UCF Landscape & Natural Resources

University of Central Florida
Campus Tree Care Plan
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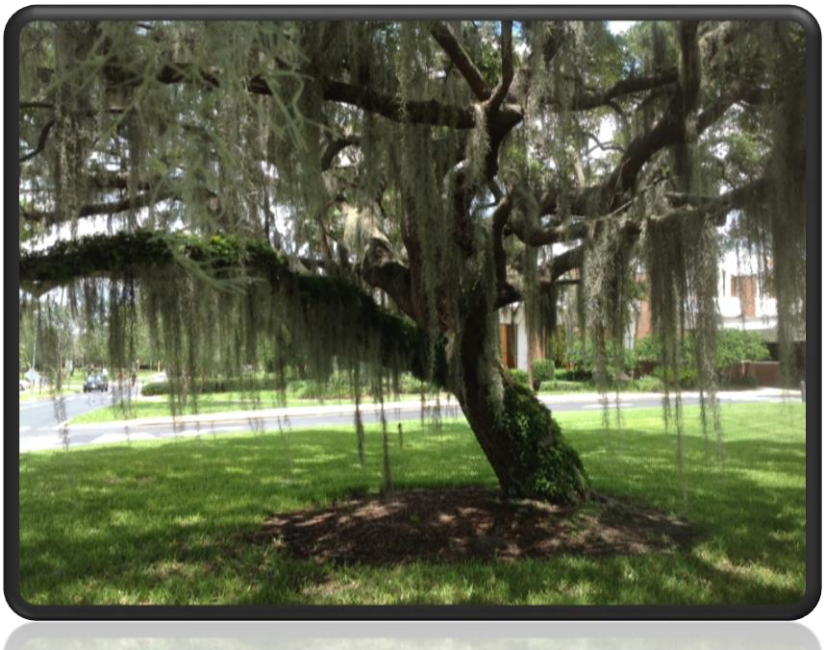

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PURPOSE

A healthy tree canopy is a valuable asset to a large campus, such as the University of Central Florida (UCF). The large, mature tree canopy is one of UCF's most valuable assets, but it also represents one of the largest liabilities. Management of the canopy minimizes hazards, and therefore reduces liability. Additionally, a healthy tree canopy contributes to the beauty and aesthetic value of the campus.

The University of Central Florida is a community of over 65,000 students, staff and faculty. It is the second largest university in the nation, situated on an urban campus that consists of 1,500 acres of both natural and manicured landscapes. Our landscape operation, through the department of Landscape and Natural Resources, is committed to creating and maintaining a beautiful and healthy campus landscape. We are proud to have established policies, procedures, and practices that create an exemplary and unique urban campus environment, and promote outdoor comfort, security, sustainability, and a regional "sense of place".

The trees on our campus improve air quality, promote energy conservation, slow stormwater runoff, and take up atmospheric carbon dioxide. Increasing the campus tree canopy is an important component of the University's Sustainability Plan and Climate Action Commitment. Landscape and Natural Resources established an Urban Forestry Program in 2004, along with a comprehensive Land Management Plan in 2009 detailing the University's commitment to ecosystem health and preservation. This campus is highly visible to the citizens of eastern Orange and southern Seminole counties, as well as visitors from across the region and the world. Through our recognition as a Tree Campus USA, and through our urban forestry and landscaping programs, we demonstrate our commitment to maintaining a healthy tree community and urban forest.

We will continue to promote the importance of our campus trees and urban forest through our educational and outreach programs, research initiatives, and partnerships with other agencies and institutions. This award, presented by the Arbor Day Foundation, is another step in demonstrating UCF's continued commitment to urban ecosystem health.

