

GOAL 1: To create an exemplary campus outdoor environment that promotes comfort, security, sustainability, and a regional sense of place. and to create a rich and horticulturally diverse visual landscape exemplifying the composition of Central Florida's native environments, as well as the region's horticultural diversity, and historical tradition, and link these to educational opportunities.

OBJECTIVE 1.1: To develop and adopt a Landscape Master Plan for the University of Central Florida campus by 2015.

POLICY 1.1.1: Important landscape elements shall be defined in the Master Plan by developing landscape themes supportive of educational, cultural, and recreational programs designed to enhance the collegiate experience. This landscape will be characterized by:

- creating shaded quads, plazas, and common areas for student interaction and places for gathering and recreation; enhancing vehicular roadways with defining tree plantings and understory and ground cover plantings at strategic locations,.
- planting species that are indigenous to the natural plant communities of Central Florida, where appropriate to the particular situation, and recreating a semblance of the original pine flatwoods, scrub; sandhill and wetland ecosystems historically found in the region.. using low-maintenance, strong-performing horticultural species in various combinations or with native species to create a visually interesting and biologically diverse horticultural landscapes;
- encouraging a vertical growth structure that improves canopy tree resistance to hurricane-force winds, and provides a continuous and contiguous canopy over all pedestrian pathways;
- planting trees to highlight and identify various campus signatures or other landscape treatments, which shall be typically spaced at 25' on center, and never more than 40' on center;
- limiting the use of exotic plants to those that are non-invasive, and that are able to resist periods of drought and require little use of fertilizer and pesticides;
- designating the removal of non-native invasive plants (whether grasses, trees or shrubs) if such exotics are listed as category 1

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invasive species on the on the Florida Exotic Pest Plant Council's list of invasive Exotic species;" Eliminating the use of category 2 invasive species, or limiting their use to more interior areas of campus;

- selecting appropriate turf species based on soil conditions, light availability, and intended use, with major varieties including St. Augustine, Zoysia, Bermuda, and Bahia grass species or cultivars;
- incorporating, to the greatest extent possible, Florida Friendly[®] landscapes and Integrated Pest Management (IPM) principles and practices for landscape design and maintenance.

POLICY 1.1.2: Campus landscape outside of the academic core (campus core) shall be developed with the following criteria:

- plant palette of primarily indigenous plant material selected for durability, beauty, and low maintenance requirements, and to link with and accentuate the natural areas outside the campus core; and
- formal groupings of plants may be used to accentuate or establish unique areas of landscaping outside the academic core.

POLICY 1.1.3: Signature landscape designs for all of the campus entrances, edges and corners, shall be developed to reflect the presence and character of the University of Central Florida, and shall include plants that represent the campus diverse native landscape.

POLICY 1.1.4: Reinforcing and improving circulation hierarchy by developing distinct landscapes for each road type, intersections, and any pedestrian/tram/service loops shall be a priority.

Entrance Roads: Medians shall be landscaped with palms, low profile flowering perennials, shrubs, and ground covers.

Campus Edge: Maintaining a canopy of native trees and other indigenous materials shall be a priority.

Primary Loop Road (Gemini Boulevard): The median shall be landscaped either with mowed turf or with a combination of native, low-profile shrubs and flowering groundcover, and accented with stands of Sabal palms and occasional upright trees.

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Edges Adjacent to Preserve/Natural Areas: Existing native vegetation shall be preserved and enhanced with indigenous plant material. Restoration of appropriate community structure with prescribed burns, mechanical clearing, or chemical control may be necessary to rehabilitate degraded areas.

Academic Core Loop and Connector: The internal connectors shall be lined with closely-spaced (25' on center) groups of live oaks or other selected shade trees. Accent tree plantings set back into turf areas, or highlighting important nodes for pedestrian traffic or gathering may include plantings of Crape Myrtles, Tabebuia species, Peltophorum, palms, Juniper, Clerodendron, Oleander, or other species identified in the Campus Landscape Master Plan.

