many plant problems are a result of overpopulation of one species. Try to choose a tree that has not been overplanted in your area. The city will review species choices to determine that they are not overplanted in that particular area, and may ask the homeowner to change their choices if necessary.

- The city's contractor will install all trees. When installing the tree, the contractor will stake the tree, water it, and put down a layer of mulch. The tree will have a one-year warranty starting the month it was planted.

- Think in terms of prevention when caring for your tree. A healthy tree has everything it needs to defend itself from natural predators and urban stressors. Watering the tree weekly is the single most important task.

- In order to participate in the City of Chesterfield Street Tree Planting Program, a homeowner must agree to properly care for their tree as outlined in the following section. Please read the following "Caring For Your Tree" section thoroughly before you sign the tree care agreement on the Street Tree Program Application. Any trees that die due to lack of care or improper care will not be replaced under the one year warranty.

Caring For Your Tree

Please read this section in its entirety before signing the Street Tree Application. Homeowners must provide proper care for their street trees in order to qualify for the program.

Watering: The single most important thing a newly transplanted tree needs is water. Generally, new trees should get at least four inches of water per week. Water should be administered slowly in order to allow it to penetrate the soil deeply. Afterwards, the soil should be allowed to dry somewhat before the next watering. This encourages a deep root system.

Mulching: The tree will be mulched by the city's contractor when it is installed. If you choose to re-mulch later, spread an even layer of mulch underneath the tree's canopy. This layer should be no deeper than 4 inches, and if you like to add fresh mulch every year try not to exceed a 2" layer each year. Piling mulch up against the trunk of the tree, creating a "volcano" effect, is a very common mistake and is actually detrimental to tree health. Mulch should never touch the trunk of the tree because it can hold moisture against the trunk and cause decay and rot.

Staking: The tree will be staked by the city's contractor when it is installed. Be sure that the staking materials do not cut into the wood of the tree, and that they stay lose enough to allow the tree some movement. Stakes that are too tight hold the tree in a rigid position and prevent it from developing adequate trunk strength. The stakes should be taken off after one year, or sooner if possible.

Pruning: City crews are trained in proper pruning methods, however they prune trees for clearance only. This means they will trim branches that are hanging into the road or over a sidewalk.
Pruning a tree when it is young is called "structural pruning," and homeowners should feel free to do whatever extra trimming they feel is appropriate on their right of way trees. The goal of structural pruning is to establish a strong trunk that has evenly spaced branches. This ensures that your tree will be stronger in future years, and less susceptible to damage during storms. See the "resources" section below for a great document about structural pruning.
Avoid pruning in the first year that the tree has been planted unless you see broken or diseased branches. These should always be removed right away.

Fertilizing: For the most part, fertilizer is not necessary. If you choose to use it there are many types available at your local garden center. Tree fertilizer spikes work great and are easy to use. When using fertilizer, always follow the directions on the package. Too much fertilizer can cause much more damage than not using any at all.

Resources For More Information

The information in this booklet was obtained from the Missouri Department of Conservation Urban Trees booklet, which is available on the website at mdc.mo.gov

Other Useful Sites:

Missouri Department of Conservation-urban forestry site
www.mdc.mo.gov/landwater-care/homeowners/backyard-tree-care

National Arbor Day Foundation   www.arborday.org

Heartland Tree Alliance   www.righttreerightplace.com
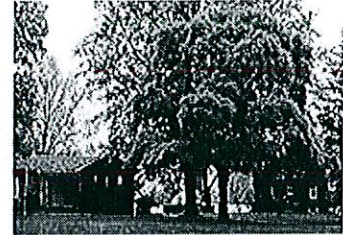
Missouri Botanic Garden   www.missouribotanicalgarden.org

Sugar Maple *Acer saccharum*

Sugar maple becomes a very large shade tree that is well-known for fall colors ranging from yellow to orange to shades of red. It is less pollution tolerant than red maple, especially to de-icing salts along roadways. Sugar maple thrives in deep, rich soils. It tolerates poor sites with good drainage, but grows slowly. In shallow soils and other poor sites, leaf scorch may develop during dry periods. Its dense shade and shallow roots prevent a good lawn from growing beneath it. Sugar maple is tolerant of shade and can be used near taller trees or buildings. Many cultivars exist to provide a variety of shapes, fall color and drought tolerance. These should be selected when available. Some are 'Green Mountain,' 'Legacy,' 'Bonfire,' and 'Caddo.'

Columnar European Hornbeam *Carpinus betulus 'fastigiata'*
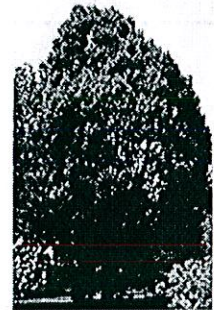
Columnar European hornbeam is a medium-sized, narrow growing tree that often is overlooked for use in stressful climates and urban sites. Besides being very adaptable to different soils and environmental conditions, it is essentially pest free. Leaves are dark green and develop a good yellow fall color. Single trees make excellent specimens with low maintenance. It has attractive smooth gray bark and leaves that turn yellow or orange in fall.

American Hornbeam *Carpinus caroliniana*
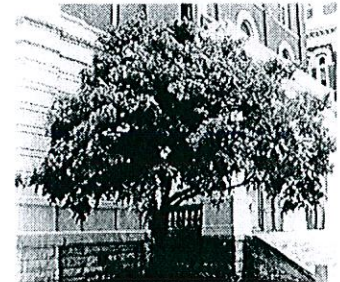
American hornbeam is a slow-growing, deciduous, small to medium-sized understory tree with an attractive globular form. It is native to Missouri where it is typically found in rich moist woods, valleys, ravine bottoms and rocky slopes along streams throughout the eastern and Ozark regions of the State (Steyermark). Typically grows 20-35' tall. The smooth, gray trunk and larger branches of a mature tree exhibit a distinctive muscle-like fluting that has given rise to another common name of musclewood for this tree. Flowers appear in spring in separate male and female catkins, with the female catkins giving way to distinctive clusters of winged nutlets. Serrated, elliptic-oval, dark green leaves often produce respectable shades of yellow, orange and red in fall.

Sugarberry, Sugar Hackberry *Celtis laevigata*
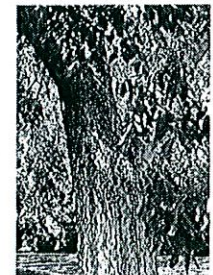
Sugarberry is basically a southern version of common or northern hackberry (see C. occidentalis). Sugarberry differs from common hackberry by (1) fruits are juicier and sweeter, (2) bark is less corky, (3) leaves are narrower with mostly smooth margins, (4) better resistance to witches' broom and (5) less winter hardiness. Sugarberry is a medium to large sized deciduous tree that typically grows 60-80' tall with upright-arching branching and a rounded spreading crown. Mature gray bark develops a warty texture. Insignificant greenish flowers appear in spring (April –May), with male flowers in clusters and female flowers solitary. Female flowers give way to an often abundant fruit crop of round fleshy berries maturing to deep purple. Fruits are attractive to a variety of wildlife. Birds consume the fruits and disperse the seeds.

Hackberry — *Celtis occidentalis*

Common hackberry is extremely tolerant of adverse conditions. The bark is grayish and corky. Red-orange fruits are produced in fall, but are not long-lasting since birds eat them quickly. Its durability makes it a worthy selection for difficult sites. It is easily transplanted and tolerates clay, rocky or sandy soils. Unlike many trees, it also tolerates persistent winds. A cultivar with more compact growth and glossy green foliage is called ` Prairie Pride.'

Yellowwood — *Cladrastis kentuckea*

Yellowwood is a medium-sized shade tree native to southwest Missouri. The white, pealike flowers hang in long panicles similar to a wisteria bloom. It does not have serious pest or disease problems. It should be planted in full sun where there is adequate moisture. Leaves will scorch or drop under drought conditions. Yellowwood grows well in many soil types and appears able to tolerate low fertility soils. The bark is an unusual, smooth light gray that is distinctive in all seasons.
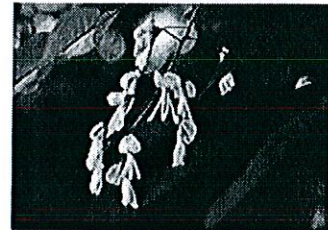
Gingko — *Gingko biloba*

Ginkgo is an outstanding city tree because of its pollution and salt tolerance. It has open branching which allows enough sunlight to penetrate to maintain a lawn. Young trees usually have a pyramidal shape, but old trees can be very wide-spreading. It is tolerant of many soil conditions, although best growth occurs in well-drained soils with adequate moisture. Only Male Cultivars are acceptable in the Right of Way.

Honeylocust seedless varieties — *Gleditsia triacanthos var. inermis*

Honeylocust has long been a commonly used tree for urban planting. The open, spreading crown with very small leaflets creates filtered sunlight. The light shade it produces allows a lawn to be grown beneath it. It is very tolerant of many soil conditions, and has salt tolerance for use near highways. Only cultivars that are thornless are commercially available and acceptable in the right of way. 'Moraine' has been one of the most popular cultivars, and has no thorns or seed pods. Other cultivars include 'Imperial,' 'Shademaster' and 'Skyline'.

Goldenraintree — *Koelreuteria paniculata*

Goldenrain tree is an excellent choice for summer flowers. It grows fast to form a round-headed, wide-spreading medium sized tree. The showy large clusters of small yellow flowers are produced when few other landscape trees or shrubs are flowering. Falling flowers inspired its common name. This tree adapts to many climatic conditions, is tolerant of many soil types and endures air pollutants in urban sites. For fall and winter interest, the seed structures are large and showy. These are inflated capsules that turn from green to chartreuse, and finally to brown. Goldenrain tree is pest free and requires little care. This tree develops best in a sunny location although it tolerates light shade. Fall leaf color is not outstanding; usually it's dull yellow. Seeds of goldenrain tree germinate readily. It can invade surrounding areas and has the potential to become a pest.
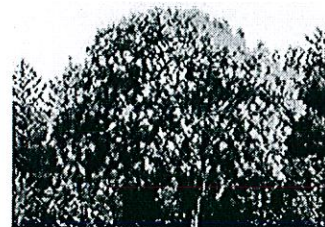
Hophornbeam *Ostrya virginiana*

The hophornbeam, also known as ironwood, is well-suited to urban conditions. It grows as a medium-sized tree tolerant of dry, rocky soils. The fruit is papery, white and resembles hops, which is the reason for its name. These are showy against the dark green leaves in summer. It is free of any major pests and tolerates some shade. Hophornbeam is a slow growing tree, suited to almost any area.


London Planetree *Platunus x. acerifolia*

London planetree is a hybrid cross between American sycamore (P. occidentalis) and Oriental planetree (P. orientalis). Like its American parent, it typically grows as a single-trunk tree to 75-100' tall with horizontal branching and a rounded habit. The signature ornamental feature of this tree is its brown bark which exfoliates in irregular pieces to reveal creamy white inner bark. The large 3-5 lobed medium to dark green leaves (4-9" wide) have coarse marginal teeth. In fall, foliage typically turns an undistinguished yellow-brown. Small, non-showy flowers appear in small rounded clusters in April. Male flowers are yellowish and female flowers are reddish. Female flowers give way to fuzzy, long-stalked, spherical fruiting balls (to 1 3/8" diameter) that ripen to brown in October and persist into early winter. Fruiting balls appear in pairs.
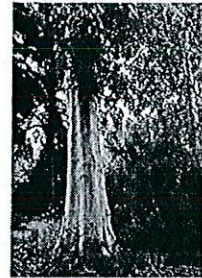

Sawtooth Oak *Quercus accutissima*

Sawtooth Oak is a medium sized oak that typically grows between 40-60' tall. Bark develops corky ridging with age and the leaves are glossy and dark green. This tree is tolerant of heat and humidity, but young trees might need extra care during especially cold winters. Fall color is variable, and can be a very attractive golden brown. Acorn production can be abundant, making this a good tree for attracting wildlife.
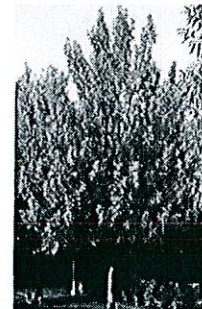
Swamp White Oak *Quercus bicolor*

The swamp white oak is a native tree that becomes quite large and spreading. Most oaks within the white oak group are difficult to transplant, but swamp white oak is one of the least difficult. As the name implies, it is well adapted to low, moist conditions and bottomlands. In spite of this quality, this tree is able to endure drought conditions once it's well established. Leaves are dark green above and soft gray on the underside. It grows best in deep soils, but is adapted to many soil types and conditions including dense urban clay soils. Fall color is a weak yellow and not outstanding.

Shingle Oak *Quercus imbricaria*

Shingle oak is a native tree once used to make shingles, and is common in many parts of Missouri. It is less used in home landscapes and, like pin oak, it has a tendency to droop its lower branches. Foliage is dark, glossy green, but without dramatic fall color. Leaves usually turn brown late in fall and many hang on the tree through the winter. With this quality, it is a tree that can provide winter screening and windbreak. Many people object to the brown winter look for a shade tree. Winter leaf retention requires leaf clean up in spring as new growth is about to start. Shingle oak is a durable and adaptable tree that could be used more frequently for large landscapes.

Chestnut Oak and   *Quercus prinus*
Swamp Chestnut Oak   *Quercus michauxii*

These two oaks are very similar, but chestnut oak does better as an ornamental tree because it adapts well to many soil types and upland conditions. Swamp chestnut oak grows larger and should be selected for landscapes in low, wet areas. Leaf color is light green. Trees develop oval to rounded canopies. Fall color is usually yellow to yellow-brown. These oaks are very useful for attracting wildlife that are fond of acorns.

Chinkapin Oak   *Quercus muelenbergii*

Chinkapin oak is most suitable for planting in central and southern Missouri. Like many oaks in the white oak group, transplanting it is difficult. It is more tolerant of alkaline soil conditions than most oaks, but also grows well in acid soils. It is seldom available for sale, but should be preserved on developed sites. Fall color is generally yellow.

English Oak   *Quercus robur*

English oak has gained popularity primarily because of the more upright and columnar cultivars that are available. For a tall, narrow screen, these upright selections are more durable choices than upright poplars. The crown of the more typical English oak is pyramidal when young, but becomes rounded with age. Leaves are dark green with rounded lobes somewhat like our native white oak. English oak is easy to transplant, and adapts to many soil conditions, but must have good drainage. Fall foliage is not colorful. Brown leaves are often held through the winter.
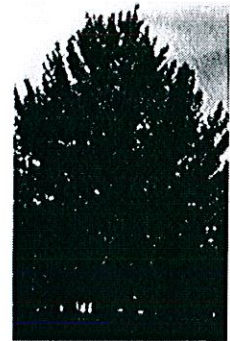
Shumard Oak   *Quercus shumardii*

Shumard oak is one of the least common of the oaks used in landscape plantings. It becomes a large tree with similarities to pin, scarlet and red oak, and like them is most useful in large open areas. Growth when young is like pin oak, but mature structure is more like scarlet oak. The leaves are variable and might be confused with pin, red or scarlet oak. Fall color is shades of red and scarlet. It is tolerant of many soils and environmental conditions. Because of good drought tolerance, it is well-suited to the low maintenance landscape where irrigation of any type is not possible during drought periods. It has no serious pest problems, but is subject to general pests of the other oaks.

Basswood, American Linden   *Tilia americana*

American basswood, or linden, is a native tree that has a dense, pyramidal crown. It adapts to many soil types and conditions, but without adequate moisture leaves may scorch in summer. Several insects and diseases may attack it if it is in a stressed condition, causing leaves to drop or be eaten. A hybrid cultivar of American basswood called 'Redmond' linden is a better selection, which has a pronounced pyramidal form. Summer flowers are attractive and very fragrant, honey made from these flowers is highly prized.

Littleleaf Linden   *Tilia cordata*

Littleleaf linden's dark green leaves and dense pyramidal growth make it a suitable choice when a formal-looking tree is desired. Lindens may be damaged during a summer of extreme heat and drought. However, they recover well and are suitable for street trees as well as mall parking lots and other difficult sites. Growth is slow when they are planted in such areas, and watering during stress periods is important. Summer flowers are attractive and fragrant. Many good cultivars exist. 'Greenspire' is one of the most popular and best.
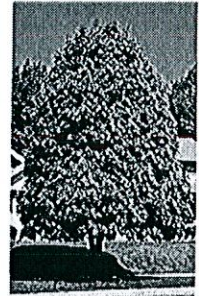
## American Elm   *Ulmus americana*
Dutch Elm Disease Resistant Varieties

Dutch Elm Disease is a fatal fungal disease that attacks American Elm trees. A number of hybrid varieties have been developed that are resistant to the disease, and this tree is once again becoming a viable option for planting. American Elm is tolerant of urban conditions, it prefers moist soils but can adapt to a wide range of soil conditions. It is a large deciduous tree, with a vase shaped crown.
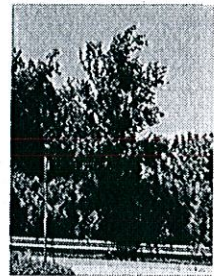
Chinese or Lacebark Elm   *Ulmus parvifolia*

Chinese or lacebark elm is often confused with the undesirable Siberian elm. Chinese elm forms a graceful round crown with mottled gray, green, orange and brown bark. It tolerates a wide range of soil conditions and is suited for urban situations. Chinese elm is resistant (but not immune) to Dutch elm disease and is not as seriously affected by elm leaf beetles and similar problems as the other elms.
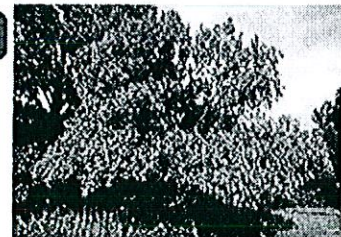
Zelkova   *Zelkova serrata*

Since the American elm first succumbed to Dutch elm disease, there has been a search for a replacement. Zelkova is not a perfect replacement, but is a relative with a vase-shaped form resembling American elm. Leaves are dark green and held late into the fall, essentially without fall color. Zelkova's angular branching allows its use along walks, streets or other areas where low branching is undesirable. It has good pollution, wind and drought tolerance. Although it is closely related to elms, it appears to be fairly resistant to Dutch elm disease. Because many gardeners are unfamiliar with zelkova, it has been used very little, but it is gaining popularity and becoming more available. Several cultivars have been developed, but are not widely distributed. One outstanding cultivar is 'Green Vase', which features vigorous growth and bronzy-red fall foliage
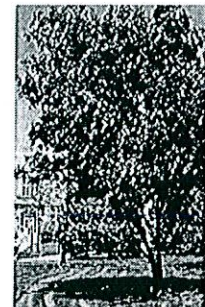
City of Chesterfield
Residential Street Tree Program
Policy and Procedures

Section I-   General

A. The Owner of a residential property that abuts a public street controlled by the City may be eligible for the City of Chesterfield's Residential Street Tree Program. The program provides for the planting of trees within City right of way, which is typically the grass area between the street and sidewalk, or if no sidewalk, an area within 12 feet of the street. The City's Residential Street Tree Program is contingent on continued funding by the City Council, and the City Council is in no way obligated to continue to fund the program.

B. Commercial and industrial (non-residential) properties are not eligible for this program.

C. All trees must be planted in an acceptable space, therefore, the following space requirements must be met:

1. The planting area, typically the grass area between the street and the sidewalk, must be a minimum of five (5) feet wide.
2. Trees shall not be planted closer than three (3) feet to any curb.
3. Trees shall not be planted within twenty-five (25) feet of street lights.
4. Trees shall not be planted within ten (10) feet of street inlets or manholes.
5. Trees shall not be planted within thirty (30) feet of an existing tree.
6. No trees shall be planted directly underneath overhead utility lines.
7. No trees shall be planted within the sight distance triangle at an intersection that have bottom branches lower than seven (7) feet above the elevation of the adjacent pavement (see below).
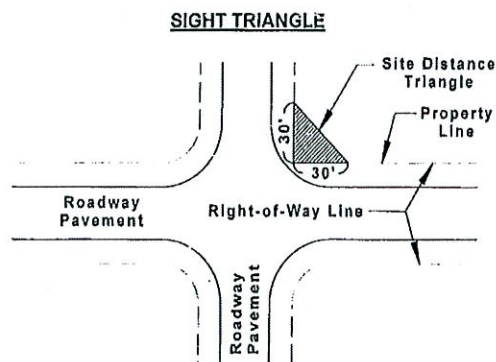
The identified space shall be approved by City staff before the application will be processed.

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D. The Owner shall choose a tree species from the City's list of Recommended Street Trees located in the Tree Guide, which is included with the application packet. In order to prevent over planting of one species in a given area, City staff will review the species chosen by the Owner, and will compare to the existing trees located in the general area. If City staff determines that the species chosen is appropriate, the application will be processed. If City staff determines that the species chosen is not appropriate due to over planting concerns, the Owner will be notified, and given a list of species that are appropriate. Once the Owner chooses a species that has been determined by the City to be appropriate, the application will be processed.

E. Tree size for all species will be 2 ½'' caliper.

F. This is a cost-sharing program, the Owner must submit a payment of $100.00 per tree. A property owner may apply for multiple trees, provided there is adequate space for each tree, and that the species chosen is appropriate, as outlined in paragraph C. and D. above.

Section II- Application By Property Owner

A. The Owner, not the tenant, must submit the application for participation in the program. The application packet can be found on the City of Chesterfield's website, www.chesterfield.mo.us, or can be obtained at City hall located at 690 Chesterfield Parkway West, between the hours of 8:30 AM and 5:00 PM, Monday through Friday.

B. The Owner shall submit the $100 per tree payment along with the application. If it is determined that a tree can not be planted in the available space, the payment will be returned.

C. By signing and submitting an application, the Owner agrees to properly care for the tree(s) as described in the Tree Guide.

D. The deadline to submit an application is January 31st for the Spring planting (March 1 – April 30), and August 31st for the Fall planting (November 1 – December 31).

Section III- Tree Installation

A. Upon receipt of application, City staff will review the site and the species choice, as outlined in Section I, paragraph C. and D., and will notify the Owner if their application has been accepted or denied. If the application has been denied, payment will be returned. The City is in no way obligated to accept and approve applications.

B. City will submit species list and locations to nursery (annually contracted by city).

C. The contractor will schedule and perform the installations between March 1 and April 30 for the Spring planting, and between November 1 – December 31 for the Fall planting. The contractor will be responsible for obtaining the required utility locates before installation.

2

D. If the Owner has a lawn sprinkler system, an underground electronic dog fence system, or any other system located within the area where a tree is to be planted, the Owner is responsible for marking these systems, and relocating the systems at their sole expense, as necessary.

E. As part of the tree installation, the contractor will mulch the base of the tree with a standard hard wood mulch, and will also stake the tree. The Owner will be responsible for removing the stakes as outlined in the Tree Guide.

F. City staff will review each site after installation.

Section IV- One Year Warranty

A. The City will require the contractor to provide a one year warranty on all trees, starting from the month of planting. The warranty is only in affect if the Owner provides proper care as outlined in the Tree Guide, and excludes vandalism or extraordinary acts of God.

B. The Owner must contact the City if they believe they should receive a replacement within the warranty period.

C. City staff will inspect tree and approve replacements, the tree must still be standing at the time of the inspection in order for a property owner to receive a replacement. The City will schedule a replacement with the contractor at the most appropriate planting time.

RESIDENTIAL STREET TREE
PROGRAM APPLICATION

City of Chesterfield
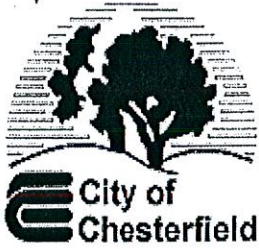
Property Owner		Date	
Address of Property			
Address of Property Owner if different than above			
Email Address			
Daytime Phone		Evening Phone	

Please Note!: If there are existing trees in the right of way that need removal, the owner must call the City at 636-537-4000 to request that the trees be inspected for removal BEFORE filling out this application! Only dead, diseased, or hazardous trees will be considered for removal.

SPACE REQUIREMENTS

The Owner MUST be certain that adequate space exists before submitting an application. All trees must be planted in an acceptable space, therefore, the following space requirements must be met:

1.) The planting area, typically the grass area between the street and the sidewalk, must be a minimum of five (5) feet wide.
2.) Trees shall not be planted closer than three (3) feet to any curb.
3.) Trees shall not be planted within twenty-five (25) feet of street lights.
4.) Trees shall not be planted within ten (10) feet of street inlets or manholes.
5.) Trees shall not be planted within thirty (30) feet of an existing tree.
6.) No trees shall be planted directly underneath overhead utility lines.
7.) No trees shall be planted within the site triangle at an intersection that at maturity, have bottom branches lower than seven (7) feet above the elevation of the adjacent pavement (see below).

SIGHT TRIANGLE
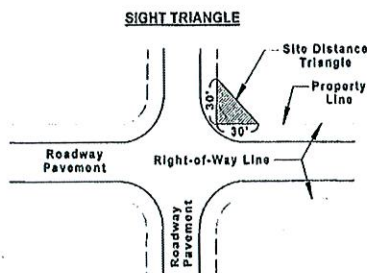
Comments: (please make any comments regarding tree location in the space below)

☐ I/we have reviewed the aforementioned space requirements, and have determined that the space is appropriately sized, and understand the City will review and make the final determination.

Page 1 of 2

Agenda Item A: Call Meeting to Order
The meeting was called to order at 6:00 pm.

Agenda Item B: Roll Call
Those in attendance included Commission President Kristin Sobatka, Vice President Aaron Bitzer, Secretary Kathy Freese and Commission Members Dianne Benjamin and Dana Barhard. Also in attendance was Council Liaison Aleta Klein and Forestry Supervisor Jacob Kaiser.

Agenda Item C: Approval of Agenda
Commission Vice President Aaron Bitzer motioned and Commission Member Benjamin seconded to accept the Agenda. The motion was approved unanimously.

Agenda Item D: Approval of Minutes
Commission Vice President Aaron Bitzer made a motion to approve the minutes from the May meeting and Commission Member Diane Benjamin seconded.

Agenda Item E: Citizens' Comments
There were no citizen's comments

Agenda Item F: Department Report – Forestry Supervisor, Jacob Kaiser reported on the Forestry Reports.
   a) Annual Pruning contract will be completed at the end of November
   b) Next Annual Pruning contract will go out to bid as early as the end of November
   c) Hazardous Tree Removal Contract will begin in November
        a. 81 trees
   d) Ash Removal and Replacement Contract will begin in December
        a. 49 trees
   e) 96% of trees pruned in October and September were pruned by a contractor
   f) 100% of trees removed and planted in October and September were done by city staff
   g) 83 trees planted in October and September
   h) 14 trees removed in October and September
   i) Year to Date totals
        a. Removed 193 trees
        b. Planted 144 trees
        c. Pruned 1832 trees
   j) Shop and Office are still in disrepair
        a. Waiting on reimbursement from FEMA

Agenda Item G: Council Liaison Report – Ms. Klein was absent, therefore there was no council report

Agenda Item H: Unfinished Business
None

Agenda Item I: New Business

    1. None

Agenda Item J: Commission Comments

a) Commission Member Dianne Benjamin asked Mr. Kaiser what the ordinance states regarding city trees and proximity to homes/structures. Mr. Kaiser stated that city trees are to be pruned a minimum of 12 feet away from homes and structures.

b) Commission Member Kathy Freese reported on the Ruth Park Woods project
      a. Volunteers are removing honeysuckle and wintercreeper
      b. The volunteer group has been working hard to educate the public while on the trail about their efforts to combat invasive species.

   c) Commission Member Dianne Benajamin commented that Crixdale avenue looks much better since the forestry crew spent some time in August cleaning it up.

Agenda Item #12: Adjournment

Commission Vice President Aaron Bitzer motioned, and Commission Member Benjamin seconded to adjourn. The motion was approved unanimously at 7:02 pm.