The purpose of the University of Central Florida (UCF) campus tree care plan is to establish policies, procedures, and practices to create an exemplary and unique urban campus environment that promotes outdoor comfort, security, sustainability, and a regional "sense of place". This plan has been promulgated in partial fulfillment of Arbor Day Foundation's standards for Tree Campus USA designation, and does not address management activities within the campus natural areas. These policies, procedures, and practices are currently in place and administered by Landscape & Natural Resources, a unit of UCF Facilities & Safety.

The specific objectives of the plan are:

- Ensure proper species selection, high-quality nursery stock acquisition, and industry-consensus planting procedures;
- Promote species diversity and proper age structure in the tree population;
- Document forest canopy through established UFORE (Urban Forest Effects) monitoring plots;
- Protect high-value campus trees during construction and renovation projects;

- Promote tree health and safety by utilizing the International Society of Arboriculture's (ISA) best management practices when maintaining campus trees;
- Ensure that trees are reasonably replaced when there is mortality due to weather, pest infestations, injury, or construction displacement;
- Encourage campus community members to respect and value the campus urban forest through education initiatives;
- Create a rich and horticulturally diverse visual landscape that exemplifies the unique composition of Central Florida's native environments, as well as the region's historical and cultural tradition, while linking these to educational opportunities.

RESPONSIBLE DEPARTMENT

UCF Landscape & Natural Resources, a unit within the Facilities & Safety Department which reports to the University's Associate Vice President for Administration and Finance.

CAMPUS TREE ADVISORY COMMITTEE

The committee is comprised of faculty, staff, and students from numerous plant related programs throughout the University. The committee meets biannually, and provides important input in to care and improvement of the campus landscape.

CAMPUS ARBORICULTURE PRACTICES

Planting and Tree Diversity

As the campus is used as a outdoor living teaching laboratory, increasing tree species diversity is important, but species selection must be dictated by site conditions. A species list for campus planting exists in the campus landscape standards (see www.green.ucf.edu). Known invasive species are consciously avoided in tree planting plans.

Pruning Schedule

The maintenance pruning schedule shall be dictated by tree species, age, function, and placement. ANSI 300 standards will be used for pruning practices.

- Trees less than 7 years old should receive structural pruning on an annual or biennial basis.
- Trees 7-20 years old should receive structural pruning every two to five years.
- Trees 20 years old and older receive maintenance pruning every five to seven years to clean dead, diseased, dying, and defective branches from the crown.
- Trees adjacent to roadways, walkways, signs, and street lights should be annually inspected for safety and clearance issues and maintenance pruned as necessary

Pruning Practices

To encourage the development of a strong, healthy tree, the following guidelines shall be followed when pruning.

<u>General</u>

- Pruning shall not be conducted without a clear objective or outcome.
- Prune first for safety, next for health, and finally for aesthetics.

- When removing branches, the pruning cut shall not damage the branch bark ridge and branch collar.
- Internode (heading) cuts should not be used except in storm response and crown restoration procedures.
- Branch reduction or thinning should be used to achieve pruning objectives rather than making large (>8" diameter) branch removal cuts.

Cleaning

- Thinning shall be performed to remove dead, diseased, dying, and defective branches, which reduces hazards, promotes, health, and improves appearance.
- Large branches should be removed with the aid of ropes and rigging equipment to minimize the risk of tree injury from falling debris.

Thinning

- Thinning shall be performed to reduce the density of branches, which increases light penetration, improves visibility, and decreases wind load.
- Assess how a tree will be pruned from the top down.
- Favor branches with strong, U- shaped angles of attachment. Remove branches with weak, V-shaped angles of attachment and/or included bark.
- Ideally, lateral branches should be evenly spaced on the main stem of young trees.
- Remove any branches that rub or cross another branch.
- Make sure that lateral branches are no more than one-half to three-quarters of the diameter of the main stem to discourage the development of co-dominant stems.
- Do not remove more than one-quarter of the living crown of a tree at one time. If it is necessary to remove more, do it over successive years.

Raising

- Raising shall be performed to provide vertical clearance from thoroughfares, signs, street lights, and structures.
- Always maintain live branches on at least two- thirds of a tree's total height. Removing too many lower branches will hinder the development of a strong main stem.
- Remove basal sprouts and vigorous epicormic sprouts.

Reduction

- Reduction shall be performed to decrease the overall height of a tree or to decrease the length of an individual branch
- Reduction pruning will be used only when absolutely necessary. Pruning cuts will be made at a lateral branch that is a least one-third the diameter of the stem to be removed.
- If it is necessary to remove more than half of the foliage from a branch, remove the entire branch.

Cultural Practices

Mulching

A layer of mulch will be applied within the established tree footprint up to every two years. Periodically, drip lines of larger trees and tree groupings are mulched appropriately, as site conditions dictate, with waste wood chips.

Irrigation

Irrigation water shall be distributed on a supplemental basis to allow for overall vigor.

Fertilization and Pest Management

Trees will be treated for pest problems, as needed, via systemic and or contact pesticides. There is no regular tree fertilization. Specimen or high-value trees may receive prescription fertilization when severe nutrient deficiencies are diagnosed.

Other Practices

Tree Removals

- Live trees are generally removed only when required to protect public safety or are detracting from the quality of the landscape.
- Trees will only be removed after consultation with Landscape & Natural Resources.
- Significant or high quality trees will be transplanted if possible.

Storm Response and Recovery

Storm response and recovery are generally accomplished in-house. In a crisis, the first priority is to remove tree debris that blocks campus thoroughfares, disrupts campus operations, or poses hazards to the campus community. Once these critical needs are addressed, a prioritized recovery plan is implemented during which unsalvageable trees are systematically removed and salvageable, and trees are pruned to restore their health and structure. As the tree planting budget permits, lost trees are strategically replaced to restore the structure and function of the campus urban forest in a reasonable time frame. During storm response and recovery, trees requiring specialized equipment not available in-house are addressed by outside contractors.

PROTECTION AND PRESERVATION PROCEDURES

Preservation During Design Phase

On the site survey map, all trees will be identified whose: root systems are likely to be impacted by construction equipment, cut and fill activities, utility corridors, proposed walks and roads, and potential construction staging areas; and whose branches may be damaged by construction equipment. The trees will be placed in one of the categories below.

NOTE: if trees are grouped in a forest or woodlot, then only the location of the woodlot and any trees greater than 24 inches diameter at 4.5 feet above the ground (DBH) need to be identified.

A. High priority for protecting

1. Medium (> 10 inches DBH) to large (> 24 inches dbh) trees of desirable species with good form, good health, and sufficient room for continued growth.

B. Low priority for protecting

1. Small trees (less than 10 inches DBH) that fall outside of the building footprint, but are likely to be impacted by construction activities.

2. Larger trees outside of the building footprint with relatively low landscape value. Examples include but are not limited to, trees with poor form, species of relatively low landscape and educational value, or trees with inadequate space to accommodate current or future growth even if the site is ameliorated.

C. Not salvageable

1. All trees that are within the footprint, or in close proximity to the footprint of a proposed building. (Note: alternative footprints to save large, valuable trees should be considered, provided that the alternatives maintain the desired features and costs of the proposed building).

2. Trees of undesirable species or in very poor health. Examples include, but are not limited to species that have low landscape and educational value, and heavily diseased or damaged trees that have little chance of recovering desirable form and function, even if protected from construction damage.

Avoid locating the general construction site around low and high priority trees where possible by:

A. Planning all construction activities including new utility corridors, staging areas, new sidewalks and new roads for a minimum clearance of 15 feet away from the base of trees, and not within the edge of the canopy drip line. Greater distances are desirable.

B. High priority trees should receive more consideration than low priority trees in planning corridors, staging areas, walks, and roads.

C. The replacement of high priority trees will be determined by the Director of Landscape & Natural Resources.

GOALS AND TARGETS

The Tree Committee will develop annual goals and targets. 2011 goals and targets are:

Conduct Tree Inventory
A digital tree inventory covering the core campus has been developed. The estimated value of the 160 trees within the 2010 surveyed region (Apollo and Pegasus circle; survey conducted by Valley Crest) is $1,296,000. This represents a value of $8,100 per tree. Inventory valuations are based on trunk value method established by the Council of Tree and Landscape Appraisers and the International Society of Arboriculture. Additionally, a tree survey was conducted in 2005 (by Davey) that identified the locations, species, DBH, conditions, and other useful information for the campus urban forest. This survey will be updated using UFORE plots. Data will be analyzed to determine density of canopy, estimated value of trees, species composition, and cost savings from canopy cover.

Implement Arbor Management Program
An ongoing arbor management program from Valley Crest Tree Care Services has been implemented partially through a Florida Division of Forestry Urban Tree Grant. This program will monitor the health and safety status of the trees, and will identify locations of desired trees, throughout the campus. Establishment of a arboricultural program is essential to developing pruning and planting schedules that create a high-quality urban forest.

Increase Tree Canopy
Increasing the campus tree canopy is an important component of the University Sustainability Plan and Climate Action Commitment. Target canopy density will need to be determined, and annual goals will be established to reach desired tree numbers on campus.

TREE DAMAGE ASSESSMENT, ENFORCEMENT, AND PENALTIES

Assessment on trees is performed by the Landscape & Natural Resources' arborist. A 100% tree survey will be conducted every four years to identify hazardous trees on campus for removal. Enforcement of protection measures is performed by project managers and on-site engineers.

PROHIBITED PRACTICES

Bike & Moped Locking
Bicycles may be parked only at bicycle racks. Bicycles or mopeds are not allowed to be locked on a sidewalk, at a tree or post, on a lawn, next to a building, in a roadway, at a utility pole, light post, banister, parking meter, or other available structure. This is enforced by UCF Police Department & Parking Services.

Posting of Signs, Banners, or other materials

The University's Golden Rule, section on Advertising and Signs (www.goldenrule.sdes.ucf.edu), address the posting of signs, banners, or other materials on campus trees.

Topping of Trees

Topping, heading, hat-racking, or any other form of inappropriate crown/branch reduction pruning shall not be permitted except in emergency situations or in executing a crown restoration procedure.

COMMUNICATION STRATEGY

Currently, the landscape standards are communicated to project managers for inclusion in to project specifications. Once approved, this plan will also be provided to UCF Facilities Planning for inclusion into and use within construction projects. Additionally, information and data that accompany this plan are posted on the Landscape & Natural Resources website (www.green.ucf.edu).

MEMORY MALL COLONNADE

The Memory Mall is a key focal and gathering point for the University. Maintaining and growing a healthy tree canopy at this location has high priority. The turf grass associated with the Memory Mall periodically needs to be managed and replaced. The following guidelines are established to protect the existing trees and their roots during sod replacement activities.

1. Removal of existing sod will only be removed with hand tools and a walk behind sod cutter. No heavy equipment including small bobcats will be allowed on any area of the turf within the tree protection zone (1 foot outside of the dripline).
2. Any re –grading and soil prep that is needed for new sod is to be done with hand tools.
3. Once the site has been prepped and ready for new sod, the Arbor Team will:
    - Add Mycorrhizal fungi inoculant (PHC Tree Saver product)to the top 4-6" of topsoil within the Critical Root Zone (CRZ) of each tree. This will be done with hand tools. (CRZ=Radially from trunk out to 5' beyond the drip line)
    - Hand aerate the Critical Root Zone beneath each tree within the project area. Radial aeration will be done on each tree extending 5' beyond the drip line using the 6" deep hand aeration tool.
4. Install New Sod.
5. After six months, the Arbor Team will apply Cambistat to slow the tree's vegetative growth so that it will build more root mass.