Secondary roads shall be lined with different street trees species to contrast with Primary Loop Road species.

POLICY 1.1.5: Best practices endorsed by the State of Florida to preserve and enhance existing native vegetation in all areas shall be applied in conservation easements or designated open space. This will include both mechanical treatment and limited use of prescribed fire, and the re-introduction of appropriate trees, shrubs, grasses, and wildflowers.

POLICY 1.1.6: The University shall maintain and protect the existing natural preserves and Arboretum and facilitate appropriate pedestrian access to these areas.

POLICY 1.1.7: Providing tree canopy within islands of no less than 144 square feet in all surface parking lots, and maintaining adequate sight lines for visibility and efficient security lighting shall be a priority.

POLICY 1.1.8: Selecting and locating trees to promote safety and security, enhance the natural environment, provide shade for vehicles and pedestrians, and minimize maintenance requirements shall be a priority.

POLICY 1.1.9: Reinforcing, integrating, and improving existing Memory Mall and other proposed landscape axis, so that pedestrians experience the campus as a defined sequence of unique landscapes shall be a priority. UCF shall define and the shade edges of quads and courtyards with plant materials specified for the appropriate design effect and user requirements. Memory Mall shall be maintained as an open grassy mall, with columnar tree plantings of live oaks along main pedestrian axis on the edges to provide shade along the walkways.

POLICY 1.1.10: Defining appropriate campus districts and incorporating different themed plantings in specific areas to enhance the quality of gathering places and create memorable spaces shall be a priority.

POLICY 1.1.11: Determining the location of future building footprints and adjacencies to indicate and reinforce the open spaces depicted in the Landscape

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Master Plan shall be a priority. Pedestrian connectivity, and the coherent relation of walks to entries between and among buildings, shall be an important discussion at the commencement of all new construction and facilities improvements.

POLICY 1.1.12: Standardized bicycle rack style and placement to achieve simplicity and uniformity shall be a priority. Selection of bicycle racks shall be based on efficiency, ease of use, tamper resistance, maintenance, and accessibility. Bicycle facilities shall be located convenient to academic and housing areas, in secure locations. Landscape treatment shall consist of adjacent canopy trees for shade, and a durable, paved surface under each bicycle rack.

POLICY 1.1.13: On-campus public transportation facilities shall be coordinated to allow for visibility and ease of access, both pedestrian and vehicular. All shelter designs shall be consistent with UCF's Design, Construction, and Renovation Standards. Landscape treatment should provide shade, if not provided by shelter.

POLICY 1.1.14: Emergency access shall be clear of any impeding landscape or hardscape obstacles.

POLICY 1.1.15: Screening trash collection facilities from pedestrian or vehicular traffic with either fences or wall or plants consistent with UCF's Design, Construction, and Renovation Standards shall be a priority.

POLICY 1.1.16: Screening maintenance facilities from pedestrian or vehicular traffic with fences, walls, or plant material consistent with UCF's Design, Construction, and Renovation Standards shall be a priority.

POLICY 1.1.17: All projects with an associated Art in State budget, as well as other campus art projects, shall coordinated within the design review process and with the University of Central Florida's Public Art Committee to facilitate location, theme, and integration.

OBJECTIVE 1.2: To amend the Campus Master Plan by adding it as an Appendix to the Landscape Design Guidelines Element.

POLICY 1.2.1: The University shall monitor conformance of future construction projects with revised Landscape Design Guidelines and Campus Landscape Master Plan through university Standards and design review procedures.

OBJECTIVE 1.3: To implement the landscape concept plan by allocating proportional campus landscape budgets to programmed building costs, and by seeking supplemental funding allocated for landscape improvements.

POLICY 1.3.1: Landscape budgets shall be an integral part of new construction budgets, and shall be based upon a percentage of total construction costs or on

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design-driven actual costs. Funds allocated for landscape improvements shall not be redirected to fulfill funding shortages in other areas of the construction project.

POLICY 1.3.2: Landscape improvements that are independent from new building construction shall be considered as stand-alone or independent projects with respect to funding and capital expenditure programming.

Assessment of the Extent and Quality of the Landscape Features of the Campus.

1. In 2012 the University used geographic information systems to create geo-referenced layers for all landscape and hardscape elements maintained by the Department of Landscape and Natural Resources (LNR), including Main Campus, the Medical Campus, and the Rosen School of Hospitality. This information is invaluable for evaluating campus landscape conditions, improvements, and labor and material needs for landscape maintenance. In the future other areas not included in this original effort, such as the Athletics sector and Greek Park, will be added to provide a comprehensive update of all landscape and hardscape features of the Main Campus.. Geographic data on campus natural areas and Conservation Easements are included in the Conservation Element. .
2. Current landscape treatments, hardscape installations, signage, and site furnishings represent different phases of design that have occurred during campus development. These features will be catalogued during development of the Campus Landscape Master Plan and a vision established for unifying the campus features through campus design specifications. During new construction, landscape spaces must be identified and recognized as equal in importance to architecture projects, especially in terms of how they integrate each building project with other adjacent spaces- and pedestrian and vehicular traffic. A continued emphasis on strong landscape spaces and a coordinated landscape palette will reinforce a sense of unity and way-finding to the University. Integration and understanding of urban design elements such as entry features, landmarks, campus edges, roadway character, and pedestrian treatments will further enhance a sense of arrival, destination and place.

Assessment of Existing Landscape Treatments With Regard To Their Impacts on Overall Campus Components

1. Vehicular Circulation Routes

A standardized plant palette for the streetscape is not necessary to the overall landscape theme of the university. Streetscape will be designed to provide overall coherence within different sectors of campus, providing shade where possible through native plantings of live oaks, cabbage palms, cypress, magnolias, and other trees. Road medians will be maintained either as planting beds or turf depending upon location, addressing both design elements and maintenance priorities. .

2. On-grade Parking Facilities

The implementation of gradual berming of parking lots adjacent to Gemini Boulevard has allowed enough visibility for location and access to parking lots and ramps. Depending on future land use designations for surface parking lots, long term faculty and student interior parking lots should integrate tree canopies through the use of designated tree islands in accordance with the landscape standards. Coordination of tree islands around future facilities and in parking areas will promote a more continuous tree canopy across campus.

3. Pedestrian Circulation Routes

The three (3) sixteen-foot wide concentric walkways are intended to be shaded with a contiguous tree canopy. Campus maps have been strategically placed along the sixteen-foot concentric rings walks to enable way finding and destination of the walk. The ring walks contribute to the University's overall sense of way-finding. Within the concept of the urban design plan, the walks serve as the essential links to the campus green areas and to Memory Mall.

Pedestrian circulation volumes and patterns for the entire campus must respond to the constantly changing physical environment of the campus, thus changing the need for and location of walks. Consideration for pedestrian behavior of students must guide design and location of walks.

4. Bicycle Facilities

Currently, the number of bicycle facilities or racks is inadequate to meet the needs of the number of users on campus. The number of bicyclists will increase as the University creates stronger connections to the future development of housing along the edges of campus and within UCF. Locations of current and future facilities need to be coordinated with proposed regional bicycle routes. Aesthetically, bicycle parking areas must be organized and located at strategic places around campus not just the entrances or facades of buildings.

5. Planted Areas

Landscape malls, plazas, and parks are designed and enhanced to accommodate pedestrian patterns, security, way finding and connectivity between existing buildings and future building projects. The creation of additional planted areas within the campus core will unify individual building architecture. Further investigation of soil types and vegetative communities will dictate the landscape palette for additional planted areas. Ornamental plantings will comprise both native Florida species- and introduced specimens adapted to our climate and soils.

6. Site Furnishings

Compliance with the university's standards for benches, light poles, and signs will continue to enhance the overall quality and way-finding of the campus. A unified family of all site furnishings shall be developed in the Campus Landscape Plan to enable individual project designers to comply with the themes and materials chosen for the campus and to avoid visual clutter. The family of furnishings will also reduce the costs for maintenance and replacements that are associated with having unique furnishings for each new building project.

7. Trash Collection Areas

In areas where building functions require- dumpsters or other specialized trash collection, containers are to be placed within screened or landscaped enclosures.

8. Maintenance Facilities

Where possible, loading docks exposed to pedestrian and vehicular circulation will be screened from view with hardscape or landscape screening, taking into consideration the loading needs of individual facilities.

9. Campus Edge

The campus edges and six roadway entrances serve as the primary visual image for vehicular traffic on campus. Maintaining or improving campus woodland edges, corners, and entrances creates a sense of arrival and makes a strong first impression on visitors.

Although the intent of the naturalistic buffer was to reduce the need for maintenance, stewardship of all Florida woodlands is a requirement for ecosystem function and health. A natural fire regime controls invasive understory and exotic species. The urban edge of our native buffer zone precludes our use of prescribed burns in management along Alafaya Trail and McCullough Road. With a program of limited mechanical maintenance and the removal of invasive or undesirable species, the natural woodlands along McCulloch will continue to provide an attractive natural buffer. The frontage woodlands on Alafaya Trail will be improved to create open woodland of pines, oaks and palms with a mowed understory of natural vegetation. The understory of this frontage will be augmented with new indigenous plantings that have ornamental value.. Design concepts for the edges, corners, and entrances have been developed and will be included in the Campus Landscape Master Plan.

Assessment of The Maintenance Status of Existing Landscape Features

Overall, the maintenance of the landscaped portions of the UCF campus is moderately difficult. The soil is very low in organic content and does not retain moisture well. The pH of the native soil is at 7.8 to 8.0 in most areas of campus; the ideal pH range for most non-native species is 5.5 to 6.5, and native species have variable pH preference. Some species, such as azaleas, camellias, and hollies prefer more acidic soil (pH 4.5 to 5.5, and the soil conditions need to be amended to provide proper growing conditions for these plants on campus. . In the majority of situations, preference is given to campus plant selection that matches site pH conditions.

Compaction of soil and general wear and tear of the turf grass areas for campus also creates problems with maintenance. Cart and other vehicular traffic stresses the turf grasses in most of the campus core. The result of this compaction prohibits healthy growth of turf, thus allowing weeds to germinate and spread. Regular manual aerating is used where required to improve aeration, and in some instances, new turf must be installed. . We are converting to the use of reclaimed water instead of well or potable water for all campus irrigation.

The American Physical Plant Association (APPA) standards, modified for our local growing conditions and maintenance practices, are currently being used by LNR to calculate workforce requirements and assign levels of care for different landscape areas on campus.

Assessment of The Physical Condition of The Existing Landscape And Irrigation System

In general, the overall physical condition of the campus appears to be adequate to excellent condition. Many older landscape plantings have reached the end of their intended lifespan. As these are replaced, priority must be given to higher visibility areas with a higher level of care. Standard operating procedures have been developed recently to provide uniformity in maintenance specifications, fertilizer practices, mowing regimes, and other standard maintenance practices. . We have converted irrigation for major landscaped areas to reclaimed water from potable water, contributing to sustainability and greatly reducing potable water demand on campus. All irrigation zones on the main campus were geo-referenced in 2013, and this information will be useful in routine maintenance and for future irrigation renovations. Water use can be reduced further by implementing the full capabilities of the campus irrigation control system, which can be adjusted based on needs. LNR will be implementing these features within the next few years. Many of the original shut-off valves for the campus irrigation system are nonfunctional, making it difficult to isolate areas when breaks occur or other maintenance is required, without shutting off irrigation to larger areas of campus.

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Data and Analysis

These valves will be identified and replaced over the next two (2) to three (3) years to increase operational efficiency.