University of Central Florida
Campus Master Plan
2015-2025
Update

TABLE OF CONTENTS

CONTEXT AREA MAP

EXECUTIVE SUMMARY

LIST OF ELEMENTS

LIST OF FIGURES

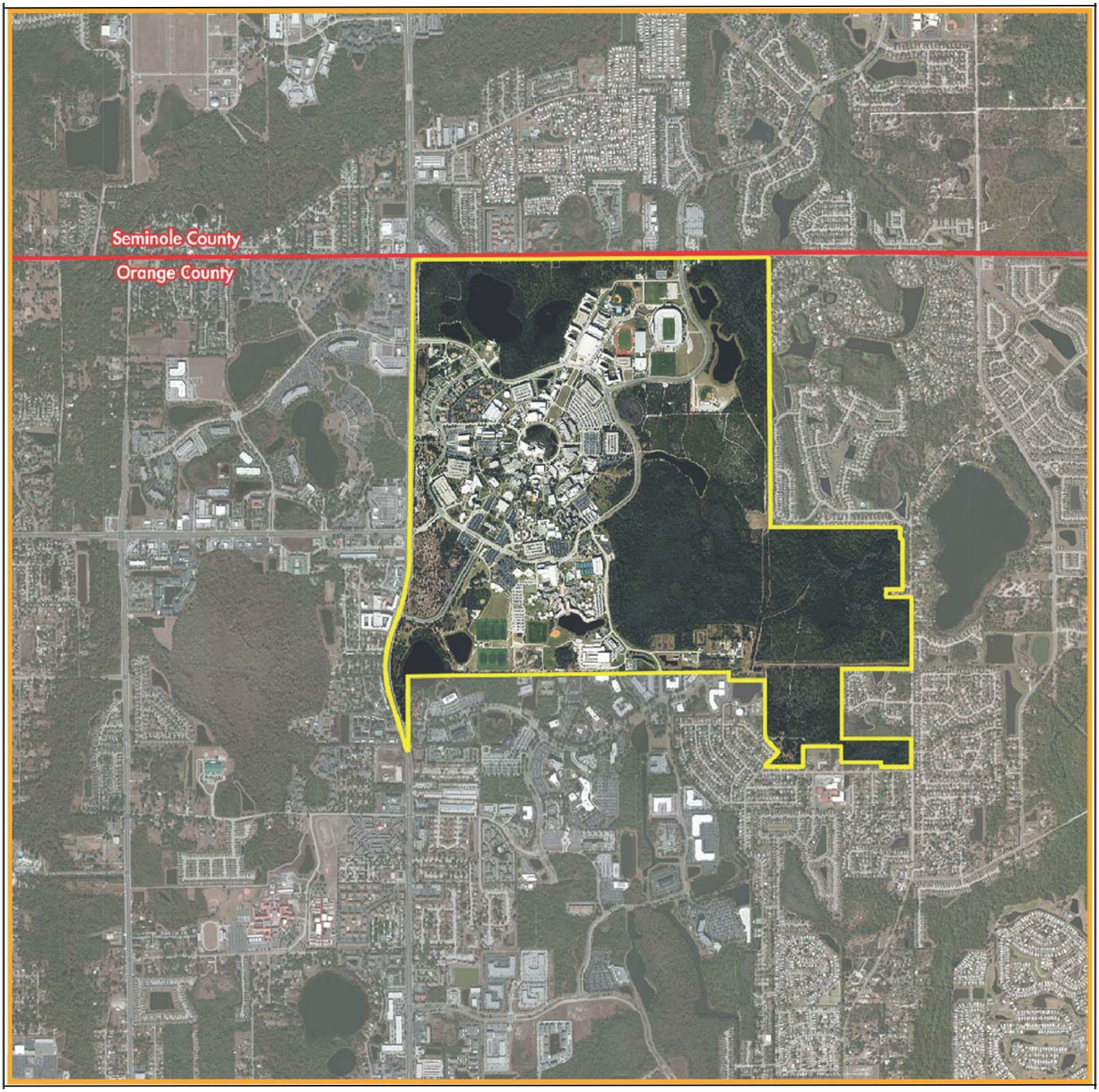

Figure 2.11-1

Context Area Map

Legend- Study Area

County Boundary
UCF Campus Boundary

Comprehensive Master Plan Update
University of Central Florida
Orlando, Florida
2015-2025

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All maps are diagrammatic and conceptual. The various areas shown are approximate and not to survey accuracy. The intent of these maps is to illustrate general areas of existing or potential use.

Rev. 20140415

Introduction

The 2015-2025 Campus Master Plan for the University of Central Florida represents the five-year update of the plan adopted in 2010 and outlines the university's Main Campus development plans for the years 2015 through 2025. The update is presented to the public, state, and local agencies referenced in section 1013.30(6), Florida Statutes, for their review and comment.

The Campus Master Plan consists of seventeen (17) elements indicated by a tab and corresponding element number. Each element contains the Master Plan Goals, Objectives, and Policies, with the corresponding maps and figures. Additionally, for reference purposes, the Data and Analysis for each element has been included as a separate section following the Master Plan Goals, Objectives, and Policies section. The Data and Analysis section consists of charts, statistics, graphics, and definitions that identify and define planning concepts and serve as supporting documentation for the Goals, Objectives, and Policies. The Master Plan document update is presented in a strike-through and underlined text format to indicate revisions to the 2010-2020 adopted Master Plan.

Written comments are encouraged and should be addressed to:

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Upon adoption of this plan by the Board of Trustees, the University will negotiate a Campus Development Agreement with the host local government, Orange County. This agreement will identify and help mitigate the University's impacts on public services. A Memo of Understanding (MOU) currently exists between Orange County and the University of Central Florida to further intergovernmental cooperation and coordination of development and permitting activity; to ensure frequent communication, and the exchange of mutually beneficial information; and to discuss other coordination issues as deemed appropriate by either party. The term of this agreement was established for a five-year period, effective August 3, 2010, and is subject to subsequent automatic one-year renewals.

Academic Mission

The University of Central Florida is a public, multi-campus research university, whose mission is to offer opportunities for high-quality undergraduate, graduate, and continuing education. It pursues international prominence in key programs of graduate study and research and provides global focus to curriculum and research programs. The University strives to become more inclusive and diverse and affords services that enhance the

intellectual, cultural, environmental, and economic development of central Florida. UCF is on a mission to be America's leading partnership university and continues to develop systematically and engage in programs that are responsive to the needs of the local, state, national, and global communities.

Academic Program

To fulfill its academic mission, the University must plan and support academic programs that accommodate projected enrollment and headcounts.
The following table shows the projected enrollment growth for the next five years at the Main Campus. These headcounts may include online classes and classes at other UCF campuses.

Year	Fall Main Campus Headcount
2015	50,714
2016	52,026
2017	53,295
2018	54,288
2019	54,155
2020	54,163

The above figures are based on official enrollment projections provided by Institutional Knowledge Management. Experience over the past decade indicates that these projections may fluctuate up or down due to:

a. the increased number of courses available online;
b. rising costs in education and difficult economic times;
c. the addition of programs and classes on UCF's Regional Campuses;
d. changes in the state population and the Central Florida region;
e. UCF's increased "market share" among college-bound students compared to other universities in the state; and
f. the growing emphasis on graduate studies at UCF.

Capital Improvements

Capital Improvements refers to the addition of permanent facilities or restoration of some aspect of the properties to meet the needs of the University, as identified in the Campus Master Plan. It involves estimating the cost of improvements for which the University has fiscal responsibility; analyzing the fiscal capability of the University to finance and construct improvements; adopting financial policies to guide the funding of improvements; and scheduling the funding and construction of improvements in a

manner that insures they are provided when required, based on needs identified in the Master Plan elements. All development is contingent upon the availability of funding.

All Capital Improvements activity at UCF is guided and directed by Florida Statute, the State University System of Florida's Board of Governors, and the University of Central Florida's Board of Trustees.

Sustainability Initiatives

Sustainability initiatives on campus are spearheaded by the department of Sustainability and Energy Management (SEM). Their mission is to obtain energy efficient operation of building systems through education, optimization, and verification, while providing professional leadership and fostering sustainable growth. Through their educational and interactive programs, such as the proactive recycling initiatives through the Recycling Center, and implementation of Leadership in Energy and Environmental Design (LEED) standards, they are helping to create a campus population which is informed and actively participates in the University's sustainable growth.

The Facilities Planning, and Construction department assures that all new construction on campus is registered with the US Green Building Council (USGBC) and that it meets a minimum LEED Silver rating. UCF stipulates thirty-three (33) of the LEED credits which have been identified as crucial to meeting UCF's goal to construct more energy-efficient and sustainable buildings. The remaining credits needed to achieve the minimum Silver rating are determined by the design team for each project, and approved by the Department of Sustainability and Energy Management (SEM). See the Conservation Element 2.13 of the Campus Master Plan for the breakdown of these specific LEED requirements.

The department of Landscape & Natural Resources creates and maintains a sustainable outdoor environment, provides high quality service for operational activities, and generates research and educational initiatives that guide conservation and stewardship of natural resources. They support the mission of UCF through a comprehensive outdoor laboratory that creates opportunities for relevant, experience-based learning, urban ecology research, and human connection with ecosystems and landscapes. Their inclusive program supports regional, state, national, and global efforts to develop sustainable urban environments.

Facilities Operations plays a vital role in the implementation and maintenance of the standards and practices established by the Energy and Sustainability Policy. The use of proactive routine maintenance, preventive maintenance, and capital renewal programs enhance and continue the benefits derived from energy and sustainability practices.

Thank you for your interest in the 2015-2025 University of Central Florida Campus Master Plan update.

GOAL 1: To Offer the Best Undergraduate Education Available in Florida

OBJECTIVE 1.1: To provide for maintenance or modification of the missions of individual colleges within the University over the planning timeframe.

POLICY 1.1.1: The colleges shall continually review and update their missions in relation to the University's mission statement and five goals, and the goals of the academic departments and disciplines within their colleges.

POLICY 1.1.2: Each college and department shall continue to establish internal procedures for updating and modifying its mission statement.

POLICY 1.1.3: The colleges shall develop missions and goals that address university-level goals and are in concert with the overall mission of the university. These mission statements are forwarded to the provost for consideration after they have been approved by the dean of the college.

POLICY 1.1.4: Proposed amendments to the adopted campus master plan shall reflect the most recently approved mission statement for the University.

OBJECTIVE 1.2: To provide for maintenance or modification of the mission of the University as a whole over the planning time frame.

POLICY 1.2.1: The mission of the University shall be reviewed and revised periodically. The last revision was in the Fall of 2008.

OBJECTIVE 1.3: To provide for new academic programs or modifications of existing academic programs and degrees offered.

POLICY 1.3.1: Establishment of new or modification of existing academic programs and degrees offered shall occur in synchronization with Board of Governors' deadlines within the five-year strategic planning cycle. The Office of Academic Affairs shall solicit white papers for the development of a new list on a regular basis.

OBJECTIVE 1.4: To establish priorities among the development of new or modified academic programs.

POLICY 1.4.1: Establishment of UCF's internal priorities among the development of new or modified academic programs and degrees offered shall occur in synchronization with BOG deadlines. The priorities for developing new academic programs and modifying or terminating existing programs shall continue to be identified in the strategic plan as described in Academic Program Element Policy 1.3.1.

POLICY 1.4.2: The colleges shall continually review and update their degree offerings according to productivity, demand, relation to the mission, and other pertinent factors.

OBJECTIVE 1.5: To continue the practice of developing an overall campus master plan updated at five-year intervals.

POLICY 1.5.1: UCF shall pursue modifications, upgrades, and expansion of its physical facilities and infrastructure that are incorporated into the most recently approved master plan.

POLICY 1.5.2: UCF shall submit to the BOG, within four years from the date of plan adoption and every five years thereafter, an evaluation and appraisal report which:

- lists accomplishments during the implementation of the campus master plan, describing major problems associated with development and land uses, and the degree to which the goals, objectives, and policies have been successfully reached;
- identifies obstacles or problems that resulted in underachievement of goals, objectives, or policies;
- identifies the need for new or modified goals, objectives, or policies required to correct unanticipated and unforeseen problems and opportunities that have occurred since adoption of the campus master plan;
- addresses local government and public participation in the process;
- addresses the effects of changes to the State Comprehensive Plan and to the comprehensive plans of the host local government and any affected local governments;
- identifies proposed and anticipated plan amendments necessary to address identified problems and opportunities;
- identifies a means of ensuring continuous monitoring and evaluation of the plan during the remainder of the overall planning period.

POLICY 1.5.3: UCF shall submit to the BOG, within five years from the date of plan adoption and every five years thereafter, a proposed plan amendment which incorporates the findings and recommendations contained in the evaluation and appraisal report, and which contains updated baseline data (as appropriate) and goals, objectives, and policies to be accomplished during the remainder of the overall planning period.

POLICY 1.5.4: UCF shall undertake an annual review of the goals, objectives and policies and programmed improvements identified in the most recently approved master plan to determine if amendments modifying the plan are necessary. Should revisions to this master plan, either alone or in conjunction with other amendments, exceed the thresholds established in F.S. 1013.30, said amendments shall be reviewed and adopted under the provisions of the same statute.

GOAL 2: To Achieve International Prominence in Key Programs of Graduate Study and Research

OBJECTIVE 2.1: To become and remain one of the nations's leading research universities recognized for its intellectual, cultural, technological, and professional contributions and renowned for its outstanding programs, partnerships, and commitment to undergraduate education.

POLICY 2.1.1: UCF shall target selected graduate programs in the strategic plan for support in order to achieve or retain international prominence.

POLICY 2.1.2 UCF shall adhere to the Academic Mission set forth in the Academic Mission Element of this Master Plan.

UCF at its founding was titled "Florida Technological University," and in keeping with that, its mission was expressly technological. However, the mission has broadened dramatically over the ensuing fifty years to the present. Re-titled in the late 1970s as the "University of Central Florida," it has become a rapidly-growing, leading research university, with a full complement of undergraduate and graduate programs. It performs cutting-edge research in a wide variety of disciplines that span the academic spectrum.

The most recently adopted mission for the University of Central Florida has maintained its overall tone and character. UCF remains committed to providing an excellent undergraduate education, while offering high-quality graduate and professional programs. The current mission restates goals and visions predicated in the 1995 mission, while reinforcing ties to the Central Florida geographic region.

GOAL 3: To Provide International Focus to Our Curriculum and Research Programs

OBJECTIVE 3.1: To identify areas of international strength and potential in support of the University's teaching, research, and public service missions.

POLICY 3.1.1: UCF shall regularly update the University's international strategic plan to support the University's mission.

POLICY 3.1.2: The University shall explore methods of promoting international programs and opportunities by:

- infusing the undergraduate and graduate curricula with international and cross-cultural perspectives;
- encouraging socially enriching experiences that lead to international and cross-cultural understanding for faculty, staff, and students.
- facilitating cross-cultural opportunities for the UCF community and the Central Florida metropolitan region;

- promoting international programs and partnerships that assure prominence for global competence.

GOAL 4: To Become and Remain More Inclusive and Diverse.

OBJECTIVE 4.1: To promote diversity among employees and students.

POLICY 4.1.1: UCF shall actively continue to recruit and retain minorities and women by following the recommendations of the two presidential commissions: the Commission on the Status of Women; and the Commission on the Status of Racial and Ethnic Minorities.

POLICY 4.1.2: UCF shall comply with established Affirmative Action/Equal Employment Opportunity guidelines and requirements in faculty, staff, administrator, and student searches.

GOAL 5: To Become and Remain America's Leading Partnership University.

OBJECTIVE 5.1: To promote partnerships as an area of emphasis at UCF.

POLICY 5.1.1: UCF shall endeavor to increase interdisciplinary partnerships within the University.

POLICY 5.1.2: UCF shall endeavor to increase partnerships within the community to enrich the educational, artistic, cultural, economic, and professional lives of those it serves in Central Florida and beyond.

OBJECTIVE 5.2: To promote outreach programs, volunteerism, and community-based research.

POLICY 5.2.1: UCF shall continue to develop and engage systematically in quality programs that are responsive to the needs of the community, particularly through service learning.

POLICY 5.2.2: UCF shall continue to encourage and support the development of high-quality continuing education programs.

POLICY 5.2.3: UCF shall continue to develop, engage in, and support programs which enhance K-12 education.

The University of Central Florida Strategic Plan: 2009

University of Central Florida, A Story of Excellence and Opportunity: The Strategic Plan Framing Narrative

UCF has embarked on a bold venture to become a new kind of university, one that leads as well as serves its region, its city-state. That is our goal. Our strategic plan must identify tactics that will enable us to achieve it in a competitive environment. As Florida and our nation confront a new era of economic turmoil and uncertainty, one may question whether this is the time for a new strategic vision that projects the university into such a demanding role. It is our view that this is precisely the time for the larger view that true strategic planning requires. From very humble beginnings, UCF has progressed to become a major metropolitan research university. Today, we stand at a crossroads, and we need your help as we develop the vision and strategies that will define our journey into the future. We will sustain our bedrock capabilities and continue to be "the people's university," offering access to a great university with a clear sense of itself and its role to offer an affordable, high-quality education to those with the ability, energy, and enterprise to pursue it. We will continue to champion and support a wide range of scholarship in the classic disciplines and emerging fields. We will sustain our abiding commitments to inclusiveness, excellence in all endeavors, and opportunity for all. We will be at the forefront of efforts to address the economic, cultural, intellectual, and societal needs of the Central Florida city-state.

This is a challenging, but exciting, time for our university, and your thoughtful support is important to our efforts to capture fully the opportunities afforded by strategic planning. We confidently project UCF as a leader in the Central Florida city-state. Our diverse and talented community of students, faculty and staff members, and alumni will enable us to continue to grow in size, quality, and impact on the region and the larger world. Still, finding the pathway to our best future will not be easy. Our current resource challenges are serious, and the road ahead has many obstacles. But as President Kennedy said in announcing the goal of going to the moon within a decade, "We choose to go to the moon…not because it is easy, but because it is hard." UCF people have always risen to a challenge. Join us as we design our path to leadership and service for the Central Florida city-state.

Let us continue our strategic planning work with a brief overview of our university's development as a major metropolitan research university. From its beginnings in 1963 as Florida Technological University, the University of Central Florida has actively sought to align its programs of teaching, research, and service with the needs of the regional economy it serves: to be *of* as well as *in* Central Florida. In its earliest days, this was reflected in its location midway between downtown Orlando and the Kennedy Space Center and in its curricular focus on engineering, the sciences, and business. As a technological university, it would be well positioned geographically and academically to serve the then-burgeoning aerospace industry.

In 1978, the Florida legislature passed a bill changing the institution's name to The University of Central Florida. This reflected the belief that the region needed a more broadly conceived and comprehensive university. Indeed, its curriculum had from its beginnings included the classic disciplines of the arts and sciences and other fields vital to society, such as teacher education. As the years passed, more academic programs were added, and graduate study became more common, with doctoral programs emerging in key fields. A major, 1000-acre research park was created adjacent to the campus through the joint efforts of the university and Orange County. Throughout, the university held to the pattern of offering programs that met the needs of Central Florida's economy.

With Central Florida's emergence over the past quarter century as a *city-state*, a self-conscious, distinct regional economy and market, this paradigm has been broadened to encompass inclusion of curricular, research, and programmatic emphases designed not only to support existing components of the regional economy, but to foster its diversification in areas that will add to its strength and vitality. Thus, programs in fields as diverse as optics and photonics, hospitality management, digital media, bio-technology, and medicine have been added. Business incubators have been developed, some in partnership with Central Florida counties, all with the aim of stimulating the development of the regional economy.

Throughout its history, UCF has been an institution that works with others to accomplish ambitious goals. Our highly successful and prestigious programs in optics and photonics, which grew from the Center for Research and Education in Optics and Lasers (CREOL), owe much of their initial support to local businesses whose products are based on laser technology. Led by the late Bill Schwartz, industry leaders worked with UCF scientists and engineers to gain recognition of CREOL as a state-wide center of excellence, including ongoing financial support. More recently, the College of Optics and Photonics-CREOL won designation as the Florida Center for Optics and Photonics, which carried with it a multi-million-dollar package of endowment and operating support. The combination of world-class research and a continuing stream of talented graduates assure the vitality of this important high-tech industry in the Central Florida city-state.

In the same way, UCF's Institute for Simulation and Training (IST) has achieved recognition and success through its work in collaboration with the military simulation and training commands located in the adjacent research park. Literally billions of dollars flow through these commands to contractors, many of them with strong presence in the research park. This synergy makes Central Florida the world-wide center of simulation and training, providing remarkable opportunities for interdisciplinary research and development for UCF faculty members and their students. IST and related academic departments contribute their research capabilities and, through their graduates, a significant portion of the highly educated workforce needed by the simulation and training industry. Combined with facilities funded by the state, these partnerships serve to bind the industry to Central Florida.

In an analogous fashion, the needs of the tourism and hospitality industry of Central Florida have been served by the emergence of the Rosen College of Hospitality Management. Made possible by a gift of more than $18 million by UCF trustee, hotelier

Harris Rosen, and generous support from other members of the hospitality industry, the campus is located near the heart of the tourist industry and is the premier facility of its kind world-wide. The 2,400 students of the college represent a strong cadre of future leaders for an industry that has long been the backbone of the Central Florida economy.

In response to a request from Electronic Arts, UCF created the Florida Interactive Entertainment Academy, home to a master of science program in electronic game development. Housed in downtown Orlando in facilities donated and remodeled by the City of Orlando and funded jointly by the State of Florida and UCF, it prepares game developers for the burgeoning electronic, interactive game industry.

In recognition of the growing need for additional physicians in Florida and the nation, and in the belief that Central Florida's economy will benefit dramatically from the development of biomedical, life sciences, and biotech businesses that grow to surround medical schools in city-states, UCF sought and obtained approval for the development of a medical school. Through the generosity of the Tavistock Group, the new medical school sits on 50 acres of prime land in Lake Nona, a 7,000-acre green-field development near the Orlando International Airport. With the gift of the land, now valued at about $30 million, and $12.5 million in cash, the Tavistock Group has seeded the formation of a life-sciences cluster around the new medical school. Already committed is construction valued at approximately $2 billion, including the Burnham Institute, VA Hospital, the Nemours Foundation Children's Hospital, a University of Florida research facility, and the research laboratories of the Orlando affiliate of the M.D. Anderson Cancer Center. Current estimates place the annual economic impact of the medical school at $1.7 billion and of the total life-sciences cluster at $7.6 billion.

A common element in each of these success stories is partnership: entrepreneurial faculty members, students, and administrators teamed with leaders from Central Florida business, professional, and governmental communities to apply knowledge in ways that increased opportunity. UCF and its partners invested time, talent, and treasure in ventures that grew and diversified the regional economy and simultaneously expanded research and academic opportunities for students and faculty members. Scholarly capabilities have grown dramatically through these partnership ventures as research, both pure and applied, has been developed in fields that offer rich promise for enhancing the academic reputation of the university and the quality of life of Central Floridians.

It is also clear that, as a general rule, successful approaches are interdisciplinary. Institutes and centers organized around significant issues, questions, and problems have the ability to assemble teams of scientists and engineers with the interest and ability to support the development of basic and applied knowledge of sufficient quality to confer competitive advantage to Central Florida enterprises. This focus of talent and enterprise, irrespective of academic discipline, is a compelling advantage for the institute or center as an organizational model for universities that embrace leadership in the economic and social development of the city-states in which they reside.

Thus, as we chart UCF's course over the next three to five years, we will favor approaches that feature partnerships and interdisciplinary approaches to problems of significance to the university and the Central Florida city-state. Any university's most

strategic resource is its people: talented faculty and staff members and students. We must do all we can to continue to attract and retain the brightest and best to our community. To achieve this objective, especially in challenging times, we must nurture and protect efforts that enable the university to achieve its core academic mission. These include, for example, programs that provide or support admissions and marketing, student success, fund-raising, procurement of research grants and contracts, and campus safety and security.

Strategic planning is a method designed to reveal opportunities to achieve success through the concentration of resources on key endeavors. Today's uncertain times require us to be more agile, adaptive and attuned to changing needs than in the past, making strategic planning and thoughtful implementation a dynamic, ongoing process. As UCF strives to sustain programs in its areas of historic strength—such as engineering, business, computer sciences, the natural sciences, and teacher education—it must, nonetheless, have the confidence and nimbleness to exploit strategic opportunities in areas as diverse as medicine, the performing arts and others in the future. We need and earnestly invite your ongoing contributions to this effort.

University of Central Florida Strategic Plan: Elements

I. Mission

The University of Central Florida is a public multi-campus, metropolitan research university that stands for opportunity. The university anchors the Central Florida city-state in meeting its economic, cultural, intellectual, environmental and societal needs by providing high-quality, broad-based education and experienced-based learning; pioneering scholarship and impactful research; enriched student development and leadership growth; and highly relevant continuing education and public service initiatives that address pressing local, state, national, and international issues in support of the global community.

II. Vision

UCF has embarked on a bold venture to become a new kind of university that provides leadership and service to the Central Florida city-state. While sustaining bedrock capabilities in the future, the university will purposely pursue new strengths by leveraging innovative partnerships, effective interdisciplinarity, and a culture of sustainability highlighted by a steadfast commitment to inclusiveness, excellence, and opportunity for all.

III. Goals

Goal 1: Offer the best undergraduate education available in Florida.

Goal 2: Achieve international prominence in key programs of graduate study and research.
Goal 3: Provide international focus to our curricula and research programs.
Goal 4: Become more inclusive and diverse.
Goal 5: Be America's leading partnership university.

IV. Challenge

UCF will cultivate an engaging attitude of awareness, innovation, courage, and agile responsiveness in its members to promote discovery and address emerging needs within the university and the Central Florida city-state. The entire university community is empowered to identify, seek, develop, and capitalize on opportunities that arise in the future and meet the vision of the university.

University of Central Florida Strategic Plan: Implementation

I. Units: As units move forward in pursuing UCF's vision using this strategic plan as a guide, an existing program or a new initiative should be rigorously and routinely assessed using the following criteria:

- What are the clear and measurable "value-added benefits" to the university or city-state?
- Is it "central" to the mission of the university?
- Are there compelling "demand" metrics?
- What is the "comparative advantage" it brings to the university or city-state?
- What are the short and long-term "costs" and availability of resources?

II. Education Team: A Strategic Plan Education Team will promote and support an ongoing educational campaign designed to assist the UCF family (internal and external) to understand its future roles and goals in the central Florida city-state. Clarity and consistency of message are key to successful transition over time.

- Education and Approval
    - President and vice presidents
    - Board of Trustees
- Education

- Roundtable participants
- Faculty Senate
- Student Government Association and other university groups (including UCF Foundation board, Alumni Association board, and college advisory boards)
- Community groups
- Ongoing educational campaign (print and electronic media)
- Ad hoc briefings, as required

III. Leadership Responsibilities:

- Articulate
  - How well have we told the "story"?
- Align
  - Are the "story" and day-to-day operations in synchrony?
- Measure
  - Do day-to-day operations fit the university's vision and goals?
    - Institutional effectiveness program
    - Academic program reports
    - Periodic program reviews
    - Accreditation
- Execute and Assess
  - Who maintains a focus on strategy and monitors performance of key initiatives, processes and outcomes?

APPENDIX A: FIVE-YEAR STRATEGIC PLANNING CYCLE (SPC)

(Timing is offset one year from BOG).

Year #1	- Obtain approval of new UCF strategic plan in the fall - Measure attainment of UCF goals - Provide input to BOG for their master plan
Year #2	- Measure attainment of UCF goals - Receive new BOG master plan
Year #3	- Produce mid-course correction on existing UCF plan - Provide input to BOG for their mid-course correction
Year #4	- Measure attainment of UCF goal - Receive BOG mid-course correction
Year #5	- Prepare new strategic plan

Departments and colleges will provide updates to their own plans in support of SPC activities.

GOAL 1: To be one of the nation's leading research universities recognized for its intellectual, cultural, technological, and professional contributions and renowned for its outstanding programs, partnerships, and commitment to undergraduate education.

OBJECTIVE 1.1: To plan for and support UCF's on-campus (Orlando campus only) student enrollments of 24,591FTE and 56,061headcount by the year 2024-25.

POLICY 1.1.1: UCF shall plan for and support enrollment based on the following on-campus projections:

Year	Orlando Campus Annual FTE*	Orlando Campus Fall Headcount**
2014-15	22,946	49,923
2015-16	22,890	50,714
2016-17	23,128	52,026
2017-18	23,484	53,295
2018-19	23,661	54,288
2019-20	23,661	54,155
2020-21	23,646	54,163
2021-22	23,833	54,577
2022-23	24,038	54,917
2023-24	24,237	55,241
2024-25	24,591	56,061

* These FTE totals are based on 40 undergraduate annual student credit hours and 32 graduate student credit hours produced in live (non-Web) course sections on the Orlando campus **excluding** Orlando-off, Rosen College, Expo Center, and Lake Nona for fundable and non-fundable student credit hours
** These headcounts represent the number of students taking one or more live (non-Web) course sections on the Orlando campus **excluding** Orlando-off, Rosen College, Expo Center, and Lake Nona for fundable and non-fundable students

The FTE and headcount enrollment projections shown above are based on UCF's official enrollment plan *UCF FTE Enrollment Plan 2008-09 – 2013-14 with Projections Through 2020-21*, July 11, 2008, delineated apart from distance education or regional campus enrollments.

Although the FTE figures reported above are for live (non-Web) course work, the additional impact made by online course offerings must also be considered in the academic planning needs for the Orlando campus. Students enrolled in online coursework

make use of the general facility, including lab space, the library, campus dining, administrative and advisement services, and parking on campus. Additionally, online instruction requires office space for faculty members. Currently, about 10 percent of UCF student credits are earned in a fully-online mode, and this number is expected to continue over the planning horizon.

It is crucial for a complex campus such as UCF, which historically has exceeded its funded enrollment growth, to be prepared with proper physical facilities.

OBJECTIVE 1.2: To define the planned student enrollment distribution by college and level.

POLICY 1.2.1: Planned student populations shall be distributed at the Orlando* campus approximately as follows:

Orlando* 2014-15 FTE	**Lower Undergrad**	**Upper Undergrad**	**Grad I**	**Grad II**	**Total**
Arts & Humanities	2,463	1,336	116	14	3,929
Burnett Honors	24	4	-	-	28
Business Administration	379	1,618	345	23	2,365
Education & Human Performance	449	910	471	167	1,997
Engineering & Comp Sci	313	2,057	64	188	2,622
Graduate Studies	-	-	3	6	9
Health & Public Affairs	83	1,622	508	130	2,342
Medicine	97	839	24	30	990
Nursing	3	227	8	59	298
Optics and Photonics	-	-	13	42	55
Rosen Hospitality Mgmt	176	75	-	1	252
Sciences	5,060	2,522	174	206	7,961
Undergraduate Studies	34	62	-	-	96
University Total	**9,081**	**11,273**	**1,726**	**865**	**22,946**

Main* 2024-25 FTE	Lower Undergrad	Upper Undergrad	Grad I	Grad II	Total
Arts & Humanities	2,862	1,317	130	16	4,324
Burnett Honors	28	4	-	-	32
Business Administration	440	1,595	386	26	2,447
Education & Human Performance	522	897	526	193	2,138
Engineering & Comp Sci	364	2,027	72	218	2,680
Graduate Studies	-	-	3	7	10
Health & Public Affairs	96	1,598	567	151	2,412
Medicine	113	827	27	35	1,001
Nursing	4	224	9	69	306
Optics and Photonics	-	-	15	48	63
Rosen Hospitality Mgmt	205	74	-	1	280
Sciences	5,897	2,486	194	239	8,797
Undergraduate Studies	39	61	-	-	100
University Total	**10,551**	**11,108**	**1,928**	**1,004**	**24,591**

* These figures are based on 40 undergraduate annual student credit hours and 32 graduate student credit hours produced in live (non-Web) course sections on the Orlando campus **excluding** Orlando-off, Rosen, Expo Center, and Lake Nona for fundable and non-fundable student credit hours.

OBJECTIVE1.3: To establish priorities for distribution of funding for new programs.

POLICY1.3.1: Besides those funds distributed based on line items, specials, and other considerations, the Office of Academic Affairs shall work with the colleges to determine the projected cost for new programs. Each new proposal must include the budget tables. Once agreement is reached, the amount of the budget, including that portion expected to come from Academic Affairs, shall be considered to be the commitment of the University until the third year of implementation. At that time, it is expected that programs will be self-sufficient or fully-funded through the colleges' budgets.

POLICY1.3.2: The colleges shall continually evaluate the programs they offer in relation to the relevance to, and support of, University goals. Based upon their findings, colleges may propose to implement new programs or terminate or modify existing programs. All of these options are processed in cooperation with the Office of Academic Affairs through the established program review process. Proposed program lists related to UCF's academic priorities shall be developed at the college level throughout their planning processes. Priorities shall be discussed between the deans and provost as appropriate. A University- level list of program

priorities is produced approximately once every two years. This list is forwarded to the BOG during the academic master plan updating process.

POLICY1.3.3: Program terminations may be handled through the BOG at any time. The procedure for program modifications varies depending on the magnitude of the proposed changes. Most minor modifications are made through the colleges and do not require BOG action.

POLICY1.3.4: A program shall be placed on the BOG five- year program list, so that the BOG will accept a new degree proposal for the program. The availability of outside funding alone will not cause the University to consider a new degree program; however, such funding may allow a program to be implemented prior to the previous timeline.

POLICY1.3.5: Supervisors shall approve faculty members' budgets prior to developing grants. Grants awarded to faculty in the University shall take into consideration space, equipment, and other budgetary needs when they are under development. Often grants provide funds for these considerations and serve to reinforce and support the academic mission of the department. The Office of Research and Commercialization (ORC) shall review and submit all grant proposals on behalf of UCF. In this role, ORC assures that the University has the capacity to house the grant.

UCF PROGRAMS BY COLLEGE

The following list is based on current UCF degree offerings. While certificate programs are not represented here, it is noteworthy that enrollment numbers in certificate programs do contribute to UCF's overall enrollment growth.

Thus excluding a number of doctoral or other programs currently in the planning stage, as well as some others that may be proposed in the future, what follows are UCF's known degree offerings.

COLLEGE & PROGRAM NAME **DEGREE LEVEL***

* Legend for Levels: BAC-Bachelors; MAS-Masters; SPC-Specialist;
R. DOC-Research Doctorate; P. DOC-Professional Doctorate

COLLEGE OF ARTS AND HUMANITIES	BAC	MAS	SPC	R. DOC	P. DOC
Architecture	X				
Art	X[1]				
Creative Writing		X			
Digital Media	X	X			
Emerging Media		X			
English	X	X			
Film	X	X			
French	X				
History	X	X			
Humanities	X				
Interactive Entertainment		X			
Latin American Studies	X				
Modern Languages Combination	X[2]				
Music	X	X			
Music: Performance	X				
Philosophy	X				
Photography	X				
Religion and Cultural Studies	X				
Spanish	X	X			
Teaching English to Speakers of Other Languages		X			
Texts and Technology				X	
Theatre	X	X[1]			
Theatre Studies	X				

COLLEGE OF BUSINESS ADMINISTRATION	BAC	MAS	SPC	R. DOC	P. DOC
Accounting	X	X			
Business Administration	X	X		X	
Business Economics	X				
Economics	X	X[2]		X[2]	
Finance	X				
General Business Administration	X				
Management	X	X			
Management Information Systems		X[2]			
Marketing	X				
Real Estate	X	X			
Sport Business Management		X			
Taxation		X			

COLLEGE OF EDUCATION & HUMAN PERFORMANCE	BAC	MAS	SPC	R. DOC	P. DOC
Applied Learning and Instruction		X			
Art Education	X	X[1,2]			
Career and Technical Education		X			
Counselor Education		X[1]			
Curriculum and Instruction		X[2]			
Early Childhood Development and Education	X	X[2]			
Education			X	X[1]	
Educational Leadership		X[1]	X	X	
Elementary Education	X	X[1]			
English Language Arts Education	X	X[1,2]			
Exceptional Student Education K-12		X			
Exceptional Student Education	X[2]	X			
Instructional Design and Technology: e-Learning		X			
Instructional Design and Technology: Educ. Technology		X			
Educational Design and Technology: Instr. Systems		X			
K-8 Mathematics and Science Education		X			
Marriage and Family Therapy		X			
Mathematics Education	X	X[1,2]			
Reading Education		X			
School Psychology			X		
Science Education	X	X[1,2]			

Social Science Education	X	X [1,2]			
Sport and Exercise Science	X	X			
Teacher Education		X			
Teacher Leadership		X			
Technical Education and Industry Training	X				
World Languages Education	X				

COLLEGE OF ENGINEERING & COMPUTER SCIENCE	BAC	MAS	SPC	R. DOC	P. DOC
Aerospace Engineering	X	X			
Civil Engineering	X	X[1]		X	
Computer Engineering	X	X		X	
Computer Science	X	X		X	
Construction Engineering	X				
Digital Forensics		X			
Electrical Engineering	X	X		X	
Engineering Management		X			
Environmental Engineering	X	X[1]		X	
Industrial Engineering	X	X[1]		X	
Information Technology	X				
Materials Science and Engineering		X		X	
Mechanical Engineering	X	X		X	
Modeling and Simulation		X[3]		X[3]	

COLLEGE OF GRADUATE STUDIES	BAC	MAS	SPC	R. DOC	P. DOC
Biomedical Sciences				X[3]	
Interdisciplinary Studies		X[1]			
Modeling and Simulation		X[3]		X[3]	

COLLEGE OF HEALTH AND PUBLIC AFFAIRS	BAC	MAS	SPC	R. DOC	P. DOC
Athletic Training	X				
Communication Sciences and Disorders	X[1]	X			
Criminal Justice	X[1]	X		X	
Health Care Informatics		X			
Health Informatics & Information Management	X				
Health Sciences (Pre-clinical)	X				
Health Sciences (Health Services Administration)	X	X			

Health Services Administration	X				
Legal Studies	X[1]				
Nonprofit Management		X			
Physical Therapy					X
Public Administration	X[1]	X			
Public Affairs				X	
Research Administration		X			
Social Work	X	X			
Urban and Regional Planning		X			

COLLEGE OF MEDICINE	**BAC**	**MAS**	**SPC**	**R. DOC**	**P. DOC**
Biomedical Sciences	X	X		X[3]	
Biotechnology	X	X			
Doctor of Medicine					X
Medical Laboratory Sciences	X				

COLLEGE OF NURSING	**BAC**	**MAS**	**SPC**	**R. DOC**	**P. DOC**
Doctor of Nursing Practice				X	
Nursing	X	X		X	

COLLEGE OF OPTICS AND PHOTONICS	**BAC**	**MAS**	**SPC**	**R. DOC**	**P. DOC**
Optics		X		X	
Photonic Science and Engineering	X				

COLLEGE OF SCIENCES	**BAC**	**MAS**	**SPC**	**R. DOC**	**P. DOC**
Actuarial Science	X[2]				
Advertising / Public Relations	X				
Anthropology	X	X			
Applied Experimental and Human Factors Psychology		X			
Applied Sociology		X			
Biology	X	X			
Biomedical Sciences				X[3]	
Chemistry	X	X		X	
Clinical Psychology		X[1]			
Communication		X			

Conservation Biology		X		X	
Forensic Science	X	X			
Industrial and Organizational Psychology		X			
International and Global Studies	X				
Human Communication	X				
Journalism	X				
Mathematical Science		X			
Mathematics	X			X	
Modeling and Simulation		X[3]		X[3]	
Physics	X	X		X	
Political Science	X	X			
Psychology	X			X	
Radio / Television	X				
Security Studies				X	
Social Sciences (Interdisciplinary)	X				
Sociology	X			X	
Statistical Computing		X			
Statistics	X				

ROSEN COLLEGE OF HOSPITALITY MANAGEMENT	**BAC**	**MAS**	**SPC**	**R. DOC**	**P. DOC**
Event Management	X				
Golf and Club Management	X				
Hospitality and Tourism Management		X			
Hospitality Management	X			X	
Restaurant and Foodservice Management	X				

UNDERGRADUATE STUDIES	**BAC**	**MAS**	**SPC**	**R. DOC**	**P. DOC**
Applied Science	X				
Interdisciplinary Studies	X[1]				

[1]Inventory with multiple degrees at the designated level (e.g., B.A. and B.S. or M.A. and M.S.)

[2]Programing suspended status as of Jan. 14, 2014, pending more definitive action (e.g., repackage and re-open admissions, terminate program)

[3]Interdisciplinary program receiving oversight from multiple colleges and therefore cross-listed accordingly

GOAL 1: To create a campus which is a cohesive environment characterized by appropriate building or tree placements that frame organized open spaces, logical pedestrian pathways to the core of campus, and simplified vehicular circulation.

OBJECTIVE 1.1: To protect, enhance, and develop meaningful campus exterior spaces.

POLICY 1.1.1: The University Facilities, Planning and Construction Department together with the Master Planning Committee, the Faculty, and the Administration shall review the future campus development for compliance with the UCF Master Plan Urban Design Criteria, as well as all other appropriate Master Plan Goals, Objectives, and Policies.

POLICY 1.1.2: Axial arms of open space framed by buildings in the academic core shall be encouraged as visual corridors in and out of the University.

POLICY 1.1.3: Building edges shall reinforce the pattern of interstitial open spaces within academic core and housing areas.

POLICY 1.1.4: Landscaping and covered walkways shall be used as tools of enclosure and space makers, as well as elements of continuity.

POLICY 1.1.5: Academic quadrangles shall be developed and infilled within the academic core. Internal open spaces shall be preserved.

POLICY 1.1.6: Physical connections and movement from open space to open space shall be emphasized to reinforce pedestrian connectivity to the core of campus.

POLICY 1.1.7: The inner campus as a pedestrian environment shall be emphasized. Future buildings shall not deteriorate established or planned exterior framed settings, or obstruct axial pedestrian pathways. Vehicular access to the inner campus shall be minimized, while providing service access and access for parking for people with disabilities.

POLICY 1.1.8: When feasible, UCF shall preserve, enhance, and develop new delineated exterior spaces by consolidating on-grade parking areas within the 1200-foot radius of the campus core, into parking structures located outside the 1200-foot radius.

POLICY 1.1.9: A portion of future building construction budgets and funding shall be allotted to the development of the campus open spaces.

POLICY 1.1.10: The University shall consider the redevelopment of older, low-rise structures on campus when determining sites for future projects, in order to use land more efficiently and at a higher density.

POLICY 1.1.11: In order to accommodate future program needs and to protect open spaces on campus, future buildings shall be constructed at a minimum of four (4) floors, as budget and other program factors will allow.

POLICY 1.1.12: The development of the campus spatial environment, as determined by the placement of buildings and open spaces shall occur through the timing set forth in the University's PECO and other funded projects, in coordination with the Office of Facilities and Safety.

POLICY 1.1.13: The University shall encourage beautification of the campus boundaries especially along Alafaya Trail and the South Connector Road to the Research Park.

POLICY 1.1.14: The University shall consider the development of pedestrian and bicycle paths and adjacent neighborhood gateways that connect the campus with the Research Park, as well as future trail systems in Orange and Seminole counties.

POLICY 1.1.15: The University shall employ Crime Prevention Through Environmental Design (CPTED) strategies in all new building designs and major renovations to achieve a secure and safe campus.

OBJECTIVE 1.2: To organize the placement of service and loading functions to avoid interference with campus open spaces and circulation.

POLICY 1.2.1: Service and loading areas shall be located adjacent and within the 400- foot and 1200-foot rings for academic buildings.

POLICY 1.2.2: In order to minimize the number of sites for service and loading, their locations shall be selected to serve as many buildings as possible from one area.

POLICY 1.2.3: Non-vehicular paths shall be placed to avoid pedestrian crossings, or placed next to service areas.

POLICY 1.2.4: Service and loading areas shall be visually and acoustically screened from their surroundings, through the use of landscaping, fencing, walls, and placement of buildings.

POLICY 1.2.5: Vehicular access to service areas shall be minimized and restricted to authorized vehicles only.

POLICY 1.2.6: Golf cart use within the academic core shall be minimized.

OBJECTIVE 1.3: To ensure the compatibility of the University with the host community boundary and abutting neighborhood context with respect to building location, orientation, mass and scale, landscape character, and ground level character.

POLICY 1.3.1: Principal academic buildings shall be contained within the Academic Core, whenever possible.

POLICY 1.3.2: When feasible, a landscape buffer shall be maintained around the perimeter of the campus.

POLICY 1.3.3: The University shall coordinate, with the host community, regarding issues related to the urban design character of the University with respect to the context area.

POLICY 1.3.4: Visual and physical links shall be developed with the community that encourage public transportation and participation in campus activities.

POLICY 1.3.5: The campus shall maintain a relatively dense development pattern to use University land efficiently for future program accommodation.

OBJECTIVE 1.4: To maintain and enhance functional linkages between major campus activities.

POLICY 1.4.1: Campus activities of similar function shall be clustered together.

POLICY 1.4.2: Separation of vehicular and non-vehicular circulation paths shall be encouraged.

POLICY 1.4.3: Vehicular and non-vehicular paths shall be articulated and distinguished with landscaping, surface paving materials, striping, grading design, building edges, and signage.

POLICY 1.4.4: When feasible, permanent parking areas shall be constructed outside of the 1200-foot radius of the campus central core.

POLICY 1.4.5: Retail and support services shall be located close to campus housing (i.e., fast food, laundry, social activity centers, etc.)

POLICY 1.4.6: Parking facilities shall be located to support the academic, recreational, and housing centers on the campus.

POLICY 1.4.7: The construction or installation of temporary and portable buildings on campus shall be discouraged.

OBJECTIVE 1.5: To develop energy- efficient **campus buildings and facilities , as outlined in the UCF Design, Construction, and Renovation Standards. .**

POLICY 1.5.1: Whenever possible, UCF shall minimize the east and west exposures of buildings.

POLICY 1.5.2: South- facing windows, when appropriate, shall be provided with overhangs and shading.

POLICY 1.5.3: The University shall establish and enforce minimum thermal insulation values for exterior walls and roofs of all conditioned facilities.

POLICY 1.5.4: All future and existing campus facilities shall continue to connect to the centrally controlled Energy Management System (EMS).

POLICY 1.5.5: Landscape shall be positioned in a manner that helps shade campus buildings.

POLICY 1.5.6: Windows may have tinting, but the color and reflectance shall comply with the UCF Design, Construction, and Renovation Standards and be approved by the Director of Facilities Planning and Construction and the Administration.

POLICY 1.5.7: Light fixtures shall employ energy- efficient measures.

POLICY 1.5.8: Other energy- saving features, such as occupancy controls on lighting, shall be considered for future and existing facilities.

POLICY 1.5.9: The University shall encourage water management practices so that post- development runoff is less than or equal to pre-development runoff.

POLICY 1.5.10: All UCF buildings shall be LEED certified and meet Silver accreditation, as defined by the US Green Building Council.

Data and Analysis of the Urban Design Element

The Urban Design Element of the UCF Campus Master Plan gives an overview of the existing concepts and principles guiding the overall development of the campus. The desired campus character is achieved by decisions governing the placement of buildings, the organization of open spaces, the celebration of symbolic and memorable places, the approach to pedestrian and vehicular circulation, linkages to and from campus, safety, and the campus visual structure. It is important to understand the existing framework, to serve as a foundation and guide for conceptual principles involved in the structuring of future campus development.

1. Existing Context

The Main Campus of the University of Central Florida is located 13 miles east of downtown Orlando and south of the city of Oviedo. An extensive, forested wetland system exists within the southeastern portion of the campus, which ultimately drains into the Econlockhatchee River. A cypress wetland system is located in the center of the campus adjacent to the Student Union. The campus is laid out in 400-foot, 800-foot and 1200-foot concentric circles around this cypress wetland core. Gemini Boulevard comprises the outermost concentric circle beyond the 1200- foot ring. The Central Florida Research Park borders the campus along its southern edge. A 200- foot landscape buffer surrounds the overall campus perimeter, with visual breaks occurring at the entrances into the campus.

1a Character of Existing Context Area

Orange County designates the University as Institutional Future Land Use, and the area in which the University is situated is comprised of a mix of housing, industrial, planned development, and commercial uses.

UCF is bordered by areas classified for diverse use. On its southern border lies the Central Florida Research Park, whose designation is mainly for high-tech industrial use. Small commercial areas, multi-family housing, and vacant land are found to the west of Alafaya Trail, and south of University Boulevard. A planned development called the Quadrangle exists to the north of University Boulevard. This complex is made up of a mix of offices, commercial areas, and hotel facilities. The demand for space will undoubtedly grow as more corporations relocate to the UCF area.

2. Building Placement

The Student Union is at the center of campus. Surrounding the Student Union and located primarily between the 400-foot and 1200-foot radius circles are the academic and administrative buildings (Academic Core). Student housing, parking, and support facilities reside outside the 1200-foot radius circle. A dominant linear axis bisects the

entire campus from southwest to northeast. This axis links some of the most prominent campus landmarks. It starts along the Central Florida Boulevard entrance and connects the Duke Energy University Welcome Center, Millican Hall, the Reflecting Pond, John C. Hitt Library, the Student Union, Memory Mall, and the CFE Arena. Intercollegiate fields and facilities are outside Gemini Boulevard to the northeast of campus and west of North Orion Boulevard. Intramural fields and more support facilities and student housing are outside Gemini Boulevard to the south of campus. The Greek Park sorority and fraternity housing is located on the northwest area of the campus.

Certain identifiable districts have developed within the Academic Core. For example, Engineering, Mathematics, Sciences, Technology, CREOL and Chemistry are concentrated along the south eastern portion of the Academic Core. Grouping similar functions and areas of study into districts should be encouraged, since it places similar resources close to one another. This leads to greater efficiency and accessibility and a reduction of vehicular trips within the campus core.
Intercollegiate Athletics is grouped into the Intercollegiate District on the north side of campus. Intramural Fields and Student Recreation are concentrated to the south of campus and north of the Research Park.

3. Organization of Open Spaces

Open space areas on campus are shaped by the buildings and landscapes which surround them. Open spaces range from the natural to the formal; from the intimate to the public. They serve a variety of functions, such as places for gathering, recreation, reflection, study, and visual and sound buffers. These open spaces can serve as nodes of diverse activities and functions, and they should be linked in a logical and sequential way. These linkages can be the glue that binds together corresponding districts, as well as the cohesive force connecting the various areas of the campus. Open space can also be characterized as a setting which features soft, suburban, curvilinear, green, and passive components.

Following is a list of some significant, high-activity buildings and open spaces:

- Reflecting Pond and Surrounding Lawn

  The space between the John C. Hitt Library and the Administration Building, Millican Hall, is both defined by the two buildings and landscape features, and has a visual sequence, from the Central Florida Boulevard entrance to the spaces flanking it. The focal point of this space is the Reflecting Pond, memorable campus landmark that plays host to a UCF Homecoming tradition, the Spirit Splash.
- Memory Mall

  A formal, linear open space flanked by academic buildings, this space functions as a stage for campus activities, such as tailgating during football games and ROTC formations.

- Arboretum
  This area incorporates planting, research, and academic functions associated with the Department of Biology.
- Recreation and Wellness Center
  An exercise hub for health and wellness, this facility is a vibrant node of student activity.
- Student Union
  Situated at the center of the campus, natural boardwalks hover over the cypress strand leading up to the building.
- John C. Hitt Library
  The Library serves as an active space for study, socializing, and meetings.
- John T. Washington Student Center Walkway
- This sky lit exterior walkway and outdoor gathering area , is flanked by the UCF Bookstore, restaurants, student services, and the John T. Washington Student Center. Green Area South of Memory Mall
  Raised planters with grassy berms and palms, serve this area where students like to relax, sit, and walk along the adjacent, brick-paved portion of Pegasus circle.
  - Lake Claire
    This natural area lends itself to activities such as hiking, kayaking, or canoeing.
- CFE Arena and Knights Plaza
  This area hosts large, public, interior and exterior, venues and activities.
- East and West Plaza Drive
  Shopping, dining, and housing are activities that make these corridors, energetic hubs.

4. Campus Visual Structure

Permanent buildings on campus range in height from one to seven stories. The exteriors of these buildings are predominantly brick. Architectural details, done in concrete, metal panels, and some curtain wall areas, are the only general exceptions. The predominance of brick, accompanied by the relative scale of the buildings on campus, helps create a significant level of visual continuity. The campus is shaped by the natural landscape from which it has been carved. The concentric organization gives further structure to the visual environment. Pegasus Circle (400-foot), Mercury Circle (800-foot), Apollo Circle (1200-foot), and Gemini Boulevard help students with visual wayfinding. During orientation, students are reminded that if they lose their way, they should stay on one of the circular loops and they will eventually end up back where they started.

5. Existing Functional Linkages

5a) Automobile
Primary vehicular access to the campus is through University Boulevard, Alafaya Trail, Research Park, and McCulloch Road. Accessibility to the main campus from the eleven- county service area and the area campuses is through various major roadways including I-4, the Beeline Expressway, the East-West Expressway, and State Road 50. University Boulevard is considered to be the main vehicular entry into campus. Centaurus Drive, Gemini Boulevard North, and Central Florida Boulevard are the other important formal entrances. The Central Florida entry displays the most formalized type of entry into the campus, because of its axial relationship to campus landmarks.
Pedestrian hazards are created whenever vehicular circulation crosses parking lots, as it does in many instances throughout campus. UCF has been working to identify and mitigate existing hazards and to limit future hazards through effective planning and design.

5b) Bicycle
Bicycles provide many students with an economical and efficient source of transportation, due to the proximity of off-campus housing. There are many bicycle paths found throughout campus, including those flanking Libra Drive and Gemini Boulevard North, and going from Alafaya Trail along Central Florida Boulevard to the Administration Building. Bicycle racks are currently provided for approximately 6,500 bicycles on campus. Bicycling is a healthy and environmentally supportive alternative and should be encouraged as a means of reducing vehicular traffic on campus.

5c) Pedestrian
The UCF campus was planned and developed with the pedestrian in mind, and based on a maximum walking time of eight minutes to the center of campus. The 1200-foot outer radius (Apollo Circle) was implemented to serve this purpose, with the 800-foot radius (Mercury Circle) providing a five minute walking trip to the campus center. A third ring, (Pegasus Circle), on a 400-foot radius, encircles the center of campus. A network of secondary pedestrian paths with corresponding offshoots provides access between buildings throughout campus.

5d) Transit
UCF is meeting timely demand for transportation of its students by offering both on-campus and off-campus shuttle service. The Black and Gold Line is an on-campus only shuttle. It consists of two routes, clockwise (gold) and counterclockwise (black), that make eight stops at strategic campus locations. The UCF Shuttle Transportation System serves many off-campus locations and consists of thirteen regular routes between UCF and nineteen local student residential communities, as well as the Central Florida Research Park. It provides safe and convenient transportation services to and from the main campus of

UCF. Round trips are also provided to the Rosen Campus and the Health Campus at Lake Nona. The transportation service allows students to leave their vehicles at their place of residence. There is no per- trip cost to ride, and students have the available benefit of central access in the core facilities of the campus. The campus destination points are strategically selected to allow students a short distance to classrooms or campus activities.

6. An analysis of the evolution of the development pattern of University buildings and open spaces.

There has been significant development on campus since 2000. The Convocation Center, student housing, retail space, and a football stadium have been built on the north section of campus, adjacent to North Orion Boulevard. The Physical Sciences building and Engineering Building III have been built in the southeast part of the academic core. Parking Garage A is located along Gemini Boulevard at the University Boulevard entrance. A new Psychology Building is located on the north end of the academic core adjacent to a new green space known as Memory Mall. Most of this new development has been spreading concentrically from the original campus development.

As program needs continue to demand more academic and support space on campus, development should respect the evolution around the circular pattern of the campus, while maintaining a relatively dense pattern. Particular attention should be paid to the creation of attractive open spaces, reinforced by careful site-planning. Of important concern is the preservation and enhancement of axial pedestrian links to and from the center of campus, which work to create long views and facilitate wayfinding on campus.

7. An identification of and assessment of the advantages and disadvantages of alternative spatial configurations by which future development on the campus may be organized. This analysis shall include consideration of methods to improve energy efficiency and alternatives for coordinating the pattern of buildings and spaces along the University/community boundary (graphic and companion narrative).

Buildings should be organized in a way which complements and frames the open spaces around them. The careful creation of open spaces provides the framework for memorable, symbolic places on campus, and provides a context for future programming and the pedestrian experience on campus. The importance of these spaces cannot be underestimated, and indeed becomes the catalyst around which future buildings and pathways respond and are mindful.
An example of this type of development is along Memory Mall. Buildings along its edge reinforce the existing axial relationship. Parking Garage D is directly to the east, providing support to both the academic area and the Convocation Center. This axial relationship has been continued across the Student Union and

mirrored as the front door to the campus where the Duke Energy University Welcome Center is located.

Spatial configurations mentioned above are important for place making and establishing pedestrian importance on a college campus. Axial relationships to the center of campus should be enforced and in fact programmed in future growth framework- while maintaining the circular paths and roadways important to the history of the University of Central Florida.

8. An identification and assessment of alternative future activity location and linkage concepts for the campus and the context area (graphic and companion narrative).

The Academic Villages housing complex and the Recreation and Wellness Center south of the Student Resource Center (SRC) created a new activity hub. Links to the center of campus from this area should be reinforced, particularly through the SRC. Furthermore, in addition to the proposed northeast academic spine, the area at the north end of Central Florida Boulevard provides an excellent opportunity for future development. Integration of the Duke Energy University Welcome Center and academic buildings around an open green space activate that area of campus and present a collegiate entranceway to the college.

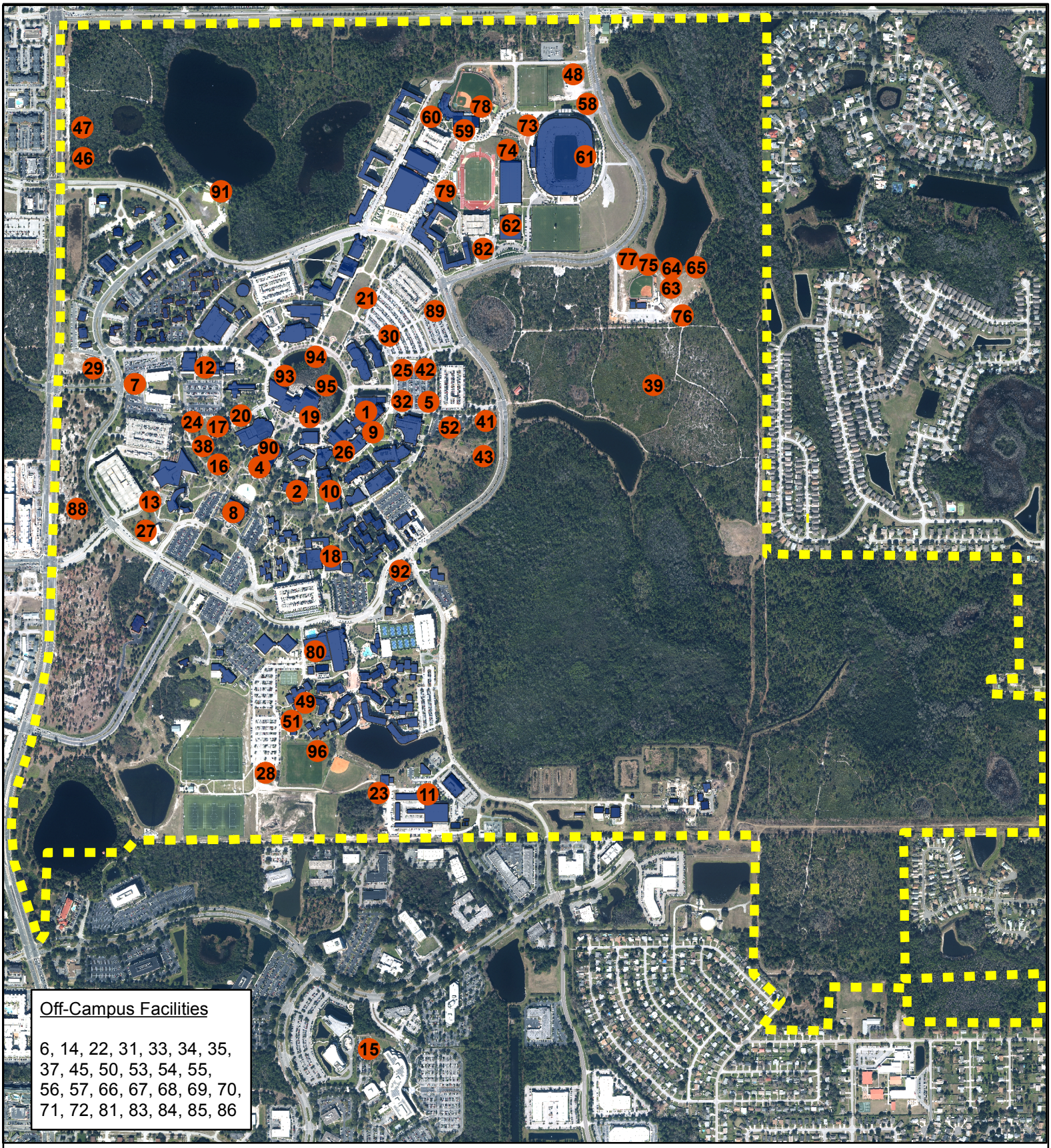

Figure 3-1

Urban Design and Capital Improvements

Comprehensive Master Plan Update

University of Central Florida

Orlando, Florida

2015-2025

Legend

- 2015 Capital Improvements List Item
- Existing Buildings
- Boundary

To locate buildings on map, refer to Element 14: Capital Improvements List

N

All maps are diagrammatic and conceptual. The various areas shown are approximate and not to survey accuracy. The intent of these maps is to illustrate general areas of existing or potential use.

Rev. 20141202

0 1,000 2,000 4,000 Feet

GOAL 1: To create developmental patterns that direct future growth to appropriate areas on campus, in a manner that promotes the educational mission of the University, the protection of environmentally sensitive areas, and compatibility with the surrounding community.

OBJECTIVE 1.0: To promote future land use development on campus that provides for a full range of land uses and intensities of use consistent with the Goals, Objectives and Policies of the UCF Campus Master Plan, the host local government's master plan, and the affected local governments' master plans, in accordance with the following policies.

POLICY 1.0.1: The UCF Campus Master Plan Future Land Use Maps (Figures 4-1 and 4-2) shall define land use categories and related intensity of use as follows:

Academic/Research Use: This land use category shall allow academic/research uses at intensities ranging up to a floor area ratio of 3.0 for new construction or renovations. The academic/research use classification identifies those areas on the campus where topography, soil conditions, adjacent land uses, existing space utilization, utility locations, proximity to existing and planned multimodal transportation systems, and existing development patterns are appropriate for academic/research development. This promotes an increase in Floor Area Ratio (FAR) within the Academic Core areas, supports the cohesive functioning of academic units through space allocation, and facilitates the clustering and concentration of existing and emerging academic/research areas on the campus in pedestrian zones within reasonable walking distance to classes.

Support Use: This land use category shall allow support facilities at intensities averaging 1.0 FAR. The support use classification includes administrative and similar nonacademic uses, and identifies those areas on the campus where topography, soil conditions, adjacent land uses, existing space utilization, and existing development patterns are appropriate for support facilities. This promotes providing support facilities on the campus within, or immediately adjacent to, academic/research and housing areas.

Residential Use: This land use category shall allow housing uses at densities ranging from 57.2 to 125 beds/acre. The residential use classification identifies those areas on the campus where topography, soil conditions, adjacent land uses, existing space utilization, and existing development patterns are appropriate for housing development. Generally, the housing land use will be promoted outside of the academic core to encourage students to walk to the academic core.

Utility Use: This land use category shall allow utility uses at intensities averaging 1.0 FAR. The utility use classification identifies those areas on the campus where topography, soil conditions, adjacent land uses, and existing and proposed development patterns, are appropriate for utility development and telecommunications facilities and can best serve the existing and projected demands for facilities on the campus.

Parking Use: This land use category shall allow parking uses at intensities ranging up to 800 spaces per acre for structured parking. The parking use classification identifies those areas on the campus where:

- the location of parking structures will help to direct trips to the campus in a manner that promote a pedestrian-friendly, academic- oriented campus;
- roadways with adequate capacity will help minimize impacts on adjacent land uses;
- topography, soil conditions, archaeological and historic sites, adjacent land uses, and existing and proposed needs are appropriate for parking development;
- structured parking facilities can be used to conserve available land;
- the development of the 'intercept' parking concept is promoted.

Recreation/Open Space Use: This land use category shall allow active (activity-based) and passive (resource-based) recreation uses, as well as general open space areas. A maximum FAR of 2.0 is allowed under this land use designation. The classification includes areas designated for organized sporting events (football, soccer, softball, etc.), gymnasiums (including the Recreation and Wellness Center), workout facilities for University teams, (such as the Wayne Densch Sports Center), and recreation areas for the passive enjoyment of nature (picnic areas, etc.). These areas are appropriate for recreation and open space uses due to topography, soil conditions, and adjacent land uses.

Conservation Use: This land use category shall allow conservation uses in conformance with the Conservation Element of the Master Plan. Conservation areas are identified in Figures 4-1 and 13-1 of this Plan. This land use category shall allow Conservation uses at an intensity of a 0.05 FAR. There shall be no construction in these areas apart from minimal structures and improvements required to provide safe access and essential support functions except pursuant to an amendment to this Plan adopted in accordance with the requirements set forth in Florida Law and this Plan. The conservation classification identifies those areas on the campus where topography, soil conditions, archaeological and

historic sites, plant species, wildlife habitats, wetlands, required setback buffer areas, and instructional uses, are appropriate for conservation use.

Mixed Use: This land use category will allow for a mixture of land uses in a specific area(s), as shown in Figure 4-1. Land uses allowable under this designation include academic/research, support, residential, parking, recreation/open space, retail/commercial, and utilities at a maximum FAR of 3.0. The purpose of the category is to identify specific areas on campus that shall develop one or more uses that shall be defined through the planning and development process.

OBJECTIVE 1.1: To protect natural resources, including surface waters and wetlands.

POLICY 1.1.1: UCF shall allow for conservation areas as identified on the Future Land Use Map (Figure 4-1) and on the Conservation Element Map (Figure 13-1). No construction is anticipated in these areas, other than those minimal structures and improvements necessary to ensure safe access and essential support functions.

POLICY 1.1.2: UCF shall review all available and economical options, including the costs of mitigation, before any construction is authorized and a plan of development is approved. If this review indicates that development in designated conservation areas is the only viable option, then UCF shall pursue all reasonable efforts to minimize and mitigate any unavoidable impacts to these areas.

POLICY 1.1.3: The Director of Facilities Planning and Construction shall be responsible for coordinating any necessary actions with the appropriate UCF departments, should mitigation be deemed necessary. The Director shall also coordinate any mitigation requirements through the appropriate federal, state, and regional agencies, in accordance with their permitting processes.

POLICY 1.1.4: The Arboretum site, established by the 1996 Hartman Survey, shall be maintained for the study and preservation of native plant and animal species. The Director of Facilities Planning and Construction and the Director of Landscape and Natural Resources shall work together to develop the Arboretum into a renowned institution. Non-native species shall be discouraged within the boundaries of the Arboretum.

POLICY 1.1.5: Prior to clearing the 6.7 acre housing site in the northwest corner of campus, the University shall construct a permanent fence along the northern boundary and northern two-thirds of the eastern boundary of the 6.7 acre site in order to separate the residential area from the conservation area.

POLICY 1.1.6: Any future parking facility to be constructed north of the arboretum shall not extend significantly beyond the footprint of the existing parking lot as shown in Figure 4-3.

OBJECTIVE 1.2: To minimize land use compatibility problems between the University and the host community.

POLICY 1.2.1: Pursuant to s.1013.30(6) and (9) F.S., any amendment to the adopted UCF Campus Master Plan shall be transmitted to the host and affected local governments and other external review agencies for review if such amendment, alone or in conjunction with other amendments, would:

increase density or intensity of use of land on campus by more than 10%;

decrease the amount of natural areas or open space on campus by more than 10%; or

rearrange land uses in a manner that will increase the impact of any future campus development by more than 10% on a road or another public facility or service provided or maintained by the state, the county, the host local government, or any affected local government.

POLICY 1.2.2: Proposed amendments to the adopted Campus Master Plan which do not exceed the thresholds established in s.1013.30(9), F.S., and which have the effect of changing land use designations or classifications, or impacting off-campus facilities, services or natural resources, may be submitted to the host and affected local governments for a courtesy review.

POLICY 1.2.3: A 200-foot natural or landscape buffer shall be maintained around the perimeter of the campus where it is not superseded by another element of the Master Plan as shown on Figure 4-1. In order to maintain the effectiveness of the buffer, non-invasive native plant species will be used in landscaping activities.

POLICY 1.2.4: Prior to adopting any amendments that affect lands designated as conservation, the University shall do the following:

(1) Perform reasonable site specific environmental analyses, including qualitative state and federal listed plant and animal species surveys, water quality impact analyses, and alternative location assessments;

(2) Comply with section 1013.30, Florida Statutes, even for those amendments that fall within the exemptions set forth in Sections 1013.30(9)(a)-(c), Florida Statutes;

(3) Require no less than a two-thirds majority vote of the University's Board of Trustees to approve such amendments; and

(4) Notify the Director of Landscape and Natural Resources of any proposed amendments to lands designated as conservation.

POLICY 1.2.5: The University shall insure compatibility between the Academic Research designation and the residential uses (East Orlando Sanctuary) on the University's eastern border; for example, adequate buffer areas, specific building setbacks and the development of retention areas.

OBJECTIVE 1.3: To correct existing land use compatibility problems on the University campus.

POLICY 1.3.1: Permanent academic functions shall be located between the 400-foot radius (Pegasus Circle) and the 1,200-foot radius (Apollo Circle) whenever possible. Research functions may be located outside of the main academic area.

POLICY 1.3.2: Academic core areas are important formal open space systems and shall be created by locating academic uses that are linked, similar or adjacent to each other.

POLICY 1.3.3: Surface parking areas shall be located outside of the 1,200-foot radius (Apollo Circle) and inside of Gemini Boulevard, in order to reduce vehicular versus pedestrian conflicts on campus. Exceptions may be made based on need.

POLICY 1.3.4: Overflow parking areas shall be located outside of Gemini Boulevard, and may be located within the 1,200-foot radius (Apollo Circle) if the need arises.

POLICY 1.3.5: Areas identified in the Master Plan as temporary classrooms, low density areas, and parking lots shall remain until future projects for those areas are developed.

POLICY 1.3.6: In order to preserve the open space nature of the campus and to minimize impervious surface needs, parking lot areas will continue to be consolidated into structured parking garages as budgets permit.

POLICY 1.3.7: In order to minimize automobile traffic, future parking garages shall be placed at strategic points near campus entrances. This will intercept a high volume of vehicles before they penetrate the campus circulation routes.

POLICY 1.3.8: The University Master Planning Committee, along with the administration, faculty, and the Office of Facilities Planning and Construction, shall review all development proposals for compliance with the UCF Campus Master Plan's criteria for the Future Land Use Element.

POLICY 1.3.9: All decisions concerning land use and development on campus, especially those specifically mentioned in the Future Land Use Element, shall be coordinated with the present Capital Improvements Plan, Urban Design Element, and all other applicable Master Plan elements.

OBJECTIVE 1.4: To coordinate future land uses with the availability of facilities and services.

POLICY 1.4.1: Projects that propose increases to campus infrastructure, utilities, facilities, or services shall be approved only if such facilities are funded and already on-line to accommodate the need, or will be on-line prior to occupancy of any structure to be served by such infrastructure, utilities, facilities, or services.

POLICY 1.4.2: The following order of priorities shall be implemented concerning coordination of land uses with appropriate facilities and services:

- **Priority 1**
  Eliminate existing system deficiencies, which may prevent future development.

- **Priority 2**
  Maintain the existing system as long as it is deemed capable of meeting immediate needs.

- **Priority 3**
  Expand systems to accommodate campus needs.

POLICY 1.4.3: Campus development which might increase demands for solid waste collection and disposal shall be approved under provisions delineated in the General Infrastructure Element (2.9).

POLICY 1.4.4: Campus development that may increase the amount of required impervious surface areas shall be approved on the provision of a drainage system that adheres to the conditions set forth in the General Infrastructure Element (2.9) and the campus storm water permit(s) issued by the St. Johns River Water Management District.

OBJECTIVE 1.5: To ensure the availability of suitable land on campus for utility facilities required to support future on-campus development.

POLICY 1.5.1: Within the academic core, utility easements shall be reserved along routes of easy access and where future building development is not planned, e.g., along the three pedestrian radius sidewalks, along radial pedestrian walks, and in dedicated radial open spaces.

OBJECTIVE 1.6: To minimize off- campus constraints which limit future development on campus (i.e., traffic, utilities) and to minimize on- campus conflicts with land uses within the context area.

POLICY 1.6.1: The University shall request roadway improvements along Alafaya Trail and McCulloch Road as they become warranted.

POLICY 1.6.2: The University shall underscore the compatibility between land use and transportation.

POLICY 1.6.3: The University shall continue to review and upgrade multi-modal transportation services and facilities supporting the ongoing development of the University.

OBJECTIVE 1.7: To coordinate future land uses with the appropriate topography and soil conditions.

POLICY 1.7.1: Development shall not occur within a current Federal Emergency Management Agency (FEMA) 100- year flood zone.

POLICY 1.7.2: UCF shall maintain a database of existing topographic and soil conditions, which shall be updated on a regular basis, and as additional data developed for future construction projects becomes available.

POLICY 1.7.3: Areas containing severe soil constraints, such as those that are found in and around wetland sites and Lakes Lee and Claire, shall remain undisturbed. Soil constraints shall be demonstrated through formal studies prior to development.

POLICY 1.7.4: Future development shall not alter the topographical features and surface water run-off patterns adopted by this Master Plan and the current adopted Campus Storm-Water Master Plan approved by the St. Johns River Water Management District.

POLICY 1.7.5: Consistent with policies listed in this element above, the University shall review future construction projects for consistency with existing topographic and soil data.

POLICY 1.7.6: UCF shall ensure that appropriate methods of controlling soil erosion and sedimentation to help minimize the destruction of soil resources shall be used during site development and final use. Such methods shall include, but not be limited to:

- phasing and limiting the removal of vegetation;
- minimizing the amount of land area that is cleared;
- limiting the amount of time bare soil is exposed to rainfall;
- using of temporary ground cover on cleared areas if construction or other stabilization is not imminent; and
- giving special consideration to maintaining vegetative cover on areas of high soil erosion potential (i.e., steep or long slopes, banks of streams, storm-water conveyances, etc.).

POLICY 1.7.7: UCF shall require the integration of natural topographic and other physical features in project designs in order to develop the campus in harmony with its natural environment.

OBJECTIVE 1.8: To ensure that future campus development projects are consistent with regulations governing development in areas where historically or archaeologically significant resources may be present.

POLICY 1.8.1: In coordination with state and local historic preservation officials, UCF shall maintain an information file, identifying and locating properties under University ownership that may contain historic or archaeological resources which appear to qualify for inclusion in the National Register of Historic Places.

POLICY 1.8.2: The University shall consider the effect of any undertaking on any historic property that is included, or eligible for inclusion, in the National Register of Historic Places. The University shall afford the Department of State's Division of Historical Resources a reasonable opportunity to comment on such an undertaking.

POLICY 1.8.3: The University shall consult with the Department of State's Division of Historical Resources prior to any land clearing, ground disturbing, or rehabilitation activities, which may disturb, or otherwise affect, any property which is included, or eligible for inclusion, in the National Register of Historic Places.

POLICY 1.8.4: The University shall consult with the Department of State's Division of Historical Resources prior to demolishing, or substantially altering a

historic property in a manner that adversely affects its character, form, integrity, or archaeological value. The intent is to avoid or mitigate any adverse impacts, or to undertake any appropriate archaeological salvage excavation or recovery action.

GOAL 2: To maintain a commitment to the protection of campus ecosystems and lands of significant environmental importance and to ensure that these resources are protected for the benefit of present and future generations, while accommodating the continued development and expansion of the man-made environment of the campus.

OBJECTIVE 2.1: To designate environmentally sensitive lands for protection based on state and regional criteria.

POLICY 2.1.1: The University shall continue to reserve Conservation Easement Lands for the purposes of environmental protection of lands that are set aside in perpetuity pursuant to a recorded conservation easement. This designation shall allow very low-impact recreational or educational uses such as hiking, non-motorized boating, bird watching, horseback riding, fishing, primitive camping, nature study, and such other activities that utilize natural amenities of the site without violating the recorded conservation easement

Land Use Designation Summary

The Future Land Use Element sets forth the existing and future land use patterns at the University of Central Florida. This element addresses how this land use pattern correlates to that planned by the host and/or affected local governments in the planning study area. UCF's host local government is Orange County, and the affected local government is Seminole County.

Inventory and Analysis of Existing Conditions

There are currently 1,415 acres of land which comprise the University of Central Florida's Main Campus. A significant portion of these lands is undeveloped, or set aside as conservation lands, while academic and support programmed spaces are growing into a larger proportion of the total amount of land. The current breakdown of the 1,415 total campus acreage is as follows: (based on analysis of the most current aerial photographs and surveys and the University's 2010 Land Management Plan):

LAND USE	ACRES
Arboretum	82
Acres Currently Developed	396
Acres Available for Future Development	382
TOTAL: Conservation/Recreation and Open Space/Future Impervious	1,018.8

Adding the 1,018.8 acres for Conservation, Recreation and Open Space and Future Impervious to the 396 acres of Currently Developed land, gives the overall campus acreage of 1,415 acres.

1. Existing Land Uses for the Main UCF campus

The allowable land uses for on-campus development are illustrated in Figure 4-1 *Future Land Use Map 2015-2025*. This figure identifies the following land use categories associated with future development sites which will accommodate proposed construction projects identified in the Capital Improvements Element of the Master Plan:

- Academic/Research Land Use
- Residential Land Use
- Utility Land Use
- Wetland Land Use
- Upland Land Use
- Conservation Easement Land Use under St. Johns River Water Management District
- Recreation and Open Space Land Use
- Ponds and Lakes
- Parking Land Use
- Support Land Use
- Mixed Use

Existing and planned buildings and infrastructure are reflected in Figure 3-1 of the Urban Design Element. It should be noted that the parcels proposed for development will be flexible, since the University performs a cost/benefit analysis for each set of site alternatives prior to constructing a building. Storm water, utilities, relative location to other buildings and other criteria are considered to ensure the proposed site is most appropriate for the particular building. A list of proposed future projects is presented in the 2.14 Capital Improvements Element of the UCF Master Plan.

2a. Existing Land Uses and Zoning for the Context Area (Orange County)

The University of Central Florida is bordered by Orange County on the east, south and west sides. This is the context area of the host local government. Existing land uses for this area are listed below. This data is taken from the Future Land Use Map of the Orange County 2010-2030 Comprehensive Plan:

- **Institutional (INST):**
  This is the land use designation for the University of Central Florida. Density/Intensity is 2.0 FAR.
- **Industrial (I):**
  These are areas to the south and southeast of campus in which industrial uses are permitted. Industrial uses include the processing of both hazardous and non-hazardous materials ranging from light assembly and manufacturing to chemical processing. Density/Intensity is .75 FAR
- **Commercial (C):**
  These are areas to the west of campus, along University Boulevard. Commercial uses include neighborhood scale commercial and office development that serves neighborhood or community needs. Examples include neighborhood center, community center and village commercial. Density/Intensity is 3.0 FAR.
- **Office (O):**
  These are areas to the west of campus, north of University Boulevard and west of Alafaya Trail. Office uses include professional office and office park- style development. Density/Intensity is 3.0 FAR
- **Low Density Residential (LDR):**
  This area is located east of campus. This category generally includes suburban single family to small lot single family development. Density is 0-4 dwelling units per acre (du/ac).
- **Medium Density Residential (MDR):**
  This area is located south of University Boulevard and west of Alafaya Trail. This includes urban-style multifamily residential densities. Density is 0-20 du/ac.
- **Conservation:**
  This use recognizes lands designated for conserving natural resources. Density/Intensity is .01-1.0 Impervious Surface Area Ration (ISAR).

2b. Existing Future Land Uses for the Context Area (Seminole County)

The University of Central Florida is bordered by Seminole County on the north side. This is the context area of the affected local government. Existing future land uses for this area are listed below. This data is taken from the Seminole County Comprehensive Plan, as amended through 10/26/2010.

- **Low Density Residential/Residential Single Family:**
  These single family residential areas are the predominant land use along the northern periphery of the Context Area north of the UCF Main Campus. Density is 0-4 du/ac and 0-7 du/ac for Affordable Housing.
- **Medium Density Residential/Residential Multi Family:**
  These residential areas are located north of the Higher Intensity and Planned Development land uses north of McCulloch Road. Density is 0-10 du/ac and 0-12 du/ac for Affordable Housing.
- **High Density Residential/Residential Multi Family:**
- These residential areas are predominantly along McCulloch Road, Alafaya Trail, and Lockwood Boulevard. Density is 0-20 du/ac.
- **Planned Development:**
- These areas, mostly east of Lockwood Boulevard and abutting McCulloch Road, accommodate uses and densities/intensities as determined by the master /site plan process.
- **Higher Intensity Planned Development-Transitional:**
- These areas, abutting McCulloch Road, provide strategic locations to accommodate employment centers and higher intensity mixed uses. Density/Intensity maximum is 20 du/ac and .35 FAR.
- **Industrial:**
- These areas, located east of SR 434 and northwest of the Medium Density Residential area, provide locations for a variety of heavy commercial and industrial land uses. Density/Intensity is maximum .65 FAR.
- **Commercial:**
  These areas are primarily along Alafaya Trail providing for a variety of neighborhood and community shopping areas. Density/Intensity is maximum .35 FAR.
- **Preserved/Managed Lands:**
  This land use, east of Old Lockwood Road, consists of protected natural lands in public ownership. Density/Intensity is maximum .10 FAR.
- **Public/Quasi-Public:**
  This area is designated for a variety of public and quasi-public uses such as transportation and utilities. Density/Intensity is maximum .65 FAR.

Impact of Surrounding Land Use in Meeting Future Needs of UCF:

The Orange County Industrial zone south of the University contains the Central Florida Research Park. This Research Park is a cooperative effort between UCF, the Orange

County Research and Development Authority, and the Orange County Board of County Commissioners. This site consists of 1,027 acres of land with 52 permanent buildings, housing over 112 companies and more than 10,000 employees. UCF owns six buildings: the Center for Public Safety and Security, Partnership II Building, Partnership III Building, and most recently the Bennett Complex, consisting of three buildings purchased in June 2011. These three buildings had been leased by UCF since 2002 for use as incubator space. Some of the buildings share space with the US Armed Forces. The University leases space from the UCF Foundation for a variety of activities, including research laboratories, the Nanoscience Technology Center, the Human Resources office, The College of Nursing, Purchasing offices, Regional Campuses offices, and others.

There are no facilities on University-controlled lands that are not under the jurisdiction or operation of the State University System.

Existing Vacant, Open or Underdeveloped Land

There are roughly 382 acres of Open, Vacant, or Underdeveloped Land on campus. This land will serve to meet future needs to accommodate the projected growth of the University. There are no surplus lands on campus since the conservation lands, which cannot be used for future development, nonetheless serve as natural laboratories for research and study by campus departments such as Biology, and for Resource Based Activities for the University Recreation and Open Space component.

University policy calls for the preservation of areas of environmental significance and the prudent use of undeveloped land in the future. In order to use the University's land resources efficiently, while allowing for the continuation of natural systems, future development will be relatively dense in character as project budgets permit, and tie into the existing infrastructure on campus. Efforts will be made to minimize the impacts of development on the Arboretum. Furthermore, the University will approve new development only within the limits of all required permits from the St. Johns River Water Management District and other agencies, as applicable.

Existing Natural, Archeological, or Historic Resources

There are no existing natural (Area of Critical State Concern), archeological, or historic resources within the planning study area.

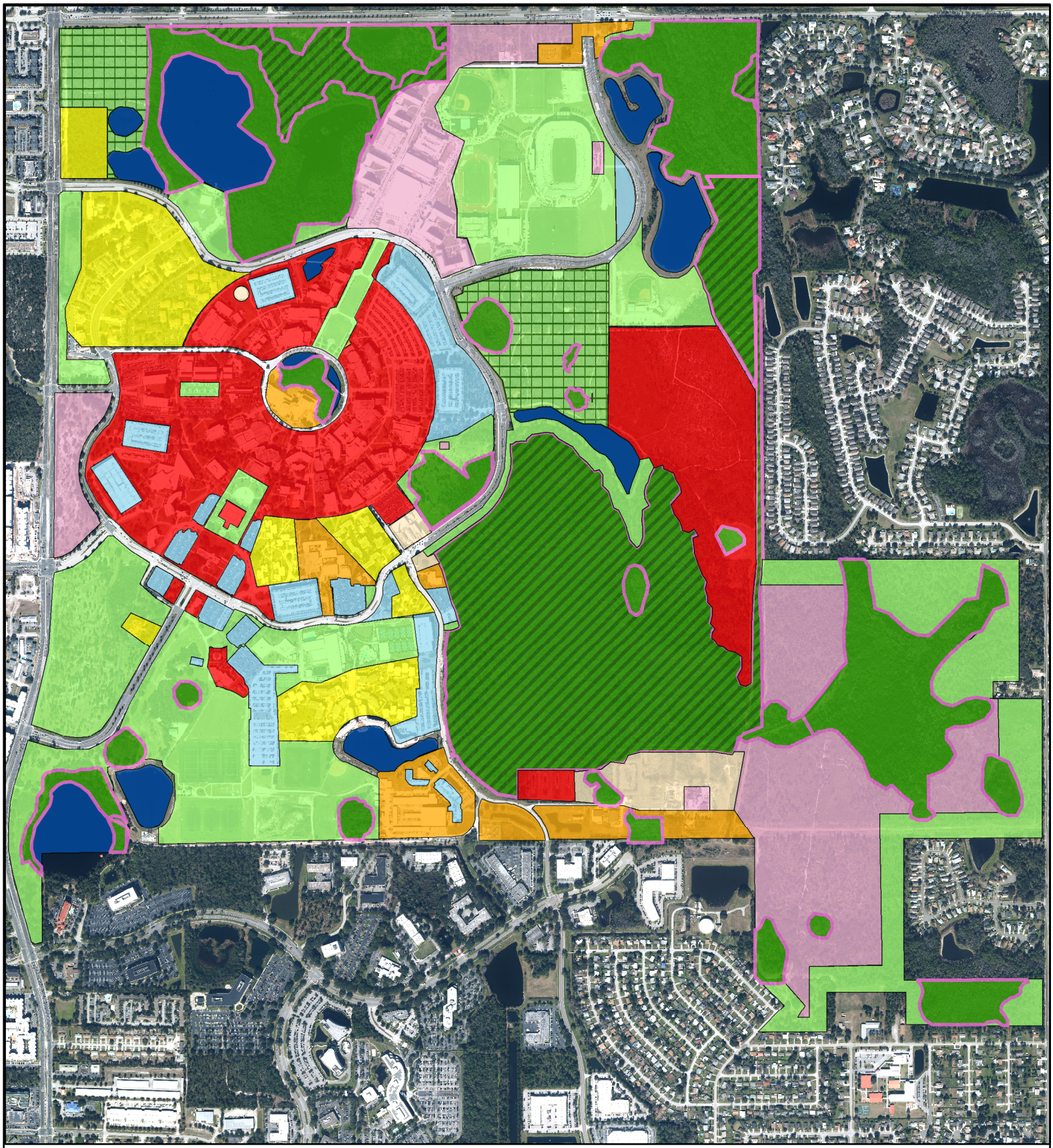

Figure 4-1

Future Land Use

Comprehensive Master Plan Update

University of Central Florida

Orlando, Florida

2015-2025

Legend

- Parking
- Support
- Academic/Research
- Lakes
- Utility
- Conservation (wetland)
- Conservation (upland)
- Conservation Easements
- Residential
- Recreation/Open Space
- Mixed Use

N

All maps are diagrammatic and conceptual. The various areas shown are approximate and not to survey accuracy. The intent of these maps is to illustrate general areas of existing or potential use.

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0 1,000 2,000 4,000 Feet

GOAL 1: To provide modern, well-equipped, academic facilities on campus sufficient to meet general requirements of state-of the-art instruction in all of its various programs.

OBJECTIVE 1.1: To provide modern, well-equipped classrooms on campus sufficient to meet general requirements of state-of-the-art instruction in all of its various programs.

POLICY 1.1.1: The University shall seek to increase its classroom inventory by an average of at least 10,000 net assignable square (NASF) feet per year, to keep up with projected growth of main campus enrollment.

POLICY 1.1.2: The University shall seek to eliminate all use of leased classrooms, such as temporary and/or modular structures, that were never intended to provide a long- term solution to the problem of shortages.

POLICY 1.1.3: The University shall continue to apply space-use standards embodied in the long-standing "Space Needs Generation Formula" of the SUS, together with the more detailed standards of Florida's "State Requirements for Educational Facilities" (SREF).

OBJECTIVE 1.2: **To provide teaching laboratories sufficient to meet the specialized requirements of instruction in all of its various programs, at both the undergraduate and graduate levels.**

POLICY 1.2.1: The University shall seek to increase its teaching laboratory inventory by approximately 20,000 net square feet per year.

POLICY 1.2.2: The University shall continue to apply the established state, SUS, and UCF space-use standards to determine future teaching laboratory building programs and to plan renovations of existing teaching laboratories that will optimize existing laboratory space.

OBJECTIVE 1.3: To provide research laboratories sufficient to meet the needs of scholarship by undergraduate and graduate students, as well as faculty in all of its various programs.

POLICY 1.3.1 The University shall seek to increase its research laboratory inventory by an average of at least 25,000 net square feet per year.

POLICY 1.3.2: The University shall continue to apply space-use standards in the "Space Needs Generation Formula" of the SUS, together with the more detailed standards of Florida's "State Requirements for Educational Facilities" (SREF), to determine future research laboratory building programs and to plan the renovation of existing teaching laboratories, and to optimize existing laboratory space.

OBJECTIVE 1.4: To provide state-of-the-art library facilities and library resources sufficient to support the instruction of its undergraduate and graduate students, as well as scholarship by its students and faculty.

POLICY 1.4.1: The University shall seek to double its on-campus library space inventory by the year 2020, and it shall continue to consider off-campus storage systems.

OBJECTIVE 1.5: **To establish the timing and phasing of development of future academic space on campus.**

POLICY 1.5.1: Final authority for planning shall continue to be vested in the University President, acting upon advice and counsel of the President's Advisory Staff (PAS), which includes divisional Vice Presidents, the Chair of the Faculty Senate, the Chair of the University Master Planning Committee, and other members, such as Vice Provosts, selected by the President. (See Appendix A).

POLICY 1.5.2: The university shall seek to include in its ongoing Capital Improvement Plan at least one future major academic building each year.

OBJECTIVE 1.6: **To set priorities for the development of future academic buildings.**

POLICY 1.6.1: The University shall utilize the draft, ten-year Capital Improvement Plan, presented elsewhere in this document (see Section 2.14, "Capital Improvements Element"), to set priorities for the development of future academic facilities. The ten-year plan is subject to necessary changes, depending on circumstances (e.g., the available PECO funding), and the general order in which various projects are listed may change as academic and research needs evolve.

POLICY 1.6.2: The Capital Improvements Element shall be reviewed annually and amended as needed to reflect changes to the timing and phasing requirements and priorities for the construction of academic and research facilities.

OBJECTIVE 1.7: To estimate the funding necessary for the development of future academic facilities.

POLICY 1.7.1: Allocations of funds for the development of future academic facilities shall be reflected in the draft Capital Improvement Plan (see Section 2.14, "Capital Improvements Element").

POLICY 1.7.2: The University President, acting with the advice of the President's Advisory Staff (PAS), shall determine administrative procedures for

the integration into the Master Plan of unforeseen academic facilities that may arise from grant awards, accelerated funding, or other circumstances.

OBJECTIVE 1.8: **To define appropriate locations for future academic buildings.**

POLICY 1.8.1: Future academic facilities shall be sited in the academic core where sufficient space exists, as shown in the Future Land Use (2.4) and Urban Design Elements (2.3) of the Campus Master Plan.

POLICY 1.8.2: The University shall seek to locate future academic buildings in a manner that meets the requirements of growth, while maintaining an environmentally pleasing, inviting place in which faculty, staff, and students can learn, teach, and work.

OBJECTIVE 1.9: **To encourage energy efficiency and conservation techniques in all future facilities.**

POLICY 1.9.1 Energy efficiency and conservation techniques shall be a centerpiece of design processes in all future facilities. Future buildings shall comply with the criteria and specifications stated in the Florida Energy Code, Section 8.

a) Projection to the year 2025-26 of UCF's main-campus Student Credit Hours (SCH) generation by level.

Table 2.5(2) a) compares student credit hours (SCH) by level on the main campus of the University of Central Florida for the years 2014-15 and 2024-25. These represent credit hours generated in live sections (i.e., non-web) on the University's main campus only — not including Orlando-area off-campus sites, the Rosen College Campus, the downtown Expo Center, or the Lake Nona campus. On the other hand, the figures represent both fundable and non-fundable SCH combined.

TABLE 2.5(2) a)—Projected Student Credit Hours

Main Campus Summary	Lower	Upper	Grad 1	Thesis/Dis.	Total
2014-2015	363,239	450.931	55,243	27,677	897,091
2024-2025	422,041	444,335	61,700	32,116	960.191

Having said that, we must recognize that for campus planning such enrollment projections are subject to significant uncertainty. Experience over the past decade indicates that projections for UCF tend to be consistently on the low side, even in the short run, let alone several years out.

There are a number of reasons for this, which do not seem likely to change much over the decade in question. They include: ongoing growth of the state population, much of which is concentrated in central Florida, especially the I-4 high-tech corridor from Tampa through Orlando to the space coast; dramatic overall growth of Florida's college-age population, ranging from mid-to-late teens through the late twenties, much of it concentrated in Central Florida; UCF's increasing "market share" among Florida's college-bound students, compared to that of other universities in the State University System; and the relatively new and still growing emphasis at UCF on graduate studies, especially at the doctoral level.

In short, our belief is that UCF's official enrollment projections should be viewed as a lower limit on what the true figures may be, rather than a close estimate of likely figures. In specific terms we anticipate that enrollments by 2020-21 may be 5% to 10% higher than those projected now — and consequently it is imperative to cover such a possibility with current planning.

With reference to needs for academic facilities, we estimate that to serve an added 1000 FTE students annually will require added classrooms amounting to about 7,600 square feet per year — or equivalently 500 classroom seats per year. This conclusion can be reached by various lines of argument, the simplest of which is based on overall numbers of classrooms and students.

On the main campus, for example, according to 2008-09 inventory figures the University used about 198 thousand square feet of space for "classrooms" (however see the next paragraph below). At that time on the main campus the student FTE total was around 26 thousand. This works out to an average of about 7.6 square feet per student, which translates into the quoted figure of 7,600 square feet per 1,000 students.

Efficiency of Classroom Usage At present it seems clear that where classrooms are concerned, UCF's main campus is operating "well above capacity." This is made possible by requiring the routine usage of regular academic buildings throughout a weekly schedule that is nearly 70% greater than what the official SUS space formula calls for (i.e., 69 hours per week here, versus the official 40 hours per week). In addition we have a certain amount of classroom usage in areas designed originally for other purposes (laboratories, theaters, library study areas, and so on).

To put the existing use of facilities in better perspective, one can note that UCF's fall semester figures for weekly hours of usage involving general-purpose classrooms show that our *average* use per classroom is typically well over 50 hours per week. This naturally is concentrated in the high-demand Monday through Friday morning and afternoon periods — so during this five-day portion of the week, the average overall classroom usage exceeds ten hours per day.

Planned Classrooms in Relation to Needs One clear implication of what has been said is that not much relief from shortages can be found via attempts to increase the efficiency of existing classroom usage. On the contrary, the University's classrooms are already used essentially to their maximum capacity, as a result of which the UCF weekly average usage figures are among the highest in the SUS. With the above facts in mind, some attempt has been made to assess the adequacy of classroom space that is apt to come on line over the next decade. A perhaps overly hopeful conclusion is that planned new construction will be able to accommodate the assumed new students at current efficiencies of usage. This of course assumes that PECO funds for new construction will be somewhere near adequate to support the existing plans.

Teaching Laboratories Turning from general-purpose classrooms to teaching labs, one finds an enrollment-related problem there also. In terms of the currently existing spaces, teaching labs represent roughly three quarters as much total square footage as classrooms. At face value this seems not unreasonable, given that weekly hours of lab usage per student are less on the average than those for classrooms—almost exactly five times less, according to typical data. On the other side of the picture is the fact that square footage per lab seat is typically about twice that per classroom seat, say 30-35 sq.ft., compared to 15-17 sq.ft.

One overall implication might seem to be that while enrollment growth does lead to a need for more teaching labs, this does not rise as steeply as the need for classrooms, at least when couched in terms of square footage per added FTE student (two and one half times less) or seats per added FTE student (five times

less). On the other hand, the “efficiency” of laboratory usage in terms of total hours per week is ordinarily a good deal smaller than that for classrooms — which is one main reason why at present, overall square footages of labs and classrooms are more or less comparable, with the total for labs being actually somewhat greater.

The same result is also reflected in SUS formula results for NASF needs by space type, which show that in every case —which is to say, for all the individual SUS universities, excluding only New College of Florida — the NASF needs per overall FTE student are somewhat greater for labs than for classrooms, with the lab excess need ranging from 3% for UWF to 70% for FSU. In this regard, we must emphasize that these results are based on the traditional SUS space formula parameters — which were last updated about fifteen years ago, in the early ‘90’s of the last century. At that time UCF’s lab to classroom ratio of NASF per student showed an excess of about 13% for labs.

More recently however, we at UCF have succeeded in updating all of the system-wide formula parameters for each space type — and by that means, we found among other things that UCF’s lab to classroom formula ratio of NASF per student FTE has risen to 23%. The reason for this change is simply that in the 15-year interim, the university experienced relatively greater growth in disciplines with high needs for labs as opposed to classrooms, compared to what the SUS-wide averages might suggest.

In any case, this also means that more flexibility remains in principle for increasing the weekly hours of lab usage, if future enrollments made it necessary. To put what is essentially the same point in different terms, there is some possibility of scheduling added sections in existing laboratories, and this persists (at least from the simplistic standpoint of "free hours" in the schedule), long past the point when general purpose classrooms are utilized to the maximum extent feasible.

Research Laboratories In general the needs for added research laboratories are not coupled as closely to enrollment growth as those for classrooms and teaching labs — but nonetheless there is some relation to enrollments. First, with growth comes the need for added faculty — and it goes without saying that in the laboratory sciences, engineering, studio arts, and similar disciplines, new faculty in many cases have needs for their own dedicated labs to support scholarship and other required professional development activities.

Secondly, research labs are essential for thesis and dissertation work by students in disciplines with active graduate programs, especially the sciences and engineering. To that degree the distinction between research labs and teaching labs breaks down somewhat, inasmuch as instructional functions are intrinsic to both. The difference is one of degree, not of kind. Besides, many cases currently exist on campus where one and the same lab is used both for graduate coursework and thesis and/or dissertation work, not to mention faculty research as such.

Finally, enrollment growth often comes about not simply from increasing numbers of students in ongoing programs but from attracting students to wholly new programs. Some of them bring distinctive laboratory needs that simply are not met by previously existing types of facilities.

Good examples are furnished by the university's strong push in recent years toward excellence in key areas such as advanced materials processing and analysis (particularly in regard to "I-4 High Tech Corridor" partnership activities), biomolecular sciences, and most recently nanosciences. Such developments can only accelerate as the university continues moving toward its strategic goal of achieving national and international prominence in selected areas of research and scholarship.

One final point regarding research labs is that both current and projected UCF needs for this type of space are much greater than what might be inferred from the existing SUS space formula mentioned earlier (see discussion above regarding teaching lab space). That formula as it stands would suggest that as of 2008-09, based on its main-campus enrollment of 25 thousand FTE, UCF's research lab needs would come to about 350 thousand NASF (which is to say, based on the traditional figure for such space of 13.87 NASF per FTE).

On the other hand, this result is based on formula parameters fifteen years out-of-date, going back to a time — say, 1993-94 — when the University's total research funding was not yet $40 million. By now this has increased to about $140 million, so the formula need for research labs has increased to 22.68 NASF per FTE. Accordingly, total research labs needed in 2008-09, based on the updated formula, are over 560 thousand NASF.

By the same token, if projected forward to the years 2020-21, the figures for research lab needs become 630 thousand NASF.

Offices. While offices are not viewed strictly speaking as "academic spaces," mention of them is made here for two reasons. First, UCF's continued growth of enrollments over the coming decade will require additional regular faculty and staff, who cannot function properly without added office space. Thus offices for the regular instructional faculty are a necessary adjunct to the added classrooms and labs that will be needed.

Secondly, with reference to the projected main-campus office needs (as opposed to shortages), we estimate that by 2010-11, based on projected enrollments, these will approach 650 thousand square feet. By the same token, if actual enrollments were to exceed projections by 10%, office needs would approach 700 thousand square feet. To be sure, one must add that these figures represent aggregates of all "office-type" needs for the entire campus—not only faculty and staff offices *per se* in both academic and administrative units, but also related spaces such as conference rooms and "office support" areas, e.g., supply closets.

Study Spaces. Another sort of space to be kept in mind is titled "Study." This is mostly but not entirely accounted for via the University Library. In that regard, we note that Instructional Space-Use Standards for libraries include, besides the usual stack areas for books and journals, reading rooms and study carrels.

While as we have remarked the latter are classified as Study space, additional study areas occur in scattered buildings across the campus — especially now that "computer study rooms" are becoming more widespread. At this point roughly 25% of main campus study areas are outside the Library, and the fraction may increase with the passage of time.

Table 2.5(2)d) shows the projections of future needs for instructional, research, and study spaces in terms of Net Assignable Square Footage (NASF).

TABLE 2.5(2) d)—Projection of Future Space Needs: Net Assignable Square Footage (NASF)

Space Type		Year 2020-21
Classroom		325,144
Teaching Laboratory		400,387
Research Laboratory		627,612
Office (including Conference)		670,705
Study (including Library)		358,247
Total		2,382,094

A projection of future academic gross building area needs (tabular). The gross building area necessary to meet growth demands has been projected for the five year planning period. Table 2.5(2)e) indicates the amount of gross square feet (GSF) required to satisfy the demand for space in the five categories listed. The GSF projections are a result of increasing the assignable square footage for each category by a 1.5 multiplier.

TABLE 2.5(2) e)—Projection Of Future Space Needs: Gross Square Footage (GSF)

Space Type		Year 2020-21
Classroom		487,715
Teaching Laboratory		600,581
Research Laboratory		941,418
Office (including Conference)		1,006,057
Study (including Library)		537,371
Total		3,573,141

f) Analysis of future net and gross building area requirements into building "increments." N.B.: The basis for this analysis shall be fully described and shall be based on considerations of funding, prototypical building sizes, or other logical

and replicable method of calculation. The analysis should also consider whether future new space needs would be best accomplished through renovations or additions to existing facilities.

University campuses typically are made up of buildings housing a wide range of uses. At the University of Central Florida many buildings accommodate varying proportions of academic, study, and support space within a single structure. Thus, interpreting future net and gross building area requirements in terms of building increments can be misleading, since it is unlikely that all of the future academic facilities will be accommodated in single-use buildings. It is more likely that new academic facilities will be integrated across the campus in a diverse range of building types.

Moreover, logical figures for building increments will be determined as much by site planning and urban design parameters as by specific programmatic elements. In any case, if we assume for simplicity that typical new campus buildings will be no more than 100 feet in width, five stories in height, and 300 feet in length, then each one will be able to accommodate at most 150,000 gross square feet of space.

Accordingly, assuming a gross to net square footage ratio of 1.5, one finds that the net assignable square footage per building will be 100,000 NASF—in which case the total number needed to achieve an overall increase of 800,000 NASF (i.e., from the current 1.58 million NASF to a projected 2.38 million NASF) will be eight new buildings. (Of course if the average dimensions per building turn out to be smaller, then the number of buildings required will be larger.)

[AA1]

APPENDIX A:

THE UNIVERSITY MASTER PLAN COMMITTEE

The University Master Plan Committee (UMPC) is a broadly representative group of faculty, administrators, staff, and students whose charge is to make recommendations to the President of the University regarding matters of aesthetics and suitability for minor projects and modifications of the campus landscape, utilities, and building exteriors. They review short-range and long-range issues related to land use, facilities planning, and future development of the campus, including protection and preservation of natural resources on the campus. The UMPC also reviews signage, site furniture, public art, and some temporary installations, at the charge of the Vice President for Administration and Finance and the Associate Vice President for Administration and Finance (Facilities and Safety).

The UMPC serves as an advisory body only; with all meetings open for public attendance, it serves as a clearinghouse for communication to and from the campus community. The committee meets monthly to review project plans. All plans are submitted through the Office of Facilities Improvement, and, before being considered by the committee at large, they must be approved by the Associate Vice President for Administration and Finance (Facilities and Safety) and the Vice President for Administration and Finance. Terms of service shall be: three (3) years, staggered for faculty and appointed members; one year for student members; and for position specific members, ongoing.

The UMPC shall comprise:

Chair:

Vice President for Administration and Finance, or Facilities and Safety designee

Voting members:

Vice President for Administration and Finance

Associate Vice President for Administration and Finance (Facilities and Safety)

One faculty member from each College, two of whom shall be members of the Faculty Senate (selected by the Committee on Committees in consultation with the Provost and Executive Vice President)

One faculty member from Biology and one from Environmental Engineering (selected by the Vice President for Administration and Finance)

One administrator from Academic Affairs, appointed by the Provost and Executive Vice President

One administrator selected by the Vice President for SDES

Director of Facilities Planning and Construction

Director of Facilities Operations

Director of Landscape and Natural Resources

Director of Emergency Management

Two students representing the Student Government Association (SGA) and appointed by the president of the Student Government

One representative from News and Information

Non-voting members:

Director of Environmental Health and Safety

One Associate Director of Facilities Planning and Construction

GOAL 1: To continue to plan and develop support facilities required to meet the needs of the projected future student enrollment.

OBJECTIVE 1.1: To define appropriate locations for future support facilities including: administrative offices, Facilities Operations facilities, auxiliary facilities, and intercollegiate, intramural, and recreational athletic facilities.

POLICY 1.1.1: Future administrative offices shall continue to be placed in and around the academic core area within the Gemini Road loop.

POLICY 1.1.2: Facilities Operations facilities shall be located on the southern portion of the campus.

POLICY 1.1.3: Future intercollegiate athletic facilities shall be located on the northeastern part of campus, adjacent to the Convocation Center.

POLICY 1.1.4 Support facilities housed in one-story buildings within the core of campus shall be re-developed at a higher density when feasible.

POLICY 1.1.5 Support space shall continue to be accommodated in mixed-use buildings whenever possible.

OBJECTIVE 1.2: To identify support projects to meet the needs of the campus. To amend the adopted Campus Master Plan, as needed, to reflect the timing and phasing requirements of the projects as defined in the Capital Improvements Element.

POLICY 1.2.1: Future student service areas shall be implemented as directed by the University's Capital Improvements Element, in conjunction with the Urban Design Plan.

POLICY 1.2.2: Re-development of the Apollo housing area shall be at a higher density in order to provide more beds for students and for other University uses.

POLICY 1.2.3: Allocation of funds for future support facilities shall follow the Capital Improvements Plan.

The purpose of the Support Facilities Element is to ensure the University is providing sufficient support facilities to satisfy University needs.

1. Inventory and Analysis of Existing Conditions

a) Support Building Space

As enrollment continues to grow at the University, support facilities must be provided that parallel those demands created by academic facilities. The amount of space required for support facilities is related to enrollment growth and the type of facilities constructed. The amount of support space needed in the future will be determined by user demand and space needs, as reported by support service providers in consultation with Facilities Planning and Construction. Support space needs are also estimated through the development of an Educational Plant Survey report every five (5) years.
Support Building Spaces include administrative offices and computer uses; campus administrative spaces, such as Facilities Operations, Maintenance and Construction; and student support services and activities of a non-academic nature such as the student union, and auditorium/exhibition spaces.

UCF's current Educational Plant Survey (EPS) of February 8-10, 2011, lists existing satisfactory support spaces, alongside space needs generated by a standard formula of the State University System of Florida. This formula uses such measures as FTE enrollment, space standards and utilization levels, and the existing facilities inventory. Comparison of these figures gives a good picture of the unmet need with regard to support building space. Following is a listing of net assignable square footage for different support space categories taken from the EPS.

Space Category	Generated Need	Existing Space	Unmet Need
Instructional Media	24,366 nasf	9,727 nasf	14,639 nasf
Auditorium/Exhibition	94,932 nasf	26,951nasf	60,656 nasf
Teaching Gymnasium	131,955 nasf	14,438 nasf	117,517 nasf
Office/Computer	764,203 nasf	674,438 nasf	86,996 nasf
Campus Support Services	139,866 nasf	99,947 nasf	36,369 nasf

When you take into account existing space in relation to generated need, the greatest unmet need in support facilities resides in the Auditorium/Exhibition and Teaching Gymnasium space categories.

b) Intercollegiate and Intramural Space

The University of Central Florida outdoor recreation facilities are currently limited with regard to student use and number of facilities. Looking at the student population, number of intramural sports offered, number of sport clubs, and ideal standards for usage, the number of fields at UCF are over capacity. The future expansion of intramural fields in the south section of the campus will allow increased capacity, and more flexibility for field rotation to avoid compaction and abuse.

Calculations used to assess facility sufficiency, take into consideration a number of factors. These factors include variety of fields (club sports, intramural sports, or open recreation), frequency of use, student enrollment, type of field (natural or synthetic), appropriate field lighting, scheduling of nighttime play, and unique layout diminishing the flexibility for use (i.e., softball field).

The methodology used for determining the number of fields an institution needs for appropriate recreation use is based on a number of factors. The general standards, as recommended by the National Intramural Recreational Sports Association (NIRSA), are one (1) acre per 1000 students enrolled. Additionally, the number of fields can be adjusted based on number of teams, type of field (natural or synthetic surface), and appropriate field lighting. Application of this standard is also dependent on the extent of land available. A detailed listing of the current intramural sports, sports clubs and number of teams at UCF, may be found in the 2.8 Recreation and Open Space Element of this Campus Master Plan. Review of that element demonstrates that the existing and future facilities at the University do not address the students' current and future needs for recreation space. The construction of additional recreation fields with synthetic surface and lights could provide flexibility for programming and alleviate poor field conditions.

GOAL 1: To ensure the provision of public and private housing facilities on campus and within the host community are adequate to meet the needs of the projected University enrollment during the planning period.

OBJECTIVE 1.1: To ensure the availability of affordable housing units and support facilities on campus and through University affiliated housing off-campus that will meet the projected need for student housing.

POLICY 1.1.1: The University shall provide enough beds to house 80% of the FTIC students and 50% of the retained 2nd year undergraduate students.

POLICY 1.1.2: The University shall continue to provide a variety of on-campus housing options for students.

POLICY 1.1.3: University-owned housing shall be built on campus grounds.

POLICY 1.1.4: Parking ratios for student housing shall not be less than one space per 1.85 residents.

POLICY 1.1.5: Future housing sites shall be located on the southern and northwest portions of the campus.

POLICY 1.1.6: Densities for on-campus residences shall be relatively dense, similar to the Academic Village development, with a minimum of 57.2 and maximum of 125.0 students per acre.

POLICY 1.1.7: Land for privately developed housing on campus shall be sub-leased. This area shall be leased to requesting alumni associations that meet the requirements set forth by the Greek Park Committee and the Division of Student Development and Enrollment Services.

POLICY 1.1.8: The timing and phasing requirements and priorities for future on-campus student housing shall be identified in the Capital Improvements Element.

POLICY 1.1.9: Sanitary sewer, potable water, stormwater management, and solid waste facilities shall be provided at established levels of service prior to occupancy of future housing facilities.

OBJECTIVE 1.2: To ensure the availability of off-campus housing and support facilities within close proximity to the campus, which will meet the projected student enrollment.

POLICY 1.2.1: University-affiliated housing facilities off-campus shall be provided to ensure the availability of off-campus housing within close proximity to the campus. The University shall apply similar rules and regulations to

students living in these facilities as to on-campus housing, and shall provide services such as shuttles to create and maintain functional linkages with the Main Campus.

POLICY 1.2.2: The University shall provide information on projected student enrollment to private developers and local governments to ensure that the off-campus housing stock and support facilities shall continue to meet the demands of the student body projected not to be housed on campus.

POLICY 1.2.3: The University shall continue to provide information to students concerning the availability of affordable, off-campus housing within the immediate context area.

POLICY 1.2.4: The University shall establish, in conjunction with Orange and Seminole Counties, a housing coordination office for the purpose of:

- monitoring the supply, costs, and suitability of off-campus housing;
- establishing a registry of off-campus housing providers;
- monitoring factors pertaining to safety, transit utilization, pedestrian access, etc.;
- ensuring that future off-campus, student-oriented housing opportunities are located within walking or bicycling distance to campus; and
- ensuring that convenient service and shopping opportunities for students exist near off-campus, student-oriented housing units.

OBJECTIVE 1.3: To prevent sub-standard housing and to provide resources for remodeling to an acceptable condition for student use.

POLICY 1.3.1: Preventative maintenance programs shall be established consistent with the policies below and with the Facilities Maintenance Element policies and shall be reviewed on a periodic basis.

POLICY 1.3.2: Plumbing and HVAC units shall be inspected on a periodic basis, kept in reasonably good repair, and replaced as need and available funding dictate.

POLICY 1.3.3: On-campus housing shall be reviewed on a regular basis during the second quarter of every year in order to determine possible disrepair. These inspections shall be conducted by qualified University personnel.

POLICY 1.3.4: Routine maintenance shall be conducted on campus housing facilities' exterior walls, windows, and doors, as needed. Routine roof maintenance shall be done every year.

POLICY 1.3.5: Campus housing interiors shall receive the following maintenance: walls shall be painted every eight (8) years or as needed; carpets

(where applicable) shall be replaced every seven (7) years or as needed; and ceilings shall be replaced every ten (10) years or as needed.

POLICY 1.3.6: The University shall identify ground- level housing units that may be adapted for use by people with disabilities. The adopted Campus Master Plan shall be amended as needed to reflect the timing and phasing requirements and priorities for adapting these units.

a) Inventory of Beds (Design Capacity)

Building	Location	Design Capacity	Utilization Capacity
Apollo Community			
Lake Hall	Main Campus	109	108
Osceola Hall	Main Campus	109	98
Polk Hall	Main Campus	109	108
Volusia Hall	Main Campus	109	108
Libra Community			
Brevard Hall	Main Campus	122	121
Orange Hall	Main Campus	160	158
Seminole Hall	Main Campus	164	162
Citrus Hall	Main Campus	116	116
Sumter Hall	Main Campus	232	232
Flagler Hall	Main Campus	232	232
Lake Claire Courtyard Apartments			
Building 55	Main Campus	47	47
Building 56	Main Campus	47	47
Building 57	Main Campus	47	47
Building 58	Main Campus	47	47
Building 59	Main Campus	47	47
Building 60	Main Campus	47	47
Building 61	Main Campus	47	47
Building 62	Main Campus	47	47
Building 63	Main Campus	47	47
Building 64	Main Campus	43	43
Building 66	Main Campus	47	47
Building 67	Main Campus	47	47
Building 68	Main Campus	47	47
Building 69	Main Campus	47	47

Building 70	Main Campus	47	47
Academic Village			
Building 101	Main Campus	143	143
Building 102	Main Campus	151	151
Building 103	Main Campus	169	169
Building 104-105	Main Campus	176	176
Building 106-107	Main Campus	180	180
Building 108	Main Campus	143	143
Building 109	Main Campus	151	151
Building 110	Main Campus	169	169
Building 111-112	Main Campus	176	176
Building 113-114	Main Campus	180	180
Building 156	Main Campus	254	254
Building 157	Main Campus	208	208
Building 158	Main Campus	203	203
Tower 1	Main Campus	508	508
Tower 2	Main Campus	510	510
Tower 3	Main Campus	478	478
Tower 4	Main Campus	508	508
Towers Apartments (Total)	Main Campus	2004	2004
Total	Main Campus	6,465	6,457
Northview		600	594
Main Campus and Northview		7,065	7,051

b) Graduate Student Housing

The University does not currently provide housing specifically designated for graduate students

c) Married Student Housing

The University does not currently provide housing specifically designated for married students.

d) Other On-Campus Student Housing

Fraternity/Sorority	Capacity
Zeta Tau Alpha Sorority	40
Delta Delta Delta Sorority	52
Pi Beta Phi Sorority	39
Alpha Tau Omega Fraternity	35
Alpha Xi Delta Sorority	21
Alpha Delta Pi Sorority	32
Kappa Delta Sorority	28
Building #409(Theta Chi Fraternity)	39
Building #411(Kappa Alpha Theta Sorority)	45
Building#416(Chi Omega)	40
Building#417(Kappa Kappa Gamma)	40
Sigma Chi Fraternity	33
Kappa Sigma Fraternity	24
Total	468

e) Historically Significant Housing on Campus

The University does not own any historically significant housing on campus.

f) Description of On-Campus Housing

The University's first housing project was opened in the fall of 1968. This project has a design capacity of 436 student spaces and consists of four residence halls (Volusia, Lake, Osceola, and Polk Halls) that are two story structures with suite-style living units. Each suite consists of two double rooms, a common living area and bath, and in some cases, a single room. This area is known as the Apollo Community.

The second housing project was built in 1980 (the Libra Community) with a design capacity of 446 and consists of three residence halls (Brevard, Orange, and Seminole Halls) and a commons building. Orange and Seminole Halls are four- story buildings, and Brevard Hall a three- story building. All rooms in this area are suite style, with two double rooms sharing one bathroom.

In 1994, the on-campus housing options for students were further diversified with the opening of the Lake Claire Courtyard Apartments. This facility, which consists of fifteen, three- story buildings and a commons building, has a design capacity of 701. The apartments were designed to meet the needs of single, upper- level undergraduates and graduate students. Aside from offering cooking facilities which the residence halls do not have, each apartment has four single bedrooms, two bathrooms, and a living room.

Phase II of the Libra Community opened in the spring of 1999. Citrus, Sumter, and Flagler Halls, with a capacity of 580, were designed to meet the continued demand to house lower- level students on–campus. All rooms are double occupancy, suite-style, with four students sharing a bathroom. The rooms are configured around a common lounge/student space. Additional commons space was added to the Libra Community with this project.

The Academic Village project (design capacity of 1,638) was constructed in two phases. Phase I opened in 2001 and Phase II opened in 2002. Each phase consists of a combination of double occupancy suite-style residence halls where four students share a bathroom and single occupancy apartments that house either two or four students. The student- to- bathroom ratio in the apartments is two students to one bathroom. The residence halls are three- story structures, with the apartment building ranging from two to four stories in height. Student programming space is included in both phases of the project.

The Towers at Knight's Plaza project (design capacity of 2004) was constructed in three phases. Phase I opened in 2006. Phase II opened in 2007. Phase III opened in 2008. Each phase consists of a combination, 4 bedroom/2 bath, 4 bedroom/4 bath, and 1bedroom/1bath apartments. All bedrooms are single occupancy. The residence halls are seven- story structures. A small study lounge is included on six (6) of the seven (7) floors. The ground floor lobbies and adjacent courtyards provide student programming space.

The 2012 Academic Village II Expansion Project opened in August 2013. This project houses 665 students and consists of three buildings, ranging in height from four to five stories. The living units are in a suite configuration, with four single bedrooms sharing two bathrooms. Every residential floor has a kitchen, TV lounge, study room, and laundry room. The Community has a 60-seat classroom, a large multipurpose room and kitchen, two large group study rooms, a grab-and-go food store, a mail center, and offices for residence life staff, an academic advisor, and a counselor. The community has a large outdoor patio space that provides wireless internet service.

Note: Bed counts below do not include student staff member accommodations.

1967 Project		
Building	**Single Occ. Rms.**	**Double Occ. Rms.**
Lake Hall	12	48
Volusia Hall	12	48
Osceola Hall	12	48
Polk Hall	12	48

1980 Project		
Building	**Single Occ. Rms.**	**Double Occ. Rms.**
Brevard	0	60
Orange	0	80
Seminole	0	82

1993 Student Apartment Facility	
Building	**Single Occ. Rms.**
Building 55	46
Building 56	46
Building 57	46
Building 58	46
Building 59	46
Building 60	46
Building 61	46
Building 62	46
Building 63	46
Building 64	42
Building 66	46
Building 67	46
Building 68	46
Building 69	46

Building 70	46

1998 Residence Hall Facility		
Building	**Single Occ. Rms.**	**Double Occ. Rms.**
Citrus Hall	0	56
Flagler Hall	0	112
Sumter Hall	0	112

2001 Academic Village		
Building	**Single Occ. Rms.**	**Double Occ. Rms.**
101	0	70
102	0	74
103	0	82
104-105	172	0
106-107	176	0

2002 Academic Village		
Building	**Single Occ. Rms.**	**Double Occ. Rms.**
108	0	70
109	0	74
110	0	82
111-112	172	0
113-114	176	0

2006, 2007, 2008 Towers		
Building	**Single Occ. Rms.**	**Double Occ. Rms.**
129	497	0
130	499	0
132	467	0
133	497	0
	2013 Academic Village II Expansion	
Building	Single Occ Rms.	Double Occ.Rms.
156	249	0

157	203	0
158	198	0

g) University Owned Off-Campus Housing

The University does not own any housing facilities that are located off-campus. UCF manages the 600- bed Northview property located on Lockwood Boulevard adjacent to the northeast entrance to UCF. When all UCF- owned and -managed facilities have reached full capacity, , students are referred to University affiliated housing. Affiliated properties include Knights Circle (2,525 beds) and The Pointe at Central (1,224 beds). The University provides UCF Residence Life services at Knights Circle and UCF Police provided services at both Knights Circle and The Pointe at Central.

h) Estimates of University Housed Students by Classification

Undergraduate students: 7,176 (including student staff members and fraternity and sorority housing on the UCF main campus)

Graduate students: 83

Married Students 0

i) Full-Time Students Living in Non-University Rental Housing

Considering current occupancy rates, there are approximately 12,500 students living off-campus along the Alafaya Trail corridor and University Boulevard immediately adjacent to UCF in privately owned, non-affiliated apartments that offer individual leases. Approximately, 3,750 students live in privately owned affiliated housing.

j) Host Community's Rental Stock by Rental Range

Apartment facilities that offer individual student leases		
Rental Range (per person)	**Rental Supply**	
$401 to $499/month	896	
$605 to $695/month	3,756 (UCF affiliated housing)	
$500 to $600/month	2,347	
$500 to $1,179/month	7,088	
Private Apartment Facilities	**Rental**	**Num. of**

	Range/person	beds
Boardwalk Apartments	$575/month	480
Campus Crossing College Station	$535/month	304
Collegiate Village Inn	$699/month	616
Gatherings Apartments	$515/month	384
The Edge Apartments	$509-$904/month	930
The Lofts	$539-$1,179/month	730
Northgate Lakes	$570-$650/month	710
Riverwind Apartments	$555/month	440
Campus Crossing Alafaya	$434-$499/month	896
Village Alafaya Club	$589-$614/month	840
Village at Science Drive	$599/month	732
The Plaza on University	$629-$729/month	1300
The Retreat	$645 to $750/month	894
Sterling at Central	$600-$990/month	1,526
University House	$715-$1135/month	995
University Affiliated/Private Apartment Facilities	**Rental Range/person**	**Num. of beds**
Knights Circle	$605-$695/month	2,532
The Pointe at Central	$510-$650/month	1,224

k) An analysis of existing University policies regarding the percentage of students for which on-campus housing is provided.

The current University goal strives to provide on-campus housing for 80% of FTIC students. This policy responds to the University's goal of enhancing the first-year experience of UCF's students and the overall collegiate environment. Additionally, the University desires to provide beds for 50% of the retained 2nd year undergraduate students.

All housing on campus today contains handicap-accessible units, and future housing will continue to provide such provisions. More on- campus housing will continue to strengthen the University community and alleviate the impact on neighborhoods surrounding UCF.

l) A projection of the number of students to be housed on-campus in University-provided facilities based on the existing policies for provision of on-campus housing. This projection shall include a description of handicap-accessible

beds/units. Projections of the number of students to be housed on-campus are based upon the University's goal of providing housing for 80% of FTIC students and 50% of retained 2nd year undergraduate students .

Table 2.7(2)a Bed Demand based on FTIC (80%)/2nd year (50%) demand goals

Main Campus On-Campus Housing Needs	**Fall 2014**	**Fall2015**	**Fall 2016**
Headcount Enrollment	49,923	50,714	52,026
Bed Demand (80% of FTIC ½ of 2nd year)	8,220	8,384	8,552
University-owned beds	6,465	6,465	6,465
Greek-owned beds	304	304	304
University-owned Greek Beds	164	164	164
Total Beds on Campus	6,933	6,933	6,933
Total Beds Deficit	(1,287)	(1,451	(1,619)
Beds Available at Northview	598	598	598
Total Beds Needed on Campus	689	853	1,021
Beds Needed for Global UCF Program	370	1,130	1,200
Total Beds Needed on Campus with Global UCF Program	1,059	1,983	2,221
Beds Available in University Affiliated Housing	3,756	3,756	3,756

Per the housing supply mentioned above, this plan has identified two sites for potential housing expansion. Those areas include the south portion of campus surrounding the existing Academic Village (300 beds), and development of a Greek village on the northwest corner of campus (400 beds). If built, these sites would provide an additional 1,300 beds to the campus, as indicated in these projections.

m) A projection of the number of students to be housed in non-University provided facilities on-campus (fraternities, sororities, special interest groups etc.). There are currently thirteen fraternity and sorority houses on campus, accommodating 468 students. Nine houses are privately owned, housing 304 students. It is anticipated that 12 to 14 more Greek groups (400 beds) will have the opportunity to live on- campus in Greek Park II/Special Interest Housing. This housing will be developed by the University.

n) An analysis of the existing housing provided on campus, including:

1. Age of buildings that house students and programs to retrofit or replace aged structures:

- Lake, Volusia, Osceola, and Polk Halls were built in 1967.
- Brevard, Orange, and Seminole Halls were built in 1980.
- Lake Claire Apartments (15 buildings) were built in 1993.
- Citrus, Flagler, and Sumter Halls were completed in 1998.
- Academic Village Buildings 101, 102, 103, 104, 105, 106, and 107 were completed in 2001.
- Academic Village Buildings 108, 109, 110, 111, 112, and 114 were completed in 2002.
- Tower I (Building 129) was completed in 2006. Tower II (Building 130) and Tower IV (Building 133) were completed in 2007. Tower III (Building 132) was completed in 2008.
- Academic Village Buildings 156, 157, and 158 were completed in 2013.

2. Physical condition of those buildings: UCF addresses maintenance needs as they arise. Issues concerning life safety are constantly being addressed and maintained. Presently, all of the facilities on campus are considered to be "clean and acceptable" housing. As a result, there are currently no difficulties in renting existing buildings. Major renovations of the1968 project (Volusia, Lake, Osceola, and Polk Halls) were completed in 2009. HVAC, appliance, and roof replacements were completed in the Lake Claire Apartments in 2013/14. HVAC units have been replaced in Buildings 104 and 106.

3. The existing rate structure charged for on-campus housing.

Table 2.7(2)b) 2009 - 2010 RENTAL RATES

Room	Price per semester
Double room in Lake, Volusia, Osceola, Polk	$2,470
Double room in Brevard, Orange, and Seminole Halls	$2,700
Double room in Citrus, Sumter, Flagler Halls	$2,700
Double room in Academic Village	$2,835
Single room in Lake, Osceola, Polk, and Volusia Halls	$2,810
Single room in Lake Claire Apartments	$3,045

Single Room in Academic Village Apartments	$3,085
Single room in Neptune suite	$3,000
Single in Tower 1/1	$3,845
Single in Tower 2/1 apartment	$3,745
Single in Tower 4/2 apartment	3,440
Single in Tower 4/4 apartment	$3,640

o) An estimate of the number of additional on-campus housing units, by type, necessary to meet the goal (apartment, suite, dormitory, etc.): To meet the goal of providing on-campus housing for 80 % of FTIC students and 50% of retained 2nd year undergraduate students in 2016, 1,021beds are needed. This need will be met with a combination of suites and apartment- style accommodations.

p) An analysis of potential on-campus sites and of the capacity of these sites (beds) This analysis shall describe the method used to translate total beds required into building and site requirements: Future Greek housing developments should be constructed at a level more dense than the current Greek Park (9.6 beds/acre) over the next ten years as the University responds to the housing shortfall projected in 2.7(2)a) above. Comparatively, the Lake Claire complex has 73.9 beds/acre and the Libra facility has 150.8 beds/acre. Maintaining density will allow the University to fulfill the goal of providing more housing as enrollment expands and will contribute toward development which will sustain the University's land reserves. The addition of Northview and more private student housing adjacent to campus is meeting current demand with vacancies throughout the market. Therefore, future housing sites have been identified; however, all potential sites are not fully described and/or associated with a funding source in the Capital Improvements Element.

q) A projection of the number of students that will be housed off-campus in facilities provided by others (private market housing).
Based on the housing supply reference in Table 2.7(2) a) above, projections of the number of students that will be housed off- campus are as follows:

Table 2.7(2)c) Projection of Students Housed Off-Campus

	Fall 2014	**Fall 2015**	**Fall 2016**
Off campus	42,990	43,781	45,093

r) An assessment of the student impacts on the occupancy of the host community's rental stock.

Approximately 25% of students who live off-campus find housing along the Alafaya and University Boulevard corridor adjacent to the campus. The University is committed to developing new housing on the UCF campus in an effort to increase the overall number of students on-campus and to working within the community to foster the growing neighborhood.

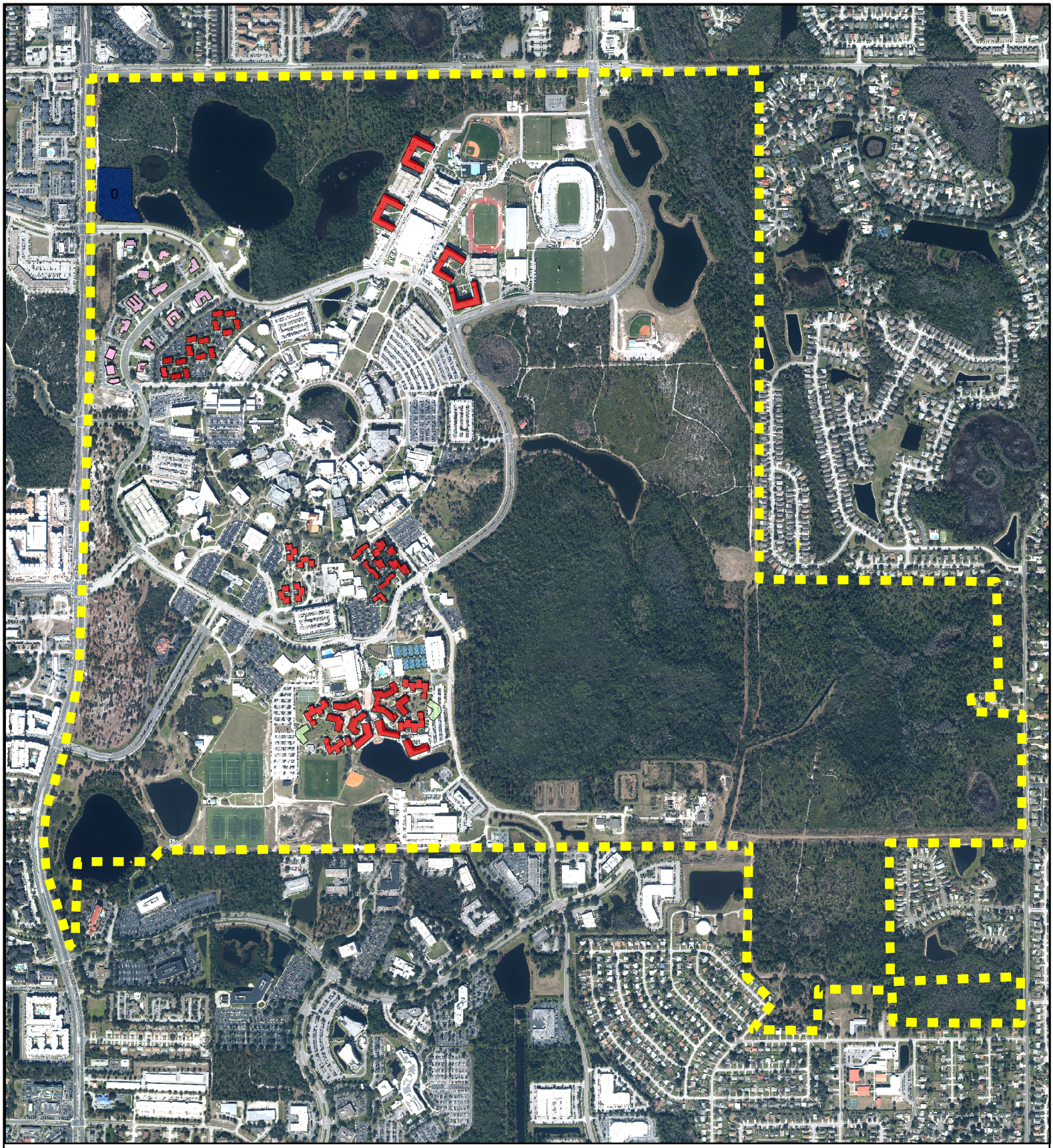


Figure 7-1

Existing and Planned Housing

Comprehensive Master Plan Update

University of Central Florida

Orlando, Florida

2015-2025

Legend

- Boundary
- Existing Campus Housing
- Academic Village Expansion
- Existing Greek Park Housing
- Special Interest Housing

N

All maps are diagrammatic and conceptual. The various areas shown are approximate and not to survey accuracy. The intent of these maps is to illustrate general areas of existing or potential use.

Rev 20140617

0 1,000 2,000 4,000 Feet

GOAL 1: To provide a variety of safe, efficient, and enjoyable on-campus recreation and intercollegiate athletics facilities, educational laboratories, and open space areas which promote the health, welfare and campus aesthetic ambience for faculty, staff, students, and visitors.

OBJECTIVE 1.1: To pursue a variety of public and private funding sources and programs to ensure the development and availability of recreational facilities, championship caliber intercollegiate athletics, and educational laboratories for campus students and other user groups.

POLICY 1.1.1: The University's Student Development and Enrollment Services (SDES) and College of Education and Human Performance shall be responsible for the provision of adequate recreation and open space facilities for quality recreational and sports programs for all students of the University. The development of such programs and facilities shall be based upon existing and prospective student demand and user interest and the availability of funds from such sources as student and user fees.

POLICY 1.1.2: The University's Athletics Association (UCFAA) shall be responsible for the provision of adequate facilities for participants in intercollegiate athletic programs, consistent with the adopted Campus Master Plan. The need and phasing for specific facilities shall be based upon specific programming studies and the availability of funds from private and public sources such as spectator and user fees, alumni donations, etc.

POLICY 1.1.3: As necessary, the University shall continue to rely upon service contracts and other contractual relationships with off-campus, private and public facility providers to meet recreation, physical education, or intercollegiate athletic needs.

OBJECTIVE 1.2: To pursue a variety of continuing in-house planning and facility development programs to ensure that high quality recreation, intercollegiate athletic facilities, educational laboratories, and open space areas are adequately and efficiently provided.

POLICY 1.2.1: UCF shall continue to maintain and develop functional and aesthetically pleasing open spaces between structures and throughout the campus. This shall be accomplished through the application of building development and land use intensity guidelines consistent with the Urban Design, Future Land Use, and Conservation Elements of this Campus Master Plan.

POLICY 1.2.2: While future planning recognizes the distinct need that Recreation, Intercollegiate Athletics, and Sports Education programs have for separate facilities, program representatives shall coordinate and attempt to share facilities wherever feasible.

POLICY 1.2.3: Future facilities shall continue to be developed in the south and northeast portions of campus, consolidating and strengthening recreation and athletic facilities. As these options become maximized, additional space shall be explored.

POLICY 1.2.4: Future on-campus development which impacts recreation and athletic land, shall occur in phases to coincide with the efficient relocation of recreational, intercollegiate athletic, and academic program laboratories. In order to implement this policy, the University's Facilities Planning and Construction Department, SDES, Intercollegiate Athletics, and the College of Education and Human Performance shall initiate a study to provide for the orderly, phased relocation of field and building facilities whenever such development occurs. The adopted Campus Master Plan shall be amended as needed to incorporate the results of this study, as well as space planning guidelines as recommended by the National Intramural-Recreational Sports Association (NIRSA).

POLICY 1.2.5: As future campus development programs progress into the programming and design stage, the University's Facilities Planning and Construction Department, SDES, Intercollegiate Athletics, and the College of Education and Human Performance shall consider those facilities and programs which could be maintained in these areas as part of the campus open space scheme.

POLICY 1.2.6: The University shall provide an academic support facility, the Wayne Densch Center for Student Athlete Leadership, in the northeast corner of campus. This building will serve all student-athletes participating in intercollegiate athletics. It will also include office and meeting space for UCFAA administration and support staff.

POLICY 1.2.7: The University shall continue to identify in the Capital Improvements Element the timing and phasing requirements and priorities for improvements to athletic and recreation and open space facilities necessary to correct existing deficiencies and meet future demands.

- An intercollegiate Tennis Training Center will be built on the north end of campus. Intercollegiate Athletics currently shares a nine-court tennis facility with the UCF Recreation & Wellness Center, located on the south end of campus.
- Additional Intercollegiate Athletics facilities include a phased expansion of Jay Bergman Field (baseball stadium). and a minor expansion of Bright House Networks Stadium. This would include an expansion of the *Roth Tower* facility to provide additional premium seating and operational space. Major expansion is not anticipated during this planning period.

OBJECTIVE 1.3: To promote unrestricted or managed public access to all campus recreation and athletics facilities or open space areas to the maximum extent feasible.

POLICY 1.3.1: Campus open space areas shall be developed and maintained as areas of unrestricted public access wherever feasible. Such provisions for access would include those special provisions or design criteria necessary under federal regulations to provide for people with disabilities. Access to certain areas of environmentally sensitive habitat may be restricted (on occasion) if it is determined by the University to be necessary in order to protect animal and plant species.

POLICY 1.3.2: The University shall establish the priority use of campus athletic and recreational facilities for campus faculty, staff, and students. Non-campus user populations of campus facilities will be accommodated on a fee basis, to the extent that campus user demands are adequately met while allowing for reasonable maintenance and restoration periods for the particular facility.

POLICY 1.3.3: The UCF Athletics Association, Inc. shall establish the priority use of intercollegiate athletics facilities.

OBJECTIVE 1.4: To protect and enhance present campus open spaces.

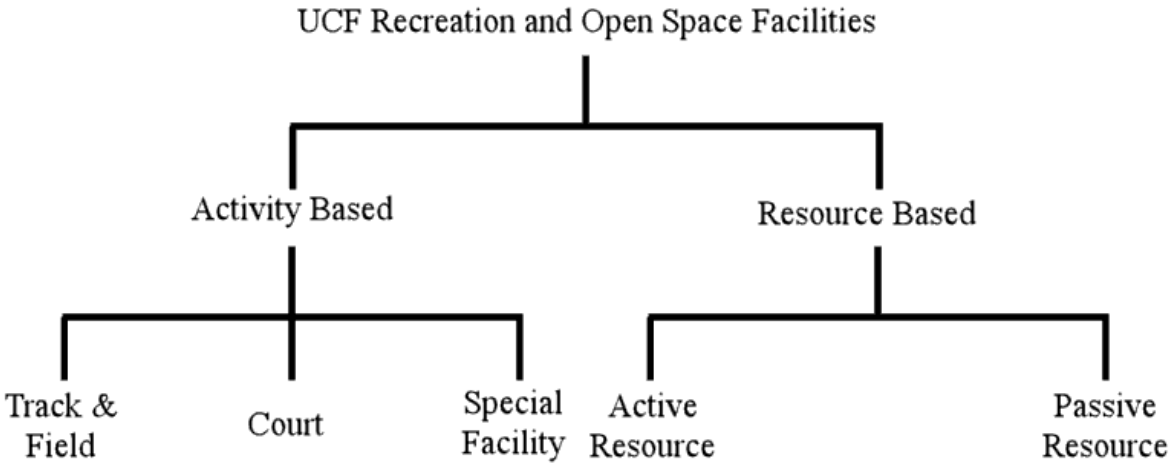
POLICY 1.4.1: The University shall protect from encroachment the existing conservation easements and maximize the retention of open space by strictly enforcing the future placement of buildings, parking facilities, infrastructure, and other man-made improvements consistent with sites selected and adopted in the Urban Design and Future Land Use Elements. The pattern of open spaces established in Figures 4-1, Future Land Use Map and 8-1, Recreation and Open Space Map, shall not be subject to encroachment without amending the adopted Campus Master Plan.

POLICY 1.4.2: The University shall maintain densities and intensities for the development of the campus, which maximize the retention of on-campus open space as identified in the Future Land Use Element.

POLICY 1.4.3: The University shall select sites for infrastructure and academic and support facilities which are designed to maximize the retention of campus open space.

POLICY 1.4.4: The University shall create new, formal open spaces, or "greens" through the careful placement of buildings as adopted in Figure 8-1.

In order to provide a comprehensive count of all existing recreation and open space facilities, an inventory of such facilities is organized based on the following chart.



Activity-based facilities are defined as those facilities designed, constructed, and designated for specific sports or recreation activities such as ball fields and tracks. Resource-based facilities refer to those facilities that are primarily used for general recreation or organized social functions. These resource-based facilities are opened to all and not specifically designated for specific sports or recreational activities. Resource-based facilities may include open fields, public parks, nature trails or conservation areas.

Resource-based facilities can be further defined and categorized as active and passive resources. Active, resource-based facilities are generally accessible open spaces or parks where recreation activities are not specific. Examples of active, resource-based facilities include open fields, picnic areas, nature trails, and public parks. Passive, resource-based facilities refer to those areas that are relatively inaccessible to any types of recreation activities and may include conservation and environmental mitigation areas. Although these are not accessible, they provide visual and climatic enhancements to the campus.

Facility Inventory

Off-Campus Recreation, Intercollegiate Athletics, College of Education and Human Performance, and Facilities and Open Spaces.

Non-University-owned or-managed recreation and education facilities used by the University are listed below:

1) Twin Rivers Golf Course. Located in Oviedo, this facility is privately owned. It is used for intercollegiate athletics golf practice, tournaments, and

education classes. Other local golf courses such as Eastwood, Wedgefield, Winter Springs, and Stoneybrook have been used for Intramural Sports tournaments and Sport and Exercise Science classes.

2) Boardwalk Bowl. Located approximately three (3) miles from campus and within the City of Orlando, which is a privately owned facility. UCF uses the facility for Intramural Sports and Sport Club events. Oviedo Bowling Lane, located three miles from campus, is currently used for Sport and Exercise Science Classes.

3) Econlockhatchee River Park and Canoe Trail, State Park. This facility is a resource-based recreation facility open to the public. The size of this regional facility is not available. The Trail provides access to the Econlockhatchee River.

University-owned or-managed facilities

As mentioned, these facilities are used primarily for educational, intramural, and intercollegiate sports, and on-campus residential recreation. The facilities are also periodically rented and/or open to public use as noted in the usage column below.

Facility Code #	Description	Activity-Based (in acres)			Resource-Based (in acres)		Estimated Usage
		Field	Court	Specialty	Active	Passive	
Facilities Used Primarily by UCFAA							
1.1	Jay Bergman Field	4.7					Fall/Spring for Varsity Home Games, Practices, and Youth Camps
1.2	Softball Complex	1.65					Fall/ Spring Practice, Home Games, Youth Camps
2.1	Wayne Densch Sports Center	0.99					UCFAA Staff & Student Training Facility
2.2	Brighthouse Networks Stadium	10.12					Fall/Spring Football Home Games
2.3	Nicholson Field House	2.05					Fall/ Spring Practice, and Youth Camps
2.4	Football Practice Fields	4.57					Fall/ Spring Practice, and Youth Camps
3.1	Soccer Practice Field	2.37					Fall/ Spring Practice, and Youth Camps
3.2	Track and Soccer Complex	4.63					Fall/Spring Varsity Games and Practice, Community Use

4	Competition Track (Included in 3.2)			2.22			Fall/Spring Track and Cross Country Practice, Varsity Meets, Rentals
5	CFE Arena		3.15				Fall/Spring Varsity Practice and Home Games
5.1	The Venue at the CFE Arena		0.93				Varsity Volleyball Games and Youth Camps
	Subtotal	31.08	4.08	2.22	0	0	
Facilities Primarily Used for Recreation							
6	UCF Recreation and Wellness Center (RWC)			2.41			Recreation Use for Students and Faculty/Staff.
6.1	RWC Lap Pool			0.23			Recreation Use for Students and Faculty/Staff
6.2	RWC Leisure Pool			2.06			Recreation Use for Students and Faculty/Staff
7	Lake Claire Recreation Area				44.2		Scheduled Reservations for Student Organizations and General Community Use
8	RWC Park Turf Fields and Support Facilities	14.81					Intramural Leagues, Sport Club Practices and Games, Rentals
8.1	RWC Park Sport Club Field	3.87					Sport Club Practice and Games
8.2	RWC Park Softball Field	2.02					Recreation Use and Intramural Tournaments
8.3	RWC Park North Grass Field	4.15					Reservations, Sport Clubs Games and Practices
9	Challenge Course			4.52			Student Groups, Campus Departments and Community Reservations
10	Outdoor Basketball Courts 3 (lighted)		0.43				Campus Recreation Use, Student Groups and community reservations
11	Sand Volleyball Courts 4 (lighted)		0.35				Campus Recreation Use, Intramural tournaments
12	RWC @ Knights Plaza			0.22			University Recreation Use for Students and Faculty/Staff.
13	Ferrell Commons			0.15			Sport Club Practices
	Subtotal	24.85	0.78	4.89	44.2	0	
Facilities Shared by College of Education and Human Performance, Recreation, and UCF Athletics Association							
17	Tennis Courts 9 (lighted)		1.62				Varsity Practice, Intramurals, Campus Recreation, Youth Tennis Camp, and Tennis Club

18	Disc Golf			37.15			Campus Community Use
19	Band Field	1.79					UCF Marching Knights, and Campus Recreation Use
20	Education Building						Sport Clubs, Sport and Exercise Science Classes, UCFAA Practice
20.1	Gymnasium						Sport and Exercise Science Classes
20.2	Multipurpose Room						Sport and Exercise Science Classes
20.3	Weight Room						Sport and Exercise Science Classes
	Subtotal	1.79	1.62	37.15	0	0	
	UCF OPEN SPACE						
	Wetlands					273.37	
	Upland Preservation					25.36	
	Upland Riparian Habitat Preservation Zone					39.39	
	Lakes					32.18	
	Subtotal	0	0	0	0	370.3	
	Subtotal	57.72	6.48	44.26	44.2	370.3	
	TOTAL	108.46			414.5		

Level of Service Standard (LOS)

Based on a review of the National Intramural Recreational Sports Association (NIRSA) the following level of service standards are presented for comparison purposes:

Field Space: .94 acres of space per 1000 students

Indoor Total Fitness Equipment Space: 1,008 square feet per 1000 students

College Comparisons (Indoor Recreation Space)

A. National Schools Similar in Size
B. Student population versus square footage,
    - University of Texas at Austin, 52,059 students with 500,000 sf. of space
    - Ohio State University, 57,466 students with 725,000 sf. of space
    - Texas A & M, 58,809 students with 413,000 sf. of space

C. Florida Schools,

Florida State University, 47,710 students with 180,000 sf. of space

University of Florida, 41,913 students with 183,100 sf. of space

University of Miami, 15,323 students with 114,000 sf. of space

University of South Florida, 46,174 students with 185,000 sf. of space

UCF 2014 Fall Headcount: 49,923 students

24.85 acres of field space

1 acre per 2,009 students of field space

158,700 sq. ft. of indoor recreation space

32,545 sq. ft. of total fitness equipment space
(650 square feet per 1000 students)

Analysis Requirements

This section discusses the problems, constraints and opportunities to provide recreation and open space facilities which meet the future demand of the University. As indicated by the Level of Service (LOS) standards, UCF currently has a lower existing level of service for recreation space than does the NIRSA standards or other Universities with similar enrollment. In addition to the LOS standard it is important to look at the Recreation planning principles outlined by the NIRSA and Society for College and University Planning (SCUP) through a joint effort. The planning principles include:

- Establish recreation as a pillar of the University's comprehensive plan
- Create and maintain a vision of physical development of recreational facilities, a vision which supports the mission and master plan
- Instill a real sense of community and enrich the experience of all who come to campus; and
- Foster a safe, secure, and accessible environment

Summary

The Recreation and Wellness Center, leisure pool, lap pool, tennis courts, sand volleyball complex, satellite facilities at Knights Plaza, Lake Claire, RWC Park with multipurpose playing fields, artificial turf fields, challenge course, and support facilities, help support the recreational needs of the UCF community. Additional enhancements at Lake Claire

will help to bring the recreation space closer to the level that is desirable based on national standards, usage demands, and comparisons to other Universities.

Recent expansion of the RWC and the addition of the Knights Plaza facility have greatly improved the indoor facility inventory. Existing recreation facilities still remain insufficient to support the current and future needs of UCF and its student enrollment.

In addition to the number of facilities available, several other factors need to be considered to increase facility sufficiency. These include scheduling, extension of playing time, seasonal demand, recovery time, and flexibility of fields or courts to be used for various kinds of activities.

Overall, UCF is currently below the national guidelines and standards for activity-based recreation facilities. This is supported by comparison to schools with similar enrollment that have much larger facility space. As the campus continues to grow, more land will be needed for buildings, parking and activity-based recreation facilities. Future resource-based recreation and open space must be carefully developed utilizing spaces formed between buildings.

Recommendations for Improvement

Based on UCF observations, student surveys, and data available through the "Space Planning Guidelines for Campus Recreational Sport Facilities," published by NIRSA, the following specific list of problems, constraints, and opportunities were identified:

> The swimming pool condition is deteriorating and in need of upgrading and repairs due to age. The existing pool is in demand. The new leisure pool assists with the recreation needs of participants; however, repairs to the existing pool must be made to accommodate competitive programs such as lap swimming, water polo, scuba certifications, and possible swim meets

The Lake Claire Recreation Area is in need of repair and enhancement. Boathouse storage space at the Lake Claire Recreation Area is currently not adequate to hold the equipment stored. A total overhaul of the boathouse facility is needed to assure proper gear and boat storage techniques; to create more secure storage space; and to create a boathouse that is both fitting to the area's aesthetics and allows its staff to serve students more efficiently.

> Currently, the parking lot at the Lake Claire Recreation Area is composed of dirt and gravel, bordered by movable blocks of wood. There is a need to pave and paint this lot to eliminate and to create an efficient and defined parking system.

There are a few unmaintained trails through the woods behind Lake Claire. The condition of these trails is questionable and they are not regularly maintained. To keep up with the progress and aesthetics of the trails created by the Arboretum, these trails would need to be extended, maintained, and connected with current on-campus trails.

1. The Recreation and Wellness Center helps to serve the recreation needs of the UCF community. The 85,000 square foot facility was expanded in 2010 to add 65,000 square feet, including more fitness space, multipurpose court space, racquetball courts, a new lap pool, and an outdoor adventure center. These additions are welcome, but still leave UCF with inadequate square footage. The current site will need to be built out with a completion of the footprint to serve the needs of the UCF community.

   Nine (9) tennis courts shared by the entire campus are insufficient. Additional courts should be provided as determined by the number of users. NIRSA standards indicate .41 Tennis Courts per 1,000 students, which would make UCF twelve (12) courts short of the 21 needed.

2. The total number of current fields has improved with the addition of six (6) multipurpose artificial turf fields. Planned expansion of additional fields will get UCF closer to recommended standards and allow for maximized playing time. Future space must remain protected to allow for additional fields for Sport Clubs, as multiple outdoor teams currently share one space that is not adequate and not lighted.

3. It must be noted that UCF currently has a severe shortage of Softball Fields. UCF currently has one (1) field, and NIRSA standards call for 8 (.15 fields per 1000 students). As recent as 2000, UCF had three (3) fields but has decreased to one (1) due to expansion of University Housing. Due to the unique size of a softball field and space requirements, space for more than one (1) additional field on the current RWC park footprint does not exist. Additional space on campus or adjacent to campus should be identified.

4. A gateway building is desired at the RWC Park location to provide additional indoor administration and storage space, as well as to provide a central access point to enter the park.

Concern is expressed for any gap in reduction in service during expansion. This is a result of the severe need for recreational space for a residential campus.

a) An analysis of the projected needs for recreation and open space facilities required to meet the needs of the future University population (, faculty, staff, and students) based on University standards and calculations or established level of service standards. The University of Central Florida outdoor recreation facilities are currently limited with regard to student use and number of facilities. Looking at the student population, number of intramural sports offered, number of sport clubs, and ideal standards for usage, the fields at UCF are over capacity. The future expansion of intramural fields in the south section of the campus will allow increased capacity and more flexibility for field rotation to avoid compaction and abuse. Calculations used to assess facility sufficiency take into consideration a number of factors. These factors include variety of fields (club sports, intramural sports, or open recreation), frequency of use, student enrollment, and unique layout diminishing the flexibility for use (i.e. softball field). The methodology used for determining the number of fields an institution needs for appropriate recreation use is based on a number of factors. The general standard, as recommended by the National Intramural Recreational Sports Association (NIRSA), is .94 acre per 1000 students enrolled. Additionally, the number of fields can be adjusted based on number of teams, type of field (natural or synthetic surface), and appropriate field lighting. Currently at UCF there are fifteen (15) intramural sports that use outside fields, some with up to 280 teams, and nine (9) sport clubs. Current field space includes 10.04 acres of unlighted grass fields (with the exception of one (1) softball field) and 14.83 acres of lighted turf fields. Natural grass fields should ideally be programmed 18 to 24 hours in any given week, with very few limitations on the turf fields. The current turf fields provide for additional usage; however, since their completion, the size of intramural leagues have more than doubled – pushing usage again to the limit. While these new facilities have added more space, available facilities for softball and sport clubs continue to be insufficient.

b) An assessment of the adequacy of the existing recreational facilities and open spaces to meet the projected needs of the University (on-campus, and off-campus), including a description of the extent to which off-campus facilities may meet some or all of the University projected needs.

The Recreation and Wellness Center expansion has benefited the campus and helped alleviate many of the shortfalls identified in the 2005 -2015 Campus Master Plan. Additionally, the construction of a new lap pool, the addition of more turf fields, and additional tennis courts help to address previous concerns. The provisions adding fields, tennis courts, as well as lighting facilities continues to be at a premium when addressing the 2015 plan.

c) An assessment of opportunities for alternative future facility siting in order to conserve the supply and character of campus open space:

The south end of campus, near the Academic Village, is an appropriate site for the expansion of future recreation facilities and allows for the consolidation of support facilities. The existing footprint of the Recreation and Wellness Center can hold up to

200,000 square feet and should continue to be built out in phases as funding is available. There is also a desire to add additional multipurpose recreation space on the north end of campus. The 2013 addition of a fitness facility at Knights Plaza has given some relief to the demands on the main facility; however, it is desired to identify additional space on the north end of campus for other recreation spaces.

d) An analysis of planned future recreation and open space facilities, as adopted by the host community in their comprehensive plan or other best available data.

In the 2005 Plan, it was noted that Orange County Parks and Recreation Division was in the process of finalizing its two-year Capital Improvements budget, which included the expansion of the Innovation Way Trail and East Orange Trail. The next planned phase, subject to Board of County Commissioners' approval, would extend east from its current terminus at Blanchard Park, then north to the south entrance of the university (Central Florida Blvd.). The University will coordinate with Orange County regarding specific alignment and amenity details of the trail. While this has yet to occur, due to the popularity and benefits of bicycling use as a means for both recreation and transportation, a strong desire exists among students for a local network of trails on and around campus to provide safe access free of vehicular traffic. There is a strong need for a trail system within the campus to connect to current pathways in and around RWC Park and the Gemini Loop, which, if connected to the Orange County trail system, could provide more access to and from campus for UCF faculty, staff, and students, as well as a safe recreation space for cyclists, runners, and other activities.

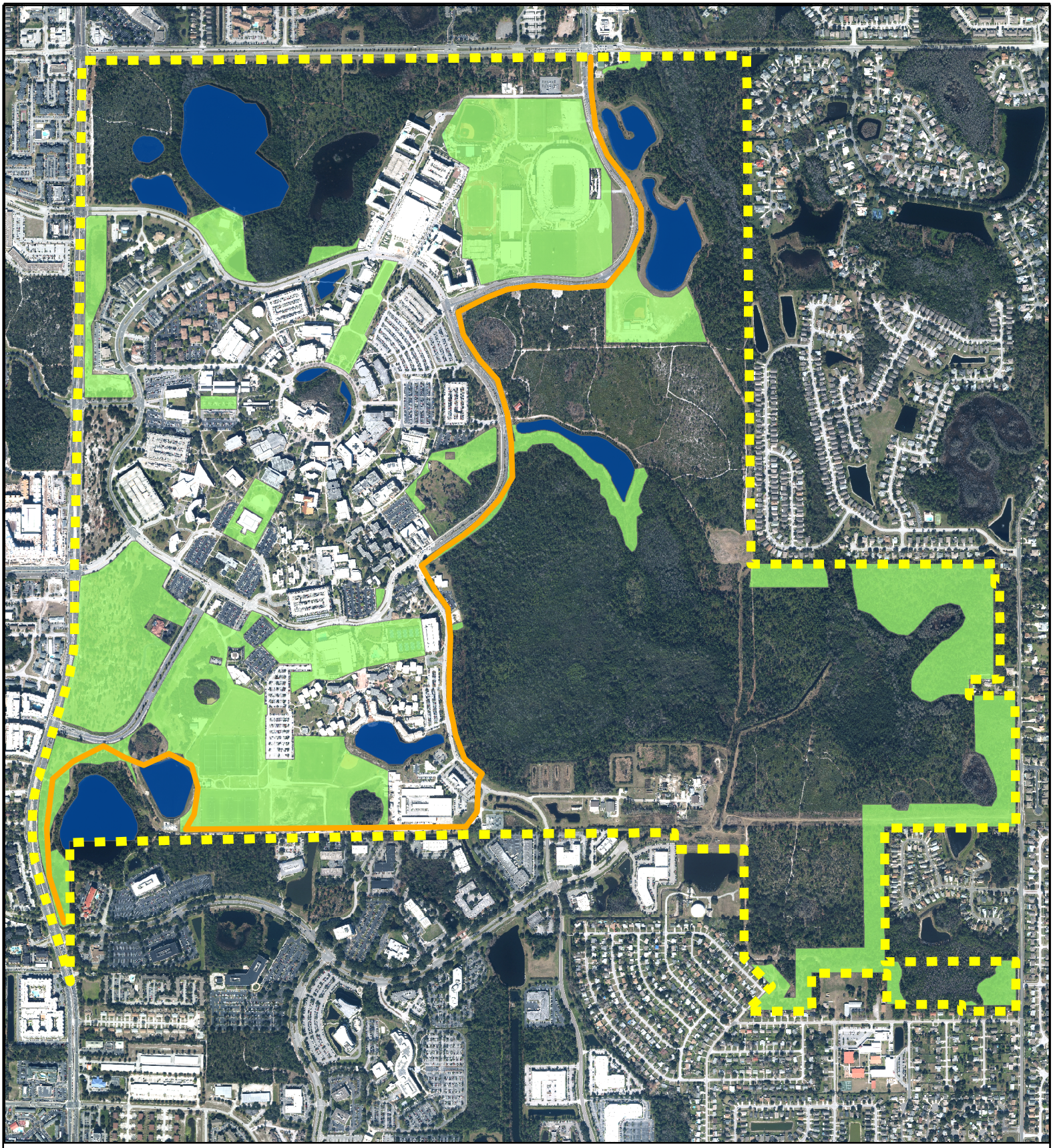


Figure 8-1

Recreation and Open Space

Comprehensive Master Plan Update
University of Central Florida
Orlando, Florida
2015-2025

Legend

- Boundary
- Proposed Little Econ Greenway Trail
- Recreation and Open Space
- Lakes and Ponds

N

All maps are diagrammatic and conceptual. The various areas shown are approximate and not to survey accuracy. The intent of these maps is to illustrate general areas of existing or potential use.

Rev 20140709

0 1,100 2,200 4,400 Feet

STORMWATER MANAGEMENT

GOAL 1: To provide an on-site storm water management system which, to the extent possible, provides for adequate system capacity to protect campus populations and facilities, while remaining sensitive to the natural functions and environmental attributes of the campus' native plant and animal communities.

OBJECTIVE 1.1: To correct existing storm water permitting deficiencies, if any, by modifying the existing SJRWMD stormwater master permit.

POLICY 1.1.1: The University shall continue to implement the St. Johns River Water Management District (SJRWMD) approved UCF Stormwater Master Plan. The University's Facilities & Safety shall be responsible for the continued permitting of the stormwater management system. The plan shall continue to recognize a variety of implementation priorities to (1) eliminate existing system deficiencies, if any, (2) maintain the existing system, and (3) expand the system to accommodate new drainage needs. A stormwater permit data bank shall be maintained to monitor modifications and additions to the permit from ongoing design and construction projects. Such monitoring data shall be electronically maintained and provided to all staff, consultants and reviewing agencies as requested.

POLICY 1.1.2: UCF shall design and construct stormwater management ponds, as necessary, during the planning period. The proposed location of these ponds is identified in the master stormwater permit. The timing and phasing requirements and priorities for these stormwater management improvements are driven by the Capital Improvements Element.

OBJECTIVE 1.2: To coordinate future campus development with the provision of adequate storm water management system capacity.

POLICY 1.2.1: Any future development on the UCF campus which increases the amount of impervious surface area shall be approved per the provision of an on-site drainage system which serves the proposed development area under one or more of the following St. Johns River Water Management District (SJRWMD) permitted level of service standards:

1. Building finished floor elevations shall be a minimum 1' above the measured/calculated 100- year floodwater elevation,

2. Stormwater quality treatment shall be on a basin by basin basis. Basin storm water ponds will be provided treatment per the following: greater of (a) 2.5" times the area of impervious surface or (b) the calculated first 1" of runoff for the basin.

3. Post development stormwater discharge from the campus shall be less than the predevelopment discharge rate for the 25 year/24 hour storm event as determined per the approved SJRWMD Master Stormwater Plan.

4. UCF shall strive to exceed this standard by implementing changes so that post development discharge volumes will not exceed the predevelopment discharge volumes for the 25 year/24 hour storm event.

POLICY 1.2.2: Any proposed increase in campus impervious surfaces shall be implemented only upon verifying that existing facility capacity is already on-line to accommodate the increased need, or that additional capacity will be funded and on-line at the time of need. In this respect, the University shall maintain a record of existing and committed impervious surface areas relative to the agency approved permit maximums, as amended.

POLICY 1.2.3: Pursuant to the St. Johns River Water Management District (SJRWMD) regulatory permit requirements, the University's Storm water Management Sub-Element shall continue to take into account those off-site stormwater flows which travel through the campus' wetlands and drainage basins.

POLICY 1.2.4: The University shall rely upon the stormwater system permitting criteria and processes of the SJRWMD to coordinate drainage issues with off-campus entities.

OBJECTIVE 1.3: Through the year 2025, UCF shall protect natural drainage system functions by (1) generally prohibiting development within the campus' existing jurisdictional wetland areas, (2) by maintaining a common pre-post development rate and volume of stormwater discharge for newly developed areas and, (3) by maintaining or reestablishing normal wetland hydro-period elevations.

POLICY 1.3.1: The UCF Facilities Planning and Construction Department shall be charged with reviewing all proposed development projects to ensure that increases in impervious surface can be accommodated in the capacity of the existing and/or committed drainage system.

POLICY 1.3.2: No storm water discharges shall cause or contribute to a violation of water quality standards in waters of the State.

POLICY 1.3.3: UCF shall continue to mitigate University-generated storm water and to minimize stormwater borne pollutants through the implementation of a

system of Best Management Practices (BMPs), which includes, but is not limited to:

- Incorporating stormwater management retention and detention features into the design of parks, trails, commons and open spaces, and building roof tops where such features do not detract from the recreational or aesthetic value of a site.

- Using slow release fertilizers and/or carefully managed fertilizer applications timed to ensure maximum root uptake and minimal surface water runoff or leaching to groundwater.

- Educating maintenance personnel about the need to maintain motor vehicles to prevent the accumulation of oil, grease and other fluids on impervious surfaces, where they might be conveyed to surface and ground waters by runoff, and the need to regularly collect and properly dispose of yard debris.

- Avoiding the widespread application of broad spectrum pesticides by involving only purposeful and minimal application of pesticides, aimed at identified targeted species.

- Coordinating pesticide application with irrigation practices to reduce runoff and leaching to groundwater.

- Incorporating features into the design of fertilizer and pesticide storage, mixing and loading areas that are designed to prevent/minimize spillage.

POLICY 1.3.4: The University shall design all storm water management facilities to retain on-site all volume of runoff generated by the University and shall not adversely impact adjacent property. At a minimum, the University will design the systems consistent with the SJRWMD criteria. Post development stormwater discharge volumes from the campus shall be less than the predevelopment discharge volume for the 25 year/24 hour storm event.

POLICY 1.3.5: The University shall prioritize the use of stormwater and reuse water for irrigation as follows:

1. Reclaimed water from the Iron Bridge for all landscape irrigation if possible.

2. Irrigation from existing stormwater ponds when possible and practical.

3. Reduce, minimize, and eliminate, where possible, the use of groundwater for irrigation.

OBJECTIVE 1.4: To improve the existing SJRWMD permitted stormwater management system when possible and funding is available.

POLICY 1.4.1: The University shall identify storm water basins that do not meet current SJRMWD standards, develop an improvement plan that will meet current standards, and implement the plan when funding is available.

POTABLE WATER SUB-ELEMENT

GOAL 2: To continue to produce and provide quality potable water to the campus with reliable backup sources.

OBJECTIVE 2.1: To ensure that adequate potable water supply and distribution piping is available for both new and re-developed facilities.

POLICY 2.1.1: The University shall periodically design and construct potable water system improvements to (1) eliminate existing system deficiencies, (2) maintain/improve the existing system characteristics, and (3) expand the system to accommodate increased demand from proposed growth. The University will continue to correct deficiencies in the piping system and maintain that piping system and its associated valves.

POLICY 2.1.2: The campus water system shall have redundancy built into the supply and distribution network. Supply redundancy can be achieved by multiple water plant sources (i.e. Orange County and the Central Florida Research Park) and by multiple raw water wells. Interconnects with various utilities are desired for their capability to be used as backups in emergencies. Distribution network redundancy can be achieved by creating looped piping systems and eliminating dead-end pipe systems.

POLICY 2.1.3: Future increases in campus consumptive uses, whether residential or non-residential related, shall be approved only upon a finding that existing potable water treatment and distribution facility capacity is already on-line and available to accommodate the increased need. If capacity is not available, funding will be provided so capacity can be brought on-line at the forecasted future time of need

OBJECTIVE 2.2: **To meet adopted levels of service for potable water system fire flow and consumptive capacity to accommodate the proposed demand.**

POLICY 2.2.1: Future development on the UCF campus which increases the demand for potable water shall be approved on the provision of a potable water distribution system which serves the proposed development under one or more of the following level of service standards:

1. Fire flow pressures of 20 psi residual for 2 hour sprinkler system flow

2. Fire flow volumes of approx. 1,000 gpm (ordinary to light hazard buildings) to 2,500 gpm (assembly occupancies and higher hazard buildings) Note: This is occupancy specific and must be accounted for in design phase of all new projects.

3. Category demands according to the following:

Offices	0.03 gpd/sf
Classrooms	0.06 gpd/sf
Common areas	0.11 gpd/sf
Residence Halls	50 gpd/bed
Frat./Sororities	50 gpd/bed

OBJECTIVE 2.3: To maintain the current quality and quantity of raw water available in the campus' potable water well field.

POLICY 2.3.1: The UCF potable water treatment and distribution system shall be primarily oriented to the needs of the campus and secondarily oriented to the needs of off-campus consumers. The University shall make every effort to cooperate with the St. Johns River Water Management District (SJRWMD) with respect to the consideration and implementation of existing and future regional ground water management strategies.

POLICY 2.3.2: The UCF potable water treatment and distribution system shall continue to meet or exceed FDEP requirements for a public water supply system and stay current with FDEP regulations and policies.

POLICY 2.3.3: The University shall perform annual reviews of major system components of the water supply and distribution system. Review shall include wells, well pumps, water treatment plant components, storage tanks, distribution pumps, backup generators, distribution piping and valves, etc. Based on review, the University shall prepare a capital improvements needs list with schedule for improvements.

POLICY 2.3.4: UCF shall continue to require low-flow and low-flush plumbing appurtenances in all new building construction and building renovations.

POLICY 2.3.5: The use of "xeric" landscaping techniques, including the maintenance or installation of selected vegetation species, low volume irrigation and compact hydra-zone concepts, shall be a required element of all new building and ancillary facility construction through the year 2025.

POLICY 2.3.6: The University shall utilize reuse water for all landscaping; thus, providing more available potable water capacity for future campus development.

SOLID WASTE

GOAL 4: To base future campus development on the provision of a solid waste on-campus collection and off-campus disposal system which adequately serves the future campus population needs, and to the maximum extent feasible, protects the function and quality of the surrounding natural environment.

OBJECTIVE 4.1: To insure that future development on the UCF campus shall occur based on a finding of adequate solid waste collection and disposal capacity to accommodate the future demand, which may call for new systems to be evaluated and installed if necessary such as to accommodate a composting system.

POLICY 4.1.1: Future development on the UCF campus which increases the demand for waste collection and disposal shall be approved under the provision of a solid waste collection and disposal system which serves the future development under one or more of the following level of service standards:

1. Multiple weekly collections
2. Approximately 1 pound per day per FTE student

POLICY 4.1.2: As necessary and appropriate, UCF shall continue to participate in the regional solid waste management, waste reduction, and facility planning strategies undertaken by Orange County. Such activities will include continued recycling efforts for paper, glass, metal, and plastics as currently collected on-campus.

POLICY 4.1.3: The University shall continue to rely upon private vendors to collect and convey the campus' solid waste to area disposal sites. As part of the campus development process, the University's department of Facilities Planning and Construction shall be responsible for coordination with the waste vendor to establish the appropriate dumpster sizing and pick-up scheduling for new campus development areas. This coordination activity shall also include the appropriate planning actions for the siting and scheduling of recyclable materials dumpsters.

POLICY 4.1.4: UCF shall continue to rely upon Orange County's solid waste facility planning efforts for plant expansion.

POLICY 4.1.5: Future increases in campus generating uses, whether residential or non-residential related, shall be approved only upon a finding by the University that existing solid waste disposal capacity is already on-line to accommodate the increased need, or that additional capacity will be funded and on-line at the forecasted future time of need. The University's Facilities Planning and Construction department shall be responsible for the review of all development proposals and perform the appropriate periodic coordination efforts with Orange County to determine that solid waste capacity is available.

SANITARY SEWER SUB-ELEMENT

GOAL 5: To insure that the future development of UCF shall be based on the current configuration of a combination of gravity and forced main sewer system that adequately serves the current and future campus population.

OBJECTIVE 5.1: To maintain the University's current sewer system and upgrade the mechanical and electrical components as needed and as funds are available.

POLICY 5.1.1: The University shall periodically design and construct sanitary sewer system improvements to (1) eliminate existing system deficiencies, (2) maintain/improve the existing system characteristics, (3) expand the system to accommodate increased demand from proposed growth, and (4)continue to correct deficiencies in the piping system and maintain that piping system and its associated infrastructure.

POLICY 5.1.2: The campus's main wastewater pumping stations shall have backup systems in place to handle emergency power and pump failures.

POLICY 5.1.3: Future increases in campus wastewater flows, whether residential or non-residential related, shall be approved only upon a finding that existing purchased wasterwater capacity is available. If capacity is not available, funding will be provided so capacity can be purchased from Seminole County prior to the forecasted future time of need.

STORMWATER ANALYSIS

a) A facility capacity analysis, by geographic service area, indicating capacity surpluses and deficiencies for:

1. Existing conditions, based on the facility design capacity and the current demand on the facility capacity:

The University is divided into four major drainage basins (Basins 1 through 4). Each of these basins is further divided into sub-basins as shown on the included table. The master plan and subsequent stormwater permit were generated in the early 1990's based on projected development within the campus. Modifications have been made to the master permit as a result of changes in the projected growth and development of the campus.

The University currently maintains a master stormwater permit from the St. Johns River Water Management District (SJRWMD). This master permit allows for development within designated stormwater basins as it relates to an approved additional impervious area within each basin. Currently, the permitted impervious impacts are monitored by university staff and an independent consultant to insure that the capacities listed in the permit are not exceeded. The University will maintain a current record in plan and table format of existing stormwater facilities and the current permitted impacts. These documents are made available to any staff, consultant or regulatory agency as requested to review existing conditions and plan for future development. Attached is a current table (February 2014) showing the drainage sub-basins and the available impervious area in each sub-basin that is still available for development. This information, along with plan data, is maintained by the University's civil engineer and is updated as new developments impact the current data.

2. The end of the planning time frame, based on the projected demand at current level of service standards for the facility, projected student populations and land use distributions, and any available existing surplus facility capacity.

b) The general performance of existing stormwater management facilities, evaluating the adequacy of the current level of service provided by the facility, the general condition and expected life of the facility, and the impact of the facility upon adjacent natural resources:

The current stormwater system is functioning in accordance with the existing master permit. No adverse impacts have occurred as a result of discharges leaving the University property through the stormwater management system.

The existing stormwater system is in good condition. The life expectancy of the structural elements of the stormwater system are expected to exceed 25 years. Routine maintenance of stormwater facilities is required to meet this life span however.

The discharge points for this master system were selected based on pre-developed conditions in an effort to minimize impacts to adjacent natural resources. The University has made extensive efforts to reduce impacts to adjacent resources which includes construction or stormwater ponds, maintaining and enhancing existing wetlands systems by incorporating them into the master drainage system and restricting post development discharge rates to less than pre-1985 rates and providing required water quality treatment.

c) An analysis of the problems and opportunities for stormwater management facility expansion or replacement to meet projected needs of the University.

The University may need to modify the existing master permit to accommodate for future expansion in several sub-basins. The modifications may include the transfer of available impervious areas from one sub-basin to another. The water management district has been receptive to this transfer provided the final outfall conditions remain the same and additional treatment is provided in higher pollutant loading areas.

d) Existing regulations and programs which govern land use and development of natural stormwater management features shall be analyzed, including the strengths and deficiencies of those programs and regulations in maintaining the functions of natural stormwater management features.

The last major modification to the existing SJRWMD master stormwater permit No. 20026 (ERP) was for the proposed widening of Libra Drive permit No. 20026-121. The modification was for the proposed improvement of Libra Drive from 2 lanes to 4 and entailed the creation of a new basin and pond 4-P and the reconfiguring the limits Basins 4-L and 4-M.SJRWMD regulations require stormwater runoff to be “treated” prior to discharging into any natural wetland or water body and maintain a discharge rate less than pre-development condition. The university has maintained a stormwater management facility which accommodates these requirements and exceeds SJRWMD criteria for preservation except for Basin 4-F which is allowed to discharge directly into Wetland W-9. This condition was grandfathered by SJRWMD when the master stormwater system was developed and permitted in 1994. The stormwater system was also designed and is now functioning to enhance these existing wetlands by providing the natural hydration of each system to maintain the biological function. Because the biological function of the existing wetlands was considered in the original permitting design, the University should also consider habitat enhancements for these wetlands and

other transitional (buffers) areas. These enhancements may potentially be done as a part of an academic study program.

UCF STORMWATER MASTER PLAN
IMPERVIOUS AREA STATUS REPORT

Date: 11/13/2013
Revised 12/3/2013
Revision No.: 2013-02
SJRWMD Permit No.: 40-095-20026-123

Proposed development this submission:

Project name: UCF Building 154 MMAE Laboratory Expansion
Project area: 0.32 Acres
Drainage basin: 4-Z
Imp. area increase: 0.153 acres 0.103 acres impervious area for expansion previously permitted under Permit 40-095-20026-109

Information: Application is for a 5,560 +/- s.f. addition to Building 154 with associated hardscape.
0.103 ac. previously permitted so overall increase of 0.050 acres

Overall Plan Status:

Basin (1) I.D.	Drainage Area (2) (AC)	Existing Imperv. Area (3) (AC)	Impervious Area This Submittal (4) (AC)	Total Imperv. Area Allowed (5) (AC)	Remaining Imperv. Area Allowed (6) (AC)
1-BC	5.79	1.59		2.94	1.35
1-B (7)	-	-	-	-	-
1-C (7)	-	-	-	-	-
1-D	64.74	25.70		30.56	4.34
1-D Dry Pond	1.21	0.74		0.74	0.00
1-D Pond	63.53	25.48		29.82	4.34
1-F	16.91	11.01		11.11	0.10
1-F Vault	2.52	2.52		2.52	0.00
1-F Pond	14.29	8.49		8.59	0.10
1-G	57.82	0.00		0.00	0.00
2-B	1.81	0.87		1.80	0.93
2-C	0.57	0.00		0.00	0.00
2-D	23.24	0.00		0.00	0.00
2-E	23.57	0.00		0.00	0.00
2-H	164.52	71.34		74.00	2.66
2-H3	32.53	0.00		16.50	16.50
2-Z	50.62	0.00		0.00	0.00
3-A & 3-Aa	130.04	44.35		51.00	6.65
3-Z	13.95	0.00		0.00	0.00
4-B(Pond)				34.13	
4-B(provided in 4-R)				3.02	
4-B Totals	65.34	37.15		37.15	0.00
4-F	35.24	21.12		26.61	5.49
4-L	116.14	50.83		53.09	2.26
4-M	13.80	7.99		8.17	0.18
4-P	10.37	4.59		8.10	3.51
4-R	115.84	31.10		56.00	24.90
4-S	3.75	2.69		3.10	0.41
4-Z	215.33	5.66		7.01	1.35
4-Z Bldg 154	2.08	0.98	0.05	1.03	0.00
4Z-a	6.85	3.07		3.50	0.43
FDOT	2.50	1.20		1.20	0.00
TOTALS	**1173.25**	**321.24**	**0.05**	**392.87**	**71.06**

Completed ponds permitted and or proposed to be entirely constructed:

Ponds 1-F, 2-H, 4-B, 4-M, 4-S & 3-A have been completely constructed. Impervious areas may be constructed up to the amount noted, without additional permitting.
Pond 1-BC is proposed under this application.

Portions of Ponds Permitted and Completed or Under Construction:

Ponds 1-D & 4-R have been partially constructed. The area of each pond and impervious area allowed prior to additional expansion or permitting is as follows:

Pond 2-H3 has not been constructed and no improvements can be made in that basin until the pond is built.

Pond ID	Existing Pond Permitted Maximum Imp. Area (ac)	Existing Imp. Area Constructed (ac)	Imp. Area This Submittal (ac)	Revised Imp. Area (ac)	Future Imp. Area Allowed prior to Lake expansion (ac)
1-D (pond)	26.25	25.70	0.00	25.70	0.55
2-H3	0.00	0.00		0.00	0.00
4-R	43.83	31.10	0.00	31.10	
4-B(provided in 4-R)	3.02	3.02	0.00	3.02	
4-R Totals	46.85	34.12		34.12	12.73

Note: Existing impervious under basin 4R includes excess impervious area built in basin 4-B

Basin 4-L Underdrained Fields

Allowable (ac)	Existing (ac)	This Submittal (ac)	Remaining (ac)
5.96	0.00	0.00	5.96

Note: Basin 4-L underdrained fields will provide treatment volume on-site via soil storage between finished grade and underdrain elevations

NOTES:
(1) Basin I.D. as indicated in the Approved stormwater master plan permit dated 3/9/04 and as Amended on 4/2/09
(2) Proposed drainage area as indicated in Approved stormwater master plan permit dated 3/9/04 and ammended on 4/2/09
(3) Indicates the permitted impervious area which exist within each basin.
(4) Impervious area proposed (not to exceed values in Approved stormwater master plan permit and lattest ammendment(s)
(5) Total impervious area allowed for basin based on the stormwater master plan pond design.
(6) Remaining impervious area allowed within basin based on the 2010 stormwater pond design.
(7) Basins 1-B and 1-C will combined to form Basin 1-BC under permit 40-095-20026-105
(8) Dry Pond 1-D at Greek Park Expansion added under permit 40-095-20026-112
(9) Bain & Pond 4-P added under Permit 40-095-20026-121

PREPARED BY HARRIS CIVIL ENGINEERS

1 of 1

POTABLE WATER ANALYSIS

a) A facility capacity analysis, by geographic service area, indicating surpluses and deficiencies for:

1. Existing conditions, based on the facility design capacity and the current demand on facility capacity.

UCF operates and maintains its own potable water treatment plant and distribution system that serves a majority of the main campus. The existing systems consists of four

wells that pump water from the Floridian aquifer to a storage tank at the water treatment plant where additional treatment is provided. Each well has a capacity of approximately 500 gallons a minute. The design capacity of this system is approximately 1,500 gpm based on using three of the four wells during normal operating conditions. The system uses a series of high service water pumps and an above ground storage tank to maintain consistent pressure and provide fire flows when necessary.

UCF upgraded its potable water distribution system by installing 16 inch looped water mains in 2000-2002. This upgrade improved the capacity of the water system to meet fire and potable demands. The upgrade also included connecting to the Orange County Utilities (OCU) system for a backup water supply.

The connection to the Orange County system is adjacent to the CMMS Building (Building #81). UCF draws water from the OCU 24" water main and increases pressure as needed via water booster pumps located at the Booster Pump Station (Building #307). Currently only the Academic Villages housing complex and Recreation and Wellness Buildings are supplied water from the Orange County system. An automated interconnection is provided between the Orange County system and the UCF water system via a 16" water main. The purpose of the interconnection is to provide emergency backup water in case the UCF Water Treatment Plant becomes non-operational or to provide additional water volume during a fire event on campus.

2. The end of the planning time frame, based on the projected demand at the current level of service standards for the facility, projected student populations and land use distributions, and any available existing surplus facility capacity.

The amount of water UCF is allowed to withdraw from the Floridian Aquifer to supply water to the campus is regulated by the St. Johns River Water Management District (SJRWMD) through the Consumptive Use Permit (CUP) process UCF has made application with SJRWMD for renewal of the CUP and expects to have the permitting process completed by summer of 2014.

Over the past several years, UCF has been is in the process of converting the campus irrigation systems from potable water and well systems to a reuse water system. The reuse water is supplied from the Seminole County, Iron Bridge Waste Water Treatment Plant located approximately 1 mile to the northwest of campus. Over 95% of the campus irrigation system has been converted to reuse water. The removal of the irrigation demand from the potable system along water conservation measures UCF has implemented for new construction and renovations has created excess capacity within the system to provide domestic and fire flow demands for expansions shown in this planning period. The existing and projected water demands, based on student populations, are as

follows along with estimated demands for future projects are shown in the following tables:

Projected Water Demands Based on Student Population

Year	Population(2)	Existing & Estimated Demands			GPD/Student	
		Gallons/Year(3)	Avg. Gal/Day	Avg. Gal/Min		
2011	49,186	237,037,886	649,419	451	13	
2012	49,641	189,018,116	517,858	360	10	
2013	49,902	202,766,828	555,526	386	11	
2014	49,902	218,570,760	598,824	416	12	(1)
2015	50,714	222,128,947	608,572	423	12	(1)
2016	52,026	227,874,015	624,312	434	12	(1)
2017	53,295	233,432,751	639,542	444	12	(1)
2018	54,288	237,783,560	651,462	452	12	(1)
2019	54,155	237,200,491	649,864	451	12	(1)
2020	54,163	237,234,130	649,957	451	12	(1)
2021	54,577	239,047,428	654,924	455	12	(1)
2022	54,917	240,537,990	659,008	458	12	(1)
2023	55,241	241,955,760	662,892	460	12	(1)
2024	56,051	245,502,047	672,608	467	12	(1)
2025	56,858	249,039,706	682,301	474	12	(1)

Table Notes:

(1) Estimated per day student demand based on average of 2011 to 2013 demands

(2) Population for main campus

(3) Demand for water produced by UCF water treatment plant only

Estimated Water Demands - Future Projects

Future Projects:	Estimated Size (GSF)	Estimated Water Demand			
		Gallons/Year	Avg. Gal/Day	Avg. Gal/Min	
Interdisciplinary Research I	118,000	3,445,600	9,440	7	(1)
Interdisciplinary Research II	61,000	1,781,200	4,880	3	(1)
Simulation and Training	60,000	1,752,000	4,800	3	(1)
Civil & Environmental Eng.	75,000	2,190,000	6,000	4	(1)
Global UCF	54,000	1,576,800	4,320	3	(1)
Academic Research Park	368,000	10,745,600	29,440	20	(1)
Chiller Plant No. 3 (2,000 Tons)		23,400,000	64,110	45	(2)
Totals		44,891,200	122,990	85	

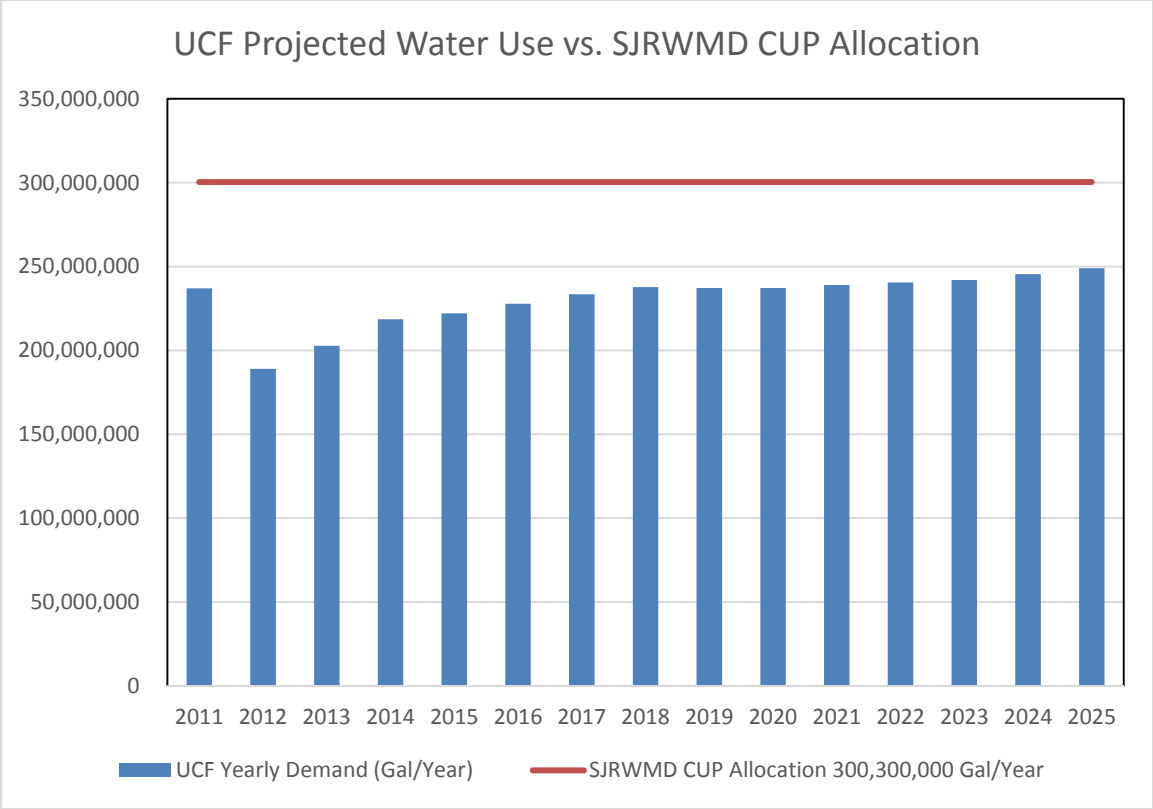
Table Notes:
(1) Demand based on 0.08 Gallons/S.F.
(2) Demand based on average demad of 2013 water used by all chillers on campus

The UCF water plant has a daily capacity of approximately 1,500 gpm x 1,440 min./day = 2,160,000 gpd. Because of the magnitude of this distribution system and the fact that minimal potable water is used for irrigation, a peaking factor of two (2) times the actual daily use is sufficient for the period being evaluated.

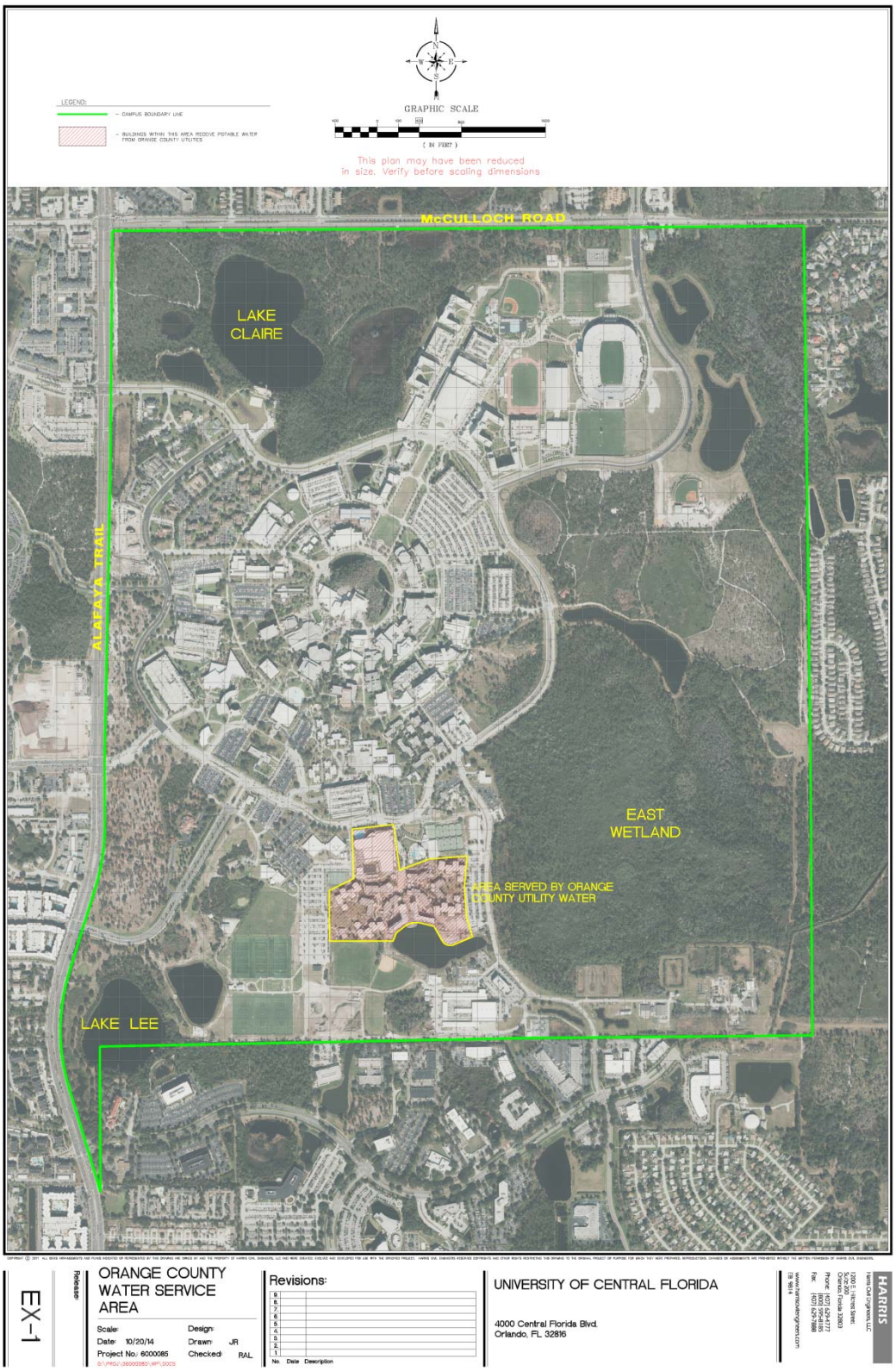
In 2013 the Average Day Demand was 555,526 GPD and the Maximum Day Demand was 993,524 GPD (from actual meter readings) which shows the existing potable water system is currently running at 26% on an average day and 46% capacity on max day. For year 2025 the projected Average Day Demand is 682,301 + 122,990 = 805,291 GPD and the Maximum Day Demand is 1,610,582 GPD (Peaking Factor 2). At these rates the system will be running at 37% on an average day and 75% capacity on max day.

Based on the above projections, the existing water treatment plant has available capacity for the proposed future development on campus.

On May 15, 2014 the St. Johns River Water Management District issued a new Consumptive Use Permit for the campus. The total withdrawal allotment for the campus was set at 300.3 Million Gallons per year. The following graph illustrates the campus water use until the year 2025 versus the allowed allotment.



A portion of the campus is served by Orange County Utilities (OCU)Water System, See Exhibit EX-1 that shows the services area. The following table shows UCF's water use from the Orange County system for the last 3.5 years.


LEGEND:
- CAMPUS BOUNDARY LINE
- BUILDINGS WITHIN THIS AREA RECEIVE POTABLE WATER FROM ORANGE COUNTY UTILITIES
GRAPHIC SCALE
(IN FEET)
This plan may have been reduced in size. Verify before scaling dimensions.
McCULLOCH ROAD
LAKE CLAIRE
ALAFAYA TRAIL
EAST WETLAND
AREA SERVED BY ORANGE COUNTY UTILITY WATER
LAKE LEE
EX-1
Release:
ORANGE COUNTY WATER SERVICE AREA
Scale:
Date: 10/20/14
Project No.: 6000085
Design:
Drawn: JR
Checked: RAL
Revisions:
No. Date Description
UNIVERSITY OF CENTRAL FLORIDA
4000 Central Florida Blvd.
Orlando, FL 32816
HARRIS

UCF Water Usage from Orange County Water System

	Daily Use (Gal/Day)	Monthly Use (Gal/Month)	Yearly Gal/Year)
Orange County Allotment	**154,453**	**4,697,945**	**56,375,345**

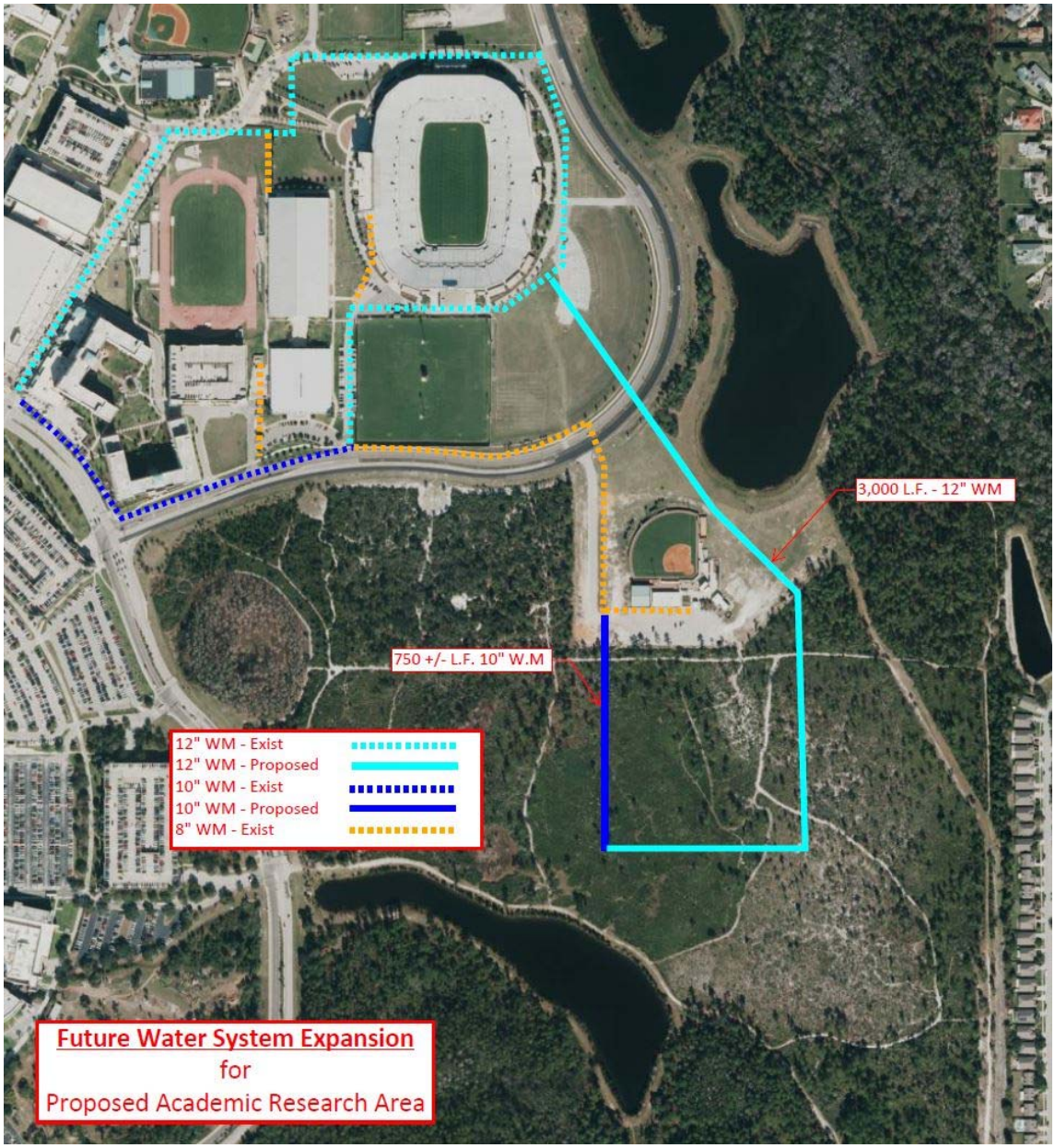
Period		Monthly Use	Avg Daily Use(1)	Avg Daily Use PerYear(2)	Avg Montly Use	Total Yearly Use
Month	Year	(Gal/Month)	(Gal/Day)	(Gal/Day)	(Gal/Month)	Total Yearly Use (Gal/Year)
Aug	2014	2,414,000	83,241	71,546	2,106,375	25,276,500
Jul	2014	2,610,000	81,563			(Projected Value)
Jun	2014	1,515,000	54,107			
May	2014	931,000	30,032			
Apr	2014	2,717,000	90,567			
Mar	2014	2,053,000	73,321			
Feb	2014	2,259,000	83,667			
Jan	2014	2,352,000	75,871			
Dec	2013	909,000	30,300	82,479	2,425,917	29,111,000
Nov	2013	2,197,000	78,464			
Oct	2013	3,131,000	101,000			
Sep	2013	2,729,000	97,464			
Aug	2013	2,583,000	80,719			
Jul	2013	3,558,000	118,600			
Jun	2013	1,381,000	51,148			
May	2013	1,207,000	37,719			
Apr	2013	3,778,000	130,276			
Mar	2013	1,831,000	65,393			
Feb	2013	2,373,000	87,889			
Jan	2013	3,434,000	110,774			
Dec	2012	4,097,000	141,276	100,064	2,933,333	35,200,000
Nov	2012	4,973,000	160,419			
Oct	2012	4,942,000	170,414			
Sep	2012	5,021,000	185,963			
Aug	2012	3,732,000	113,091			
Jul	2012	2,251,000	77,621			
Jun	2012	1,272,000	45,429			
May	2012	1,085,000	33,906			
Apr	2012	1,880,000	67,143			
Mar	2012	1,994,000	64,323			
Feb	2012	2,157,000	77,036			
Jan	2012	1,796,000	64,143			
Dec	2011	949,000	29,656	69,375	69,375	24,368,000
Nov	2011	1,979,000	68,241			
Oct	2011	2,287,000	81,679			
Sep	2011	2,709,000	84,656			
Aug	2011	1,936,000	66,759			
Jul	2011	2,008,000	77,231			
Jun	2011	1,612,000	50,375			
May	2011	1,199,000	39,967			
Apr	2011	3,580,000	115,484			
Mar	2011	2,110,000	72,759			
Feb	2011	2,170,000	80,370			
Jan	2011	1,829,000	65,321			

Notes: (1) Based on days in billing cycle
(2) Average of Average Daily Use column

No additional capacity is anticipated to be needed from OCU during the planning period. Per the above table the average daily demand for 2014 is 71,546 gallons per day with the max month being April with a demand of 90,567 gallons per day. Over the past couple of years the water demand has decreased due to the campus switching over to reclaim water for irrigation. Even though 700 new beds were added to the system in August 2013 under the Academic Villages Expansion, the water demand has decreased from previous years. Under the current planning period, no major improvements are proposed that would generate a new large water demand. It is predicted that water demands will stabilize at their current levels with no significant increase projected during the planning period, since the area served is mainly student housing and the population will remain constant for the planning period.

b) The general performance of existing potable water facilities, evaluating the adequacy of the current level of service provided by the facility, the general condition and expected life of the facility, and the impact of the facility upon adjacent natural resources will be more than sufficient until 2025 or until the University obtains its potable supply from OCU. The UCF water plant was constructed in 1968, but has received periodic upgrades since then. A project to upsize the water feed lines from the wells to the treatment plant along with refurbishment of the at grade water storage tank was completed in 2002. The water treatment plant's service pumps motor control unit and emergency generator are scheduled to be replaced in 2014. The booster station (bldg. 307) was constructed in 2001 and should not need significant repair or upgrades throughout the planning period. When practical, as new construction expands the existing distribution facility, water main dead ends should be extended to a second tie-in point to provide two directions of service for any given point in the system.

Under the current planning period, the Academic Research Project would require an expansion of the water distribution system. The expansion would require about 3,000 L.F. of 12-inch water main and 750 L.F. of 10-inch water main to create a looped system as shown in the following exhibit.



In addition, the existing system consists primarily of PVC piping which has a life span in excess of 50 years. Isolated, older sections of piping will require replacement within the study period, however, the location and extent of replacement will need to be studied in more detail based on maintenance records.

c) An analysis of the problems and opportunities for potable water facility expansion or replacement to meet projected needs of the University should be considered with each new building constructed. Potable water supplies are available on the main UCF campus through the 2015-2025 planning period. However, some areas of campus still do not have water piping in the immediate vicinity. Also, some future buildings will likely

require more water volumes at higher pressures than is currently available. Engineering studies on the campus as a whole, and on project-specific water requirements should continue. For building construction of 3 stories or more, the need for additional booster pumps may be required to meet the necessary potable water and fire flows.

d) A description of the campus underground hydrology, including its potential for use as a potable water source:

The drinking water for the UCF campus originates from the vast Floridian aquifer, which supplies about 60 percent of Florida's drinking water. This source of drinking water is common within the Central Florida area. This source will be able to provide the required water needs during this study period.

In addition, UCF has interconnections with Orange County Utilities and Research Park water supply systems. These interconnections provided alternative backups if the UCF water treatment plant becomes inoperable. In addition the OCU connection provides backup water flow/volume for fire protection should UCF's distribution pressure drops below 25 psi. This additional source of potable water will reduce the University's dependence on campus well water as the only source for drinking water.

e) An analysis of existing local, state and federal regulations governing potable water systems:

The current drinking water system is regulated by the Florida Department of Environmental Protection under Chapter 175 of the Florida Administrative Code and Section 403 of the Florida Statues. The state regulations are in addition to the federal "Safe Drinking Water Act" which establishes national standards for drinking water.

The water treatment plant operator at UCF is certified by the state. In addition, the Department of Environmental Protection oversees and regulates the water treatment facility. DEP requires that UCF send in a monthly report which details daily chlorine residuals at the plant and remote areas, number of gallons produced, and bacteriological results of well's and building's water samples.

As additions are made to the water distribution system, permits are required from the Florida Department of Environmental Protection. These permits insure that the new distribution piping meets current regulations regarding quality construction, water and long term maintenance. The University has been routinely acquiring these permits as needed.

SANITARY SEWER SYSTEM ANALYSIS

a) A facility capacity analysis, by geographic service area, indicating surpluses and deficiencies for:

1. Under a 1999 wastewater agreement with Seminole County, UCF purchased 1,000,000 gallons/day of wastewater capacity at the county's Iron Bridge Wastewater Treatment plant located in Oviedo, Florida just to the northeast of UCF's main campus. The Iron Bridge treatment plant is permitted to 40 million gallons/day and is currently running at half of its capacity. At current the treatment plant has 3.5 mgd of capacity available for purchase. To date UCF has used 627,877 gpd of its purchased capacity leaving a reaming balance of 372,123 gpd for future development. The following table is a projection of wasterwater flows based on population.

Projected Wastewater Demands Based on Student Population

		Existing & Estimated Wastewater Flows			
Year	Population(2)	Gallons/Year(3)	Avg. Gal/Day	Avg. Gal/Min	GPD/Student
2012	49,641	254,369,000	696,901	484	14
2013	49,902	238,021,000	652,112	453	13
2014	49,902	236,784,990	648,726	451	13
2015	50,714	240,639,693	659,287	458	13
2016	52,026	246,863,517	676,338	470	13
2017	53,295	252,885,481	692,837	481	13
2018	54,288	257,598,856	705,750	490	13
2019	54,155	256,967,198	704,020	489	13
2020	54,163	257,003,640	704,120	489	13
2021	54,577	258,968,047	709,501	493	13
2022	54,917	260,582,823	713,926	496	13
2023	55,241	262,118,740	718,134	499	13
2024	56,051	265,960,551	728,659	506	13
2025	56,858	269,793,015	739,159	513	13

Table Notes:

(1) Estimated per day student demand based on 2013 demands

(2) Population for main campus

(3) Wastewater flows for UCF Campus, Research Park and Seimens

(4) Actual Measured flows

Under this planning period several large scale projects are indicated. The following is a table showing the estimated sewer capacity that will be required per project.

Estimated Wastewater Demands - Future Projects

Future Projects:	Estimated Size (GSF)	Estimated Water Demand			
		Gallons/Year	Avg. Gal/Day	Avg. Gal/Min	
Interdisciplinary Research I	118,000	3,014,900	8,260	6	(1)
Interdisciplinary Research II	61,000	1,558,550	4,270	3	(1)
Simulation and Training	60,000	1,533,000	4,200	3	(1)
Civil & Environmental Eng.	75,000	1,916,250	5,250	4	(1)
Global UCF	54,000	1,379,700	3,780	3	(1)
Academic Research Park	368,000	9,402,400	25,760	18	(1)
Chiller Plant No. 3 (2,000 Tons)		23,400,000	64,109.59	45	(2)
Totals		42,204,800	115,630	80	

Table Notes:
(1) Demand based on 0.07 Gallons/S.F.
(2) Demand based on average demad of 2013 water used by all chillers on campus

To date UCF has used 627,877 gpd of its purchased capacity leaving a reaming balance of 372,123

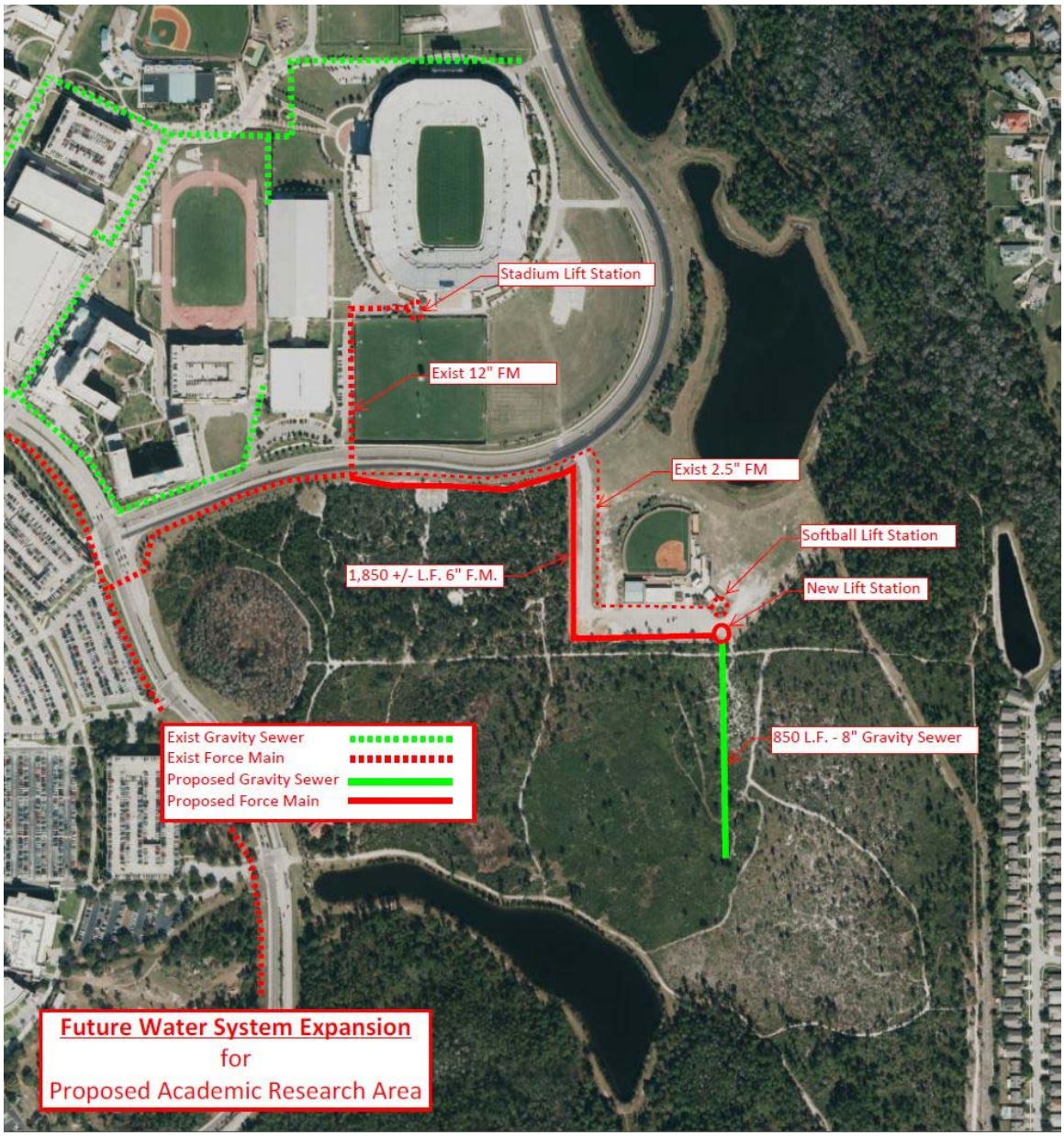
For year 2025 the projected Average Day Sewage Flow is 739,159 + 115,630 = 854,789 GPD which is below the allotted 1,000,000 GPD. Based on the above projections, there will be available waster capacity left for future development on campus and it is not anticipated that additional capacity will have to be purchased.

Wastewater on the UCF campus is collected via gravity sewer mains which discharge to various underground pump/lift stations located across campus. The pump/lift stations discharge directly into the main campus 16 inch wasterwater force main that goes to Iron Bridge or to other on campus gravity systems or lift stations. The main campus lift station which collects a majority of the campus's wasterwater and pumps it to Iron Bridge Plant has a capacity of 1.728 mgd.

2. As new projects are proposed, existing pump/lift stations will need to be analyzed to determine if they have the capacity to handle the proposed increased flows to the station.

If the station(s) cannot handle the increased flows, the proposed project will be required to upgrade the pump/lift station as needed. UCF continually provides routine maintenance of all pump/lift stations and upgrades or replaces equipment as needed to extend the service life of the station, increase efficiency, or expand available capacity within the existing system

Additional pump stations and gravity sewer systems will be required for future growth, particularly in areas where no existing wastewater infrastructure exists. Under the current planning period, the Academic Research Project would require a new lift station with force main and a gravity collection system as shown in the following exhibit.



a) GENERAL PERFORMANCE

The existing gravity and pumping systems are functioning as designed. Both systems appear to be in good condition and only periodic maintenance is anticipated based on current flows. The two main lift stations on campus are currently be retrofitted with emergency diesel powered backup pumps so service can be maintained during unsuspected power outages.

b) PROBLEMS AND OPPORTUNITIES

During the development of the Athletic Node, two new lift stations were constructed. One to service the Knights Housing and Arena Projects and the other to service the Brighthouse Football Stadium. Both lift station wetwells were oversized for potential future growth in the area. Individual projects will need to analyze their impact on these systems to determine the need for upgrades to either the gravity system or pump station if not both.

c) STATE AND FEDERAL REGULATIONS

The wastewater collection and transmission system is currently regulated by the Florida Department of Environmental Protection. No on-site septic systems are allowed since wastewater service is available to the campus. . Authority is granted these agencies by Chapter 17 of the Florida Administrative Code. The University is currently in compliance with all applicable codes under these agencies review.

As future developments are constructed and additional flows added to the sanitary sewer system, permits are obtained from the Florida Department of Environmental Protection (FDEP). Since Seminole County is the utility provider for wasterwater to the campus, they are required to review, approve and sign the wasterwater applications made to FDEP

These permits insure that capacity is available at the wasterwater treatment plant and that the new construction meets current regulations regarding proper design, quality construction, and long term maintenance. The University has been routinely acquiring these permits as needed

SOLID WASTE ANALYSIS

a) A facility capacity analysis, by geographic service area, indicating surpluses and deficiencies for:

1. Existing conditions, based on the facility design capacity and the current demand on facility capacity.

The University provides for the collection of solid waste through service areas and solid waste dumpsters. Servicing of the dumpster system is through a private vendor under a continuing contract renewable at the discretion of the University.

The University also maintains a series of dumpsters designated for recycled materials. These materials include paper, glass, metals and plastics. Typically these dumpsters are co-mingled with standard trash dumpsters.

Virtually all of the University's solid waste is disposed of at the Orange County Landfill. This is a class 1 landfill which uses the "high-rise" method of layering the refuse material above the groundwater table. This landfill services Orange County and some smaller municipalities outside the county.

2. The end of the planning time frame, based the projected demand at the current level of service standards for the facility, projected student populations and land use distributions, and any available existing surplus facility capacity.

The size and location of waste disposal facilities will be determined on individual project requirements. These requirements should be then incorporated into the master collection and disposal program under the existing contract. There is no limit on the amount of refuse going to the landfill since the producer pays as they generate the waste.

b) The general performance of existing solid waste collection and disposal facilities, evaluating the adequacy of the current level of service provided by the facility, the general condition and expected life of the facility, and the impact of the facility upon adjacent natural resources.

Current waste collection sites on campus are removed, to the extent possible, from pedestrian traffic and visual contact. Collection sites are typically screened or removed from view for aesthetic purposes. Vehicular access to the collection sites should be multipurpose in that additional parking, deliveries and emergency access and storage areas are incorporated along this route.

The system of using outside vendors has been satisfactory over the previous five years and is meeting current expansion needs. The continued out-servicing of this contract for waste collection appears to be in the University's best interest

c) An analysis of the problems and opportunities for solid waste collection and disposal facility expansion or replacement to meet projected needs of the University.

As the University grows the solid waste collection system needs to be studied further to identify areas of opportunity to combine facility locations and thus reduce the overall number of collection sites on campus. In addition, as a possible research program for

recycled waste, the University should encourage the available academic community to study possible recycle and resource recovery systems, such as composting and material sorting, to reduce offsite disposal volume and costs associated with this disposal method.

d) An analysis of existing local, state and federal regulations governing waste disposal systems.

UCF currently contracts with a third party to collect and dispose of waste generated by the university. This contract addresses the need for the vendor to dispose of these materials in accordance with current laws. Hazardous wastes generated by the University are collected and disposed of under separate contracts specifically for the removal of this material.

UCF also has in place a recycling program in accordance with state and federal laws mandating such programs. The recyclable materials include paper, plastic, glass and metals. Special dumpsters also recycle cardboard materials for off-site disposal.

e) An assessment of opportunities or available and practical technologies for the reduction, recycling and re-use of solid waste generated by the University. Investigation of emerging technologies to address this issue is encouraged.

With the rapid expansion of computer network systems, the use of electronic data transmission and storage should significantly reduce the amount of solid paper waste on campus. The University should study opportunities to reduce other forms of waste generation through the use of current technologies.

f) An analysis of the terms of any agreements for the collection and/or disposal of University-generated solid waste, including allocated capacity and duration of service. Identify any future limitations on University development resulting from these factors.

The existing contracts provide the University with collection, transmission and disposal of solid waste. The contract allows the University to renew or terminate based on satisfactory performance of the vendor. As recycling of new waste products becomes available to the public, the University will want to re-negotiate the existing contract or include these items in future contracts.

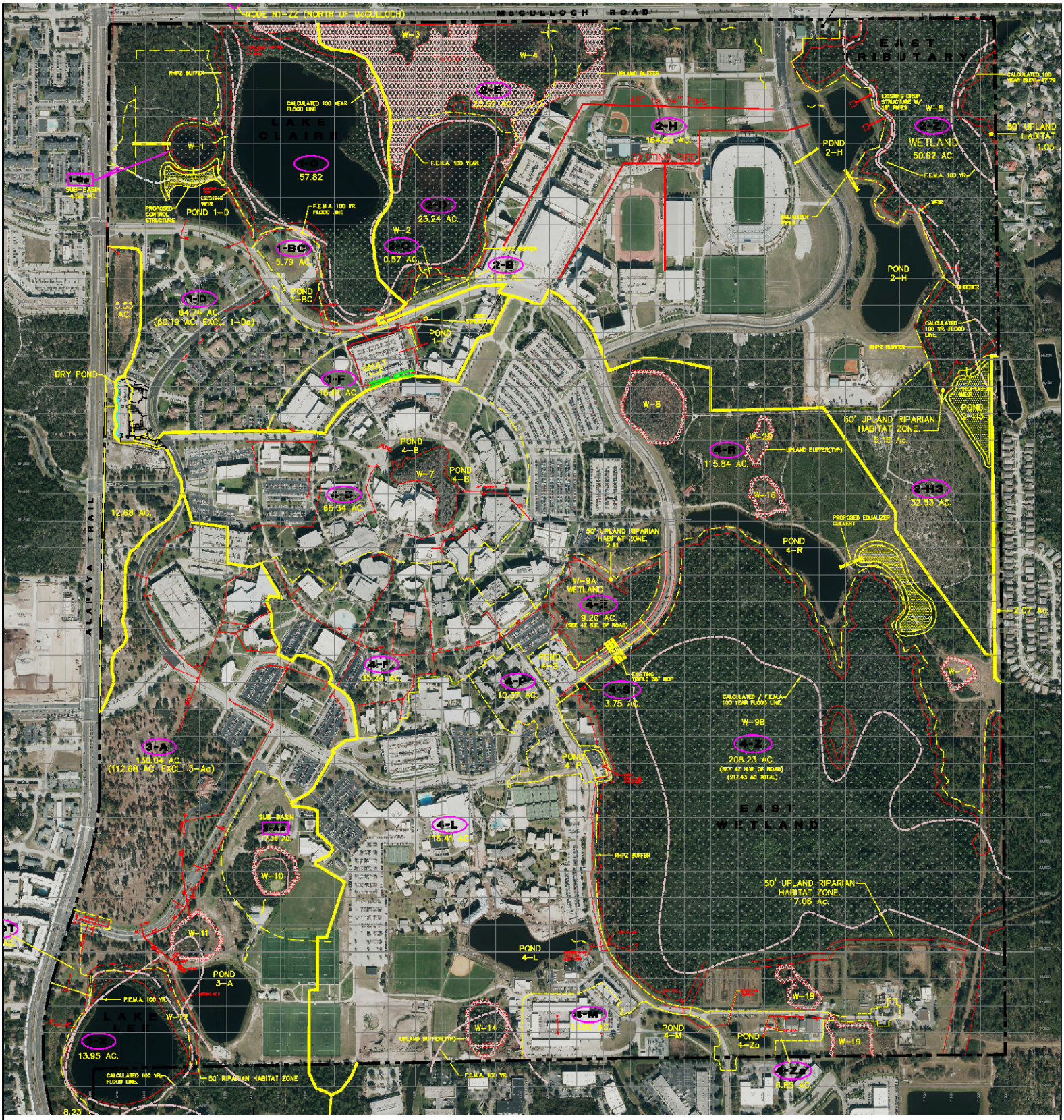


Figure 9-1

Stormwater Facilities

Comprehensive Master Plan Update

University of Central Florida

Orlando, Florida

2015-2025

LEGEND:

- = BOUNDARY LINE
- = DRAINAGE DIVIDES
- = DRAINAGE BASIN DIVIDES
- = DRAINAGE SUB-BASIN DIVIDES
- SUB-BASINS 3-Aa 15.61 AC. = SUB-BASIN IDENTIFICATION/AREA
- 4-R 115.84 AC. = BASIN IDENTIFICATION/AREA
- = DIRECTION OF SURFACE FLOW
- = PROPOSED POND LOCATIONS
- = EXIST. STORMWATER STRUCTURES/CULVERTS.
- = PROP. STORMWATER STRUCTURES/CULVERTS.
- = F.E.M.A. 100 YR. FLOOD LINE
- = CALCULATED 100 YR. FLOOD LINE

N

All maps are diagrammatic and conceptual. The various areas shown are approximate and not to survey accuracy. The intent of these maps is to illustrate general areas of existing or potential use.

Rev. 20120610

This map has been withheld for security reasons.

Figure 9-2

Potable Water Facilities

Comprehensive Master Plan Update

University of Central Florida

Orlando, Florida

2015-2025

N

All maps are diagrammatic and conceptual. The various areas shown are approximate and not to survey accuracy. The intent of these maps is to illustrate general areas of existing or potential use.

Rev. 20140701

0 1,000 2,000 4,000

Feet

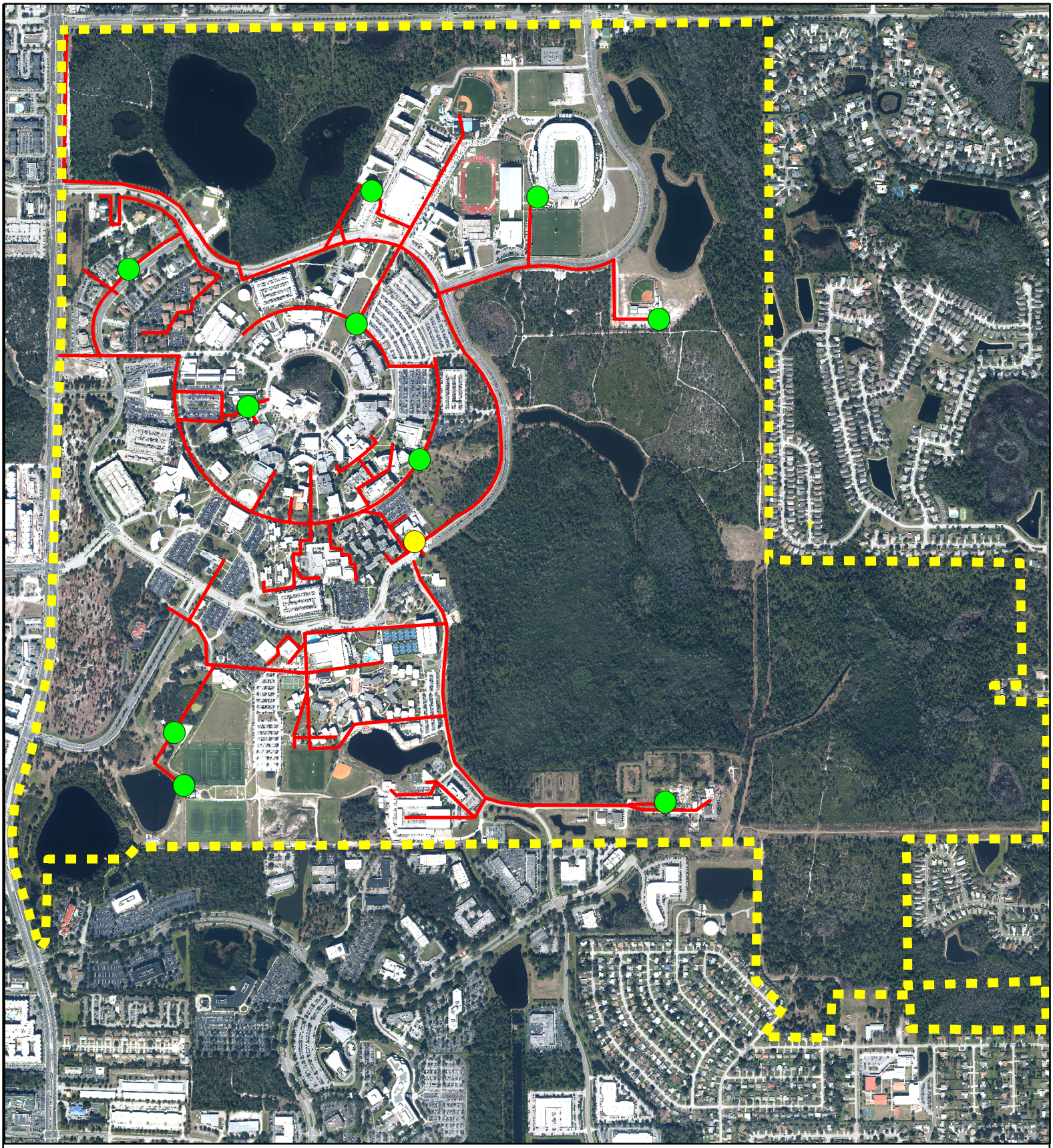


Figure 9-3

Sanitary Sewer Facilities

Comprehensive Master Plan Update

University of Central Florida

Orlando, Florida

2015-2025

Legend

- Existing Sanitary Sewer Line
- Lift Station
- Master Lift Station
- Boundary

0 1,000 2,000 4,000 Feet

N

All maps are diagrammatic and conceptual. The various areas shown are approximate and not to survey accuracy. The intent of these maps is to illustrate general areas of existing or potential use.

Rev. 20140622

CHILLED WATER SUB-ELEMENT

GOAL 1: To develop an on-campus chilled water generation and distribution system that adequately serves the future campus population needs.

OBJECTIVE 1.1: To ensure that there is an adequate chilled water generation and distribution system capacity to accommodate the proposed demand.

POLICY 1.1.1: Future development on the UCF campus, which increases the demand for chilled water generation and distribution capacity shall be approved under the provision of a system, which serves the future development under the following level of service standards:

1. under the existing campus-wide average service conditions, one (1) ton of plant capacity per 250 square feet of building floor area, or

2. a finding that future additional building design loads might be accommodated under the available generation and distribution system parameters.

POLICY 1.1.2: The University shall establish as overall implementation priorities the following: (1) continued servicing of the existing campus built areas;(2) the maintenance of 2,000 tons of residual plant capacity for emergency back-up purposes; (3) expansion of the existing plant generation and distribution system capacity in order to serve existing demand more efficiently; (4) maintenance of sufficient capacity to provide for the orderly and balanced equipment maintenance; and (5) expansion of a plant and distribution system capacity to serve new development areas/buildings.

POLICY 1.1.3: UCF shall be solely responsible for the provision, maintenance, and continued operation of a chilled water system to serve the campus building needs.

POLICY 1.1.4: The University shall rely upon the land use and building programs identified in the Comprehensive Master Plan, and ongoing implementing Capital Plans/Programs, to stage the construction of an expanded chilled water system, such that the expanded system is on-line at the time of the projected increased demand. This process shall be the shared responsibility of the Facilities Planning and Construction Department, Sustainability and Energy Management Department, and the University's Associate Vice President Administration and Finance (Facilities and Safety. It shall be the responsibility of the Facilities and Safety Chilled Water Production Unit to determine that sufficient plant and distribution system capacity is/will be available at the time any new building is proposed for construction.

POLICY 1.1.6: The University shall implement improvements to the chilled water distribution system based on the timing and phasing requirements and priorities of Capital Improvements and additional facilities.

POLICY 1.1.7: Based on a balancing of other competing objectives, the University shall continue to subscribe to a variety of active and passive energy management/conservation strategies. As currently practiced, such strategies may include building site orientation design, stringent building insulation standards and, as appropriate, variable air volume systems within buildings. The responsibility for administering these strategies shall fall to the Facilities and Safety Departments of Sustainability and Energy Management and Facilities Planning and Construction.

POLICY 1.1.8: The Department of Sustainability and Energy Management shall be responsible for the oversight and maintenance of all utility distribution infrastructures rented or owned as well as the corresponding peak loads.

ELECTRICAL POWER AND OTHER FUELS SUB-ELEMENT

GOAL 2: To provide an on-campus electrical power and natural gas distribution system which adequately serves the future campus population needs.

OBJECTIVE 2.1: To continue ongoing inspection and coordination efforts with service providers, the University shall continue to identify and resolve any deficiencies in the servicing of electrical and natural gas power distribution systems.

POLICY 2.1.1: The University shall coordinate with Duke Energy (DE) and TECO People's Gas for the replacement of outmoded or deteriorating service lines and equipment. It will be the department of Sustainability and Energy Managements' responsibility to maintain adequate residual pressures on all UCF houseline natural gas distribution infrastructures and to require changes as required and/or necessary.

OBJECTIVE 2.2: To ensure the provision of adequate electrical and natural gas services through the continued internal funding and coordination with external service providers.

POLICY 2.2.1: The departments of Facilities Planning and Construction and Sustainability and Energy Management shall be responsible for the continued coordination of power supply services with Duke Energy and TECO People's Gas. To the extent feasible, it shall be the responsibility of these departments to determine whether adequate plant and distribution system capacity is available to serve expanded needs and to promptly inform the University funding officer of any needs for UCF funds for maintenance, expansion, or replacement.

POLICY 2.2.2: Future development on the UCF campus which increases the demand for electrical power and/or natural gas or other fuels shall be monitored for maximum efficiency.

POLICY 2.2.3: The University shall establish as overall implementation priorities the following: (1) continued servicing of the existing campus built areas, (2) maintenance of UCF owned power manhole and conduit system, and (3) expansion of the existing line distribution system capacity, in order to serve existing demand more efficiently.

POLICY 2.2.4: The University shall rely upon the land use and building programs identified in the Comprehensive Master Plan, and those ongoing implementing Capital Plans/Programs, to coordinate a staged expanded electrical system such as the expanded system on-line at the time of the projected increased demand. This process shall be the shared responsibility of the Office of Facilities Planning and Construction, and the University's Associate Vice President of Administration and Finance (Facilities and Safety) programs. It shall be the responsibility of Facilities and Safety to determine that sufficient plant and distribution system capacity is/will be available at the time any new building is proposed for construction.

POLICY 2.2.5: The University shall implement improvements to the electrical power and natural gas distribution systems as additional facilities are added. The timing and phasing requirements and priorities for the provision of future electrical power and natural gas distribution system improvements are driven by elements identified in the Capital Improvements Element.

POLICY 2.2.6: Based on a balancing of other competing objectives and policies, the University shall, to the maximum extent feasible, continue to administer a variety of active and passive energy conservation strategies. As currently practiced, these strategies include appropriate building site design techniques, stringent building insulation standards and, as appropriate, zonal airflow and energy-efficient lighting systems. The responsibility for administering these strategies shall fall to Facilities Planning and Construction and Sustainability and Energy Management Departments.

POLICY 2.2.7: The University shall install energy-efficient equipment (i.e., electronic ballasts for fluorescent lighting fixtures, T-8 or T-5 lamps, etc.) in new buildings and when retrofitting existing buildings.

TELECOMMUNICATIONS SUB-ELEMENT

GOAL 3: To provide an on- campus telecommunications system, which adequately serves the future campus population needs.

OBJECTIVE 3.1: Through ongoing inspection and coordination efforts with service providers, the University shall continue to identify and resolve any deficiencies in the servicing of telecommunications systems.

POLICY 3.1.1: The University shall continue to identify, upgrade, repair, and/or replace existing Encased Duct Banks and telecommunications copper, fiber, and Coaxial cables as additional facilities are added or renovated.

POLICY 3.1.2: The timing and phasing requirements and priorities for the provision of future telecommunication system improvements shall be driven by the Capital Improvements Element.

OBJECTIVE 3.2: The University shall ensure the provision of adequate telecommunications facility services through continued internal funding of improvements and coordination with external service providers.

POLICY 3.2.1: The University's Offices of Computer Services and Telecommunications shall be responsible for the continued coordination of telecommunications infrastructure and services with off-site vendors and user groups. To the extent feasible, it shall be the responsibility of this office and the Facilities Planning and Construction department to determine jointly that service capacity is available to serve expanded needs and to inform the University funding officer promptly of any needs for UCF funds for maintenance, expansion, or replacement of such systems.

POLICY 3.2.2: The University shall establish as overall implementation priorities the following: (1) continued servicing of the existing campus built areas, (2) maintenance of the UCF owned Maintenance Holes and duct bank system, (3) expansion of the existing telecommunications distribution system capacity in order to more efficiently serve existing demand and (4) expansion of the telecommunications distribution system capacity, including the designation of future demarcation sites to link new development areas/buildings with on and off-campus systems.

POLICY 3.2.3: The University shall rely upon the land use and building programs identified in the Comprehensive Master Plan, and ongoing implementing Capital Plans/Programs, to coordinate a staged expanded telecommunications system such that the expanded system is on-line at the time of the projected increased demand. This process shall be the shared responsibility of the office of Computer Services and Telecommunications, the Facilities Planning and Construction department, and the University's Administrator of Capital Funding Programs.

All information or Policies on telecommunications infrastructure systems shall comply with the University of Central Florida Presidential Policies. These policies are located: http://policies.ucf.edu/ Section 4-001.1 through 4-012.

CHILLED WATER PRODUCTION SUB-ELEMENT

The University of Central Florida employs three chilled water production plants combined with a three million gallon thermal energy storage tank to augment the chilled water district distribution-cooling loop. The total cooling capacity is approximately 17,000 tons. The campus distribution system is extensive and interconnects the vast majority of the buildings, generation and storage facilities. The plants are composed of:

1.) Main Plant (Building 003): 8000 tons of electrically driven refrigeration machines with additional 1000 tons of capacity recovered from the combined heat and power plant's absorption chiller that is directly coupled into the distribution infrastructure of the main plant.
2.) Satellite Plant One, (Building072) Plant two includes approximately 4000 tons of electrically driven refrigeration
3.) Satellite Plant Two (Building 072) Plant three includes approximately 4000 tons of electrically driven refrigeration.

Analysis:

The demand for chilled water is evaluated in terms of capacity (tons of refrigeration) and flow, measured in gallons per minute (gpm). The peak demand for refrigeration for the campus is currently estimated in excess of 12,000 tons and approximately 20,000gpm. The future addition of the proposed 368,000 square feet of educational facilities to the northeastern quadrant of campus is estimated to add approximately 1,500 tons of refrigeration and about 2,500 gpm of demand. Thus, the future peak demand for campus refrigeration during this planning period is currently estimated to be 13,500 tons and approximately 22,500 gimp.

Generation of refrigeration capacity should be evaluated with consideration for equipment failures and normal preventative and predictive periodic maintenance cycles when adding cooling demand to the district loop. The criterion for evaluation of this paradigm is to allow for one machine to be undergoing maintenance and for a second machine to fail. This is commonly referred to as having a firm capacity of N+2, where "N" is the number of machines available for use and N+2 is the total number of machines. With two refrigerant machines unavailable for chilled water production, the campus generation capacity is estimated to be about 12,000 tons. The additional 1,500 tons of demand is anticipated to compromise the redundant capacity.

The thermal energy storage tank is equivalent to approximately 2,000 tons of refrigeration while discharging and requires over 3,000 tons of refrigeration while charging. This capacity does supplement the available refrigeration capacity but is somewhat dependent on available capacity to charge, and is therefore less reliable.

Hydraulic distribution (flow) provides its own set of unique operational challenges to the current cooling district under specific operating scenarios, with or without the addition of the proposed northeastern quadrant utilizing the existing plants. These key performance

metrics include peak summer cooling demand, winter tank charge during peak, and winter tank discharge during peak. Supporting hydraulic modeling engineering has been analyzed that illustrates the current challenges under each scenario, clearly defining what areas of campus are, and /or would be, affected by flow.

New demands added in the northeast quadrant should be accompanied with new generation capacity. The addition of capacity to offset the demands that are added is required, and the additional capacity in the new plant is strongly recommended since it helps resolve distribution challenges faced in the existing infrastructure.

ELECTRICAL POWER AND OTHER FUEL SUB-ELEMENT

a) A facility capacity analysis, by geographic service area, indicating capacity surpluses and deficiencies for:

1. Existing conditions, based on the facility design capacity and the current demand on facility capacity:

Duke Energy currently serves the majority of the campus via an underground loop system originating in the substations located at the south and east entrances of the campus.

Only a few buildings located on the northwest side of the campus (Lake Claire apartments and the fraternity/sorority houses) and the 475' tower located on the southwest side of campus are not on this loop system, and are fed from the existing overhead distribution lines that Duke Energy owns along Alafaya Trail (SR 434).

Duke Energy currently provides transmission power at 69 kilovolts (kV) to their owned and operated north and south substations located on campus. The Duke Energy electrical substations step down the voltage from 69kV into distribution power at 13 kV.

A combination of six distribution feeders, fed from both the north and south substation, provide 13 kV power that is stepped down by local station transformers near campus buildings and facilities to provide 480 volt power used for most UCF facilities campus-wide.

UCF's current demand outlined in our primary rental agreement between Duke Energy and UCF is 103,123kVa. Electric utilities measure demand in apparent power, known as Kilovolt Ampers (kVa).

The University of Central Florida's combined heat and power plant (CHP) provides the University with up to 5.5 megawatts of electrical generation at full load. This plant is behind Duke Energy's primary meter on feeder W1016, fed from the Duke Energy South Substation next to Facilities Operations. If the CHP plant is required to be removed from

service for routine maintenance or is tripped offline due to commercial grid voltage issues, a Duke Energy Automatic Transfer switch (ATS W116793) will pick up 6MW of load if the CHP falls below full output without campus operation interruptions, regardless of time or day.

Analysis:
Under the existing campus-wide power requirements, 5 kilowatts (kW) of real power is required per 1000 square feet of floor area for academic facilities.

The current peak summer capacities (worst case electrical demand) for both the north and south substations are in the table provided below. Feeder W1016 is purposely loaded with more capacity to provide the most economic benefit to the University, as this demand is primarily met by generation from the combined heat and power plant while base loaded.

Substation	Bank	Feeder	Summer Peak Load (MW)	Rating	Percent Summer load
UCF South	1	W1014	2.4	13.3	18%
UCF South	1	W104 (*non-firm)	9.4	13.3	71%
UCF South	2	W1016	9.5	13.3	71%
UCF South	2	W1016 (*non-firm)	8.6	13.3	65%
UCF North	1	W0942	2.6	13.3	20%
UCF North	1	W0989	0.6	13.3	5%
UCF North	2	W0940	0.2	13.3	1%
UCF North	2	W0982	6.7	13.3	50%
UCF South	1	Bank 1	16.7	34	49%
UCF South	1	Bank 1 (*non firm)	23.7	40	59%
UCF South	2	Bank 2	32.2	40	78%
UCF South	2	Bank 2 (non-firm)	30.3	40	76%
UCF North	1	Bank 1	22.6	34	37%
UCF North	2	Bank 2	25.2	34	74%

*** Non Firm – with UCF CHP Generation in parallel with commercial grid**

2. **The general performance of existing electrical power and other fuel facilities, evaluating the adequacy of the current level of service provided by the facility, the general condition and expected life of the facility, and the impact of the facility upon adjacent natural resources will continue to be evaluated.**

Duke Energy has adequate firm capacity to accommodate the proposed northeast quadrant's electrical demand. Currently, Duke Energy is operating and providing distribution power within the Florida Public Service Commission (FPSC) industry standard with regard to liability.

Duke Energy has had several noteworthy distribution outages, during the fall semester of 2013, t cause great concern to the University and its campus operations. Since these outages, Sustainability and Energy Management have partnered with Duke Energy to accommodate their operations to increase the frequency of the underground cable test, and to implement thermography reporting and switchgear inspections of all owned and operated distribution and transmission gear serving the Main Campus. Corrective action measures noted from the inspections have been prioritized by the utility, and Duke Energy has delivered an immediate action plan for capital replacement or field repair, depending on the criticality. These preventative measures have been deployed over the last several months and have positively impacted campus distribution electric reliability.

UCF has a five-year primary rental agreement in place that includes all distribution infrastructure repair and capital replacement owned and operated by Duke Energy. Each month, UCF pays a certain percentage of this rental cost in the monthly billing cycle based on a determination of a percentage multiplier. Equipment performance is evaluated by Duke Energy, through inspection, troubleshooting, and repair. Duke Energy uses a remaining life depreciation rate method, which takes into consideration salvage and cost of removal over the life of the asset. Duke Energy's return on investment is 7.362%, using an after-tax weighted average.

3. An ongoing assessment of opportunities or available and practical technologies to reduce University energy consumption.

UCF will continue to adhere to industry best practices based on continuing research and implementation by American Society of Heating, Refrigerating and Air Conditioning Engineers (ASHRAE), Illuminating Engineering Society of North American (IESNA), BACnet protocol, and Leadership in Energy and Environment Design (LEED) to reduce site energy consumption.

UCF will also continue to evaluate and investigate alternative, renewable, and traditional power generation options to reduce source energy.

NATURAL GAS SUB-ELEMENT:

Description of Facilities:

UCF's houseline system is comprised of 24,360 linear feet of high and intermediate pressure composed of 6", 4" and 2" carbon steel pipe and low pressure ¾" -1" Polyethylene pipe.

Four separate gas feeds from TECO People's Gas are located on the north, south, west and Ara Drive, that provides distribution high pressure gas into the campus through 22 internal meter points and 16 valves. The west pipeline system has nine meter points and eight valves. The south pipeline system has 28 meter points and 23 valves.

Existing Distribution System

The South Service and West Service are UCF-owned distribution systems with a single TECO master gas meter for each. The North Feed and Ara Drive Feed are owned by TECO. The North Feed has a TECO gas meter at each structure served. The Ara Drive feed has a master meter located adjacent to Building 92 and transitions to UCF-owned beyond the master meter.

South Service
This service consists of a 6" carbon steel distribution line originating near the South Duke Energy Substation and running along Libra Drive to the south half of the inner campus circle.

The buildings served from this service include the:

- South Academic Villages
- Recreation and Wellness
- Combined Heat and Power Plant (CHP)
- Central Energy Plant
- Ferrell Commons
- Physical Sciences
- Mathematical Sciences Building
- Chemistry Building
- Library
- Education Complex
- JT Washington Center

This gas line has the most demanding flow/pressure requirement on campus due to the flow and minimum inlet pressure requirements of the CHP Plant. A minimum residual pressure of approximately 77 PSI is needed in the line to meet the minimum inlet pressure requirement of the CHP Engine.

West Service
This service consists of a 6" carbon steel distribution line originating at Alafaya Trail (just North of Centaurus Drive) and running along Aquarius Agora, then to follow around Pegasus Circle. This line serves the inner campus circle.

The buildings served from this service include the:

- Visual Arts
- Student Union
- Engineering II
- Health and Public Affairs

This gas line is lightly loaded with respect to its overall capacity. A residual pressure of approximately 20 PSI is adequate in the line to meet the minimum requirement inlet pressure of the appliances served from it.

North Feed
This feed consists of a 2" carbon steel distribution line originating at Alafaya Trail and running along Gemini Boulevard North to serve the north side of campus. The North Feed is owned by TECO and has TECO gas meters at each structure served. The buildings served from this service include the ones north of Gemini Boulevard North and various houses within Greek Park. This gas line appears to be adequate for the loads served.

Ara Drive Feed
This feed consists of a 2" carbon steel distribution line originating at Libra Drive and running east between the power line right-of-way and Ara Drive to serve structures along Ara Drive. The Ara Drive Feed is owned by TECO. The Ara Drive feed has a master meter located adjacent to Building 92 and transitions to UCF-owned beyond this master meter. This gas line appears to be adequate for the loads served.

Recommendations for Existing Gas Distribution Systems

- Interconnect the South and West Services with a new 6" carbon steel line.
  This is intended to allow some of the loads currently on the South Service to be transferred to the West Service. This would reduce the occurrences of inadequate residual pressure at the CHP Plant that have occurred during a campus gas load peak.

- Add a UCF owned, networked gas meter at the South and West Services.
  This is intended to allow measurement of instantaneous flow and pressure being delivered by TECO. It would be used to balance how much gas load should be on each of these services with the intent being to minimize, if not eliminate, inadequate residual pressure at the CHP Plant. Currently, only monthly consumption data is available from the metering provided by TECO.

- Add residual pressure monitoring at the far ends of the South and West Services.

This is intended to allow monitoring of the available residual pressure available during periods of peak gas demand. Pressure sensors would be required at the far ends of each service. Having this residual pressure information along with data on the instantaneous flow and pressure coming from TECO into the system would allow a more accurate assessment of the available capacity in the gas distribution piping system.

Building	GSF	Estimated Gas Main Size
Interdisciplinary Research I	118,000	4”
Interdisciplinary Research II	61,000	2”
Simulation and Training	60,000	2”
Civil and Environmental Engineering	75,000	2”
Global UCF and Continuing Education	54,000	2”

Estimated Costs for Existing Infrastructure Upgrades:

- Interconnect the South and West Services with a new 6” carbon steel line. This would involve approximately 1500 lineal feet of pipe and has an estimated cost of $250,000.00 to $300,000.00.
- Add a UCF-owned, networked gas meter at the South and West Services.

This work has an estimated cost of $200,000.00

- Add residual pressure monitoring at the far ends of the South and West Services.

This work has an estimated cost of $40,000.00.

Gas Infrastructure for Future Buildings in the Northeastern Quadrant of the Academic Core

Currently five Buildings totaling approximately 368,000 Square Feet are proposed with the possibility of additional research buildings.

The closest UCF-owned source of gas for this area is the 6” line located in Pegasus Circle that is served from the West Service. A 6” line could be routed from Pegasus Circle to the Northeastern Development area. This line size was chosen to provide maximum capacity and flexibility. It is consistent with the existing maximum line size on campus and is likely not to represent a capacity constraint for the addition of additional research buildings that may be added in the area.
The construction cost for development of this gas infrastructure is estimated to be in the $500,000 to $750,000 range.

Gas Infrastructure for Second CHP Plant at North Substation

Based on the installation of 5-10 megawatts of natural gas fired generation capacity a 6” gas line would be required. That type of capacity is not present in the vicinity of the North Substation. The closest 6” line is at the intersection of McCulloch Road and Alafaya Trail. The new line would likely be routed along the south side of McCulloch

Road. The construction cost for this line would likely be in the range of $550,000 to $800,000. Given the significant gas consumption that the second CHP Plant would represent, it is likely that a significant portion of the cost could be absorbed by TECO, based on a tariff for consumption.

TELECOMMUNICATIONS SYSTEMS SUB-ELEMENT

a) A facility capacity analysis, by geographic service area, indicating capacity surpluses and deficiencies:

1. Existing conditions, based on the facility design capacity and the current demand on facility
The telecommunications infrastructure consists of an underground network of encased duct banks and Maintenance Holes interconnecting the majority of the buildings on campus, as well as the satellite hubs or nodes.

The main copper telephone trunk originates from existing Siemens and VOIP telephone switches located in the Library Building and other buildings (nodes) to all the existing and new facilities. The data systems are connected to the Computer Science Building (CSB) and other buildings (nodes) via fiber optics cable.

2. The end of the planning time frame, based on the projected demand at current level of service standards for the facility, projected student populations and land use distributions, and any available existing surplus facility:
As the campus continues to grow, the demand for additional copper lines and fiber optic cables will rise, and the need for additional copper and fiber nodes throughout campus will have to be reviewed with the Computer Services and Telecommunications Department. Also as technology keeps constantly changing, the need to review standards increases in the same fashion.

b) The general performance of existing telecommunications systems and facilities, evaluating the adequacy of the current level of service provided by the facility, the general condition and expected life of the facility, and the impact of the facility upon adjacent natural resources, will continue to be evaluated.
The level of service provided by the telecommunications appears to be quite high. This is a great accomplishment considering the rapid changes in this field.

c) An assessment of potential electromagnetic hazards resulting from facilities required to meet future telecommunications needs of the University, and an analysis of practical ways to mitigate such:
No hazards are known at this time.

This map has been withheld for security reasons.

Figure 10-1

Chilled Water Facilities

Comprehensive Master Plan Update

University of Central Florida

Orlando, Florida

2015-2025

N

All maps are diagrammatic and conceptual. The various areas shown are approximate and not to survey accuracy. The intent of these maps is to illustrate general areas of existing or potential use.

Rev. 20140616

0 1,050 2,100 4,200

Feet

This map has been withheld for security reasons.

Figure 10-2

Electric Power Facilities

Comprehensive Master Plan Update

University of Central Florida

Orlando, Florida

2015-2025

N

All maps are diagrammatic and conceptual. The various areas shown are approximate and not to survey accuracy. The intent of these maps is to illustrate general areas of existing or potential use.

Rev. 20090622

0 1,000 2,000 4,000

Feet

This map has been withheld for security reasons.

Figure 10-3

Natural Gas Facilities

Comprehensive Master Plan Update

University of Central Florida

Orlando, Florida

2015-2025

N

All maps are diagrammatic and conceptual. The various areas shown are approximate and not to survey accuracy. The intent of these maps is to illustrate general areas of existing or potential use.

Rev. 20140520

0 1,050 2,100 4,200

Feet

This map has been withheld for security reasons.

Figure 10-4

Telecommunications Facilities

Comprehensive Master Plan Update

University of Central Florida

Orlando, Florida

2015-2025

N

All maps are diagrammatic and conceptual. The various areas shown are approximate and not to survey accuracy. The intent of these maps is to illustrate general areas of existing or potential use.

Rev. 20140619

0 1,050 2,100 4,200

Feet

GOAL 1: To plan for future motorized and non-motorized traffic circulation systems to ensure the provision of adequate transit, circulation, and parking facilities to meet future transportation needs.

OBJECTIVE 1.1: To inventory annually and report parking demand, traffic demand, and traffic operating conditions.

POLICY 1.1.1: Parking utilization and parking space ratios shall be annually monitored by the University to determine that adequate parking is being provided.

POLICY 1.1.2: The University shall collect and report traffic data for on-campus roadways during the 5-year Master Plan Update process or as necessary

POLICY 1.1.3: On-campus traffic accident and safety-related data shallbe collected and reported as necessary. This information would continue to serve as a basis for identifying improvements necessary to reduce the number of accidents and improve campus safety.

POLICY 1.1.4: Every five years, the University Master Planning Committee and the Facilities Planning and Construction Department, together with appropriate faculty and administration, shall review all campus development plans for compliance with the master plan's criteria for parking, circulation, and access, as described in the Transportation Element.

POLICY 1.1.5: When financially feasible, the prioritization and timing of on- campus transportation infrastructure improvements shall be concurrent with the construction of campus land uses which impact existing and proposed campus infrastructure. All necessary on-campus roadways and parking facilities required to support the UCF Campus Master Plan development program must be in place and operating with available capacity to accommodate new development impacts without degradation in operations below the minimum levels of service, as defined and adopted by the University.

POLICY 1.1.6: The University shall not widen any existing campus roadway beyond four lanes, and shall not widen existing two-lane roads within the 1,200-foot radius sidewalk, as defined in this Transportation Element.

POLICY 1.1.7: When financially feasible, the University shall maintain a minimum level of service of ”E” for all campus roadways, as per the 2012 FDOT Quality Level of Service Handbook, except when that level

of service could only be accomplished by widening that campus roadway beyond the lane-widening limits identified in *Policy 1.1.6.*

POLICY 1.1.8: The University shall improve its internal circulation. If acceptable, and found to be consistent with the University's Capital Improvements Plan (CIP) and Future Land Use Element (FLUE), the University may widen Libra Drive to four lanes from Gemini Boulevard South to Research Parkway. Any impacts to designated environmentally sensitive areas shall be mitigated consistent with Conservation Element policies, the St. John's River Water Management District (SJRWMD) regulations, and any applicable state and local environmental regulatory agencies.

POLICY 1.1.9: The University shall encourage limited vehicular access to Gemini Boulevard and North Orion Boulevard by limiting the number of new driveways and attempting to consolidate access points, through the creation of cross- access and shared-access points between adjacent driveways.

POLICY 1.1.10: The University shall explore opportunities with the host local government, affected local governments, and the Florida Department of Transportation, as appropriate, to ensure that signalization and signal synchronization are available when needed to support roadway improvements or traffic operations.

OBJECTIVE 1.2: To provide safe, adequate, accessible, and effective campus parking facilities.

POLICY 1.2.1: The University shall maintain effective lighting at parking facilities and locate landscaping with an emphasis on safety through the use of Crime Prevention Through Environmental Design (CPTED) standards.

POLICY 1.2.2: The University shall annually monitor campus parking through 2020 to maintain a student-to-parking space ratio range of 3:1 to 4:1.

POLICY 1.2.3: The University shall annually monitor visitor parking to establish and maintain sufficient visitor parking on-campus.

POLICY 1.2.4: Replacement parking budgets shall be an integral part of new construction budgets if the new construction displaces existing parking spaces.

Funds allocated for replacement parking shall be considered on a case by case basis and included in the total construction costs.

POLICY 1.2.5: The University shall provide an additional 2,000 spaces through

2020, as identified in Figure 2.11-13. The timing, phasing requirements, and priorities for additional parking will be identified annually in the Capital Improvements Plan.

POLICY 1.2.6: To continually promote non-vehicular transportation, the University shall provide additional bicycle racks, as necessary, to ensure convenient access to users of the bicycle network.

GOAL 2: To create logical patterns of pedestrian and non-vehicular circulation systems which enhance the overall urban and social-academic quality of the campus.

OBJECTIVE 2.1: To continue to provide adequate on-campus pedestrian and non-vehicular circulation systems designed to meet the current and future needs of the University.

POLICY 2.1.1: Pedestrian crosswalks shall continue to be located, and enforced, at all points where pedestrian and other non-vehicular circulation crosses Gemini Boulevard, as well as at all access routes into campus. These crossings will continue to be evaluated by the University Administration and Facilities Planning and Construction Department to determine the appropriate level of pedestrian safety (traffic calming measures to pedestrian signalization) that should be provided.

POLICY 2.1.2: By 2020, the University shall study and generate feasible options for parking permits that restrict students from parking outside of residential parking areas in order to encourage increased pedestrian, cyclist, and transit usage.

OBJECTIVE 2.2: To annually review future pedestrian and non-vehicular circulation facilities for consistency with the Campus Safety Plan.

POLICY 2.2.1: The Director of Facilities Planning and Construction, Associate Vice President for Facilities and Safety, Department of Environmental Health and Safety, the Chief of the UCF Police Department, and the Director of Parking Services shall meet on a regular basis to ensure that provisions concerning pedestrian and non-vehicular circulation facilities are incorporated into the Campus Safety Plan and associated programs.

POLICY 2.2.2: The Facilities Planning and Construction Department, Associate Vice President for Facilities and Safety, Department of Environmental Health and Safety, the Chief of the UCF Police Department, and the Director of Parking Services shall coordinate the development of programs and procedures to improve the safety of persons using pedestrian and non-vehicular facilities on campus. The adopted Campus Master Plan shall be amended as needed to incorporate these new and revised programs and procedures.

OBJECTIVE 2.3: To review annually the need for additional lighting along pedestrian and non-vehicular circulation routes consistent with the recommendations contained within the Campus Safety Plan.

POLICY 2.3.1: The University shall include recommendations for type and location of future lighting requirements into the part of the Campus Safety Plan that addresses pedestrian and non-vehicular circulation systems.

POLICY 2.3.2: The Director of Facilities Planning and Construction, the Chief of the UCF Police Department, and the Associate Vice President of Facilities and Safety shall review all future plans for lighting along proposed pedestrian and non-vehicular systems to ensure compliance with both the Campus Safety Plan and the adopted UCF Architectural Design Guidelines.

POLICY 2.3.3: Appropriate lighting systems shall be constructed concurrent with pedestrian and non-vehicular circulation systems.

GOAL 3: To develop a financially feasible multi-modal transportation system that integrates services provided by the public transit system (e.g., the Central Florida Regional Transit Authority, a.k.a. LYNX) and the private transit system, UCF Shuttle (Veolia Transportation).

OBJECTIVE 3.1: To encourage the use of alternative modes of transportation and reduce dependence on the personal automobile.

POLICY 3.1.1: UCF shall continue to explore opportunities with applicable transportation management associations to promote Transportation Demand Management (TDM) techniques both on-campus and in the context area around campus.

POLICY 3.1.2: The University shall implement, as appropriate, TDM strategies, including, but not limited to:

- improved utilization of public or University-provided transit services;
- improved pedestrian and non-vehicular facilities;
- increased number of students living on or within walking/biking distance of campus;
- academic scheduling modifications;
- operational improvements to the on-campus roadway system, such

as additional signalization; and

- implementation of the Split Cycle Offset Optimization Technique (SCOOT) system on the on-campus roadway system, consistent with the operations of existing SCOOT system operation on off-campus roadways and through coordination with the affected local jurisdictions.

POLICY 3.1.3: By 2020, the University shall study the effectiveness of providing a high-occupancy vehicle parking incentive program that provides preferential parking treatment for automobiles carrying two or more persons.

POLICY 3.1.4: The University shall continue to coordinate with the host local government, LYNX, and affected local governments to promote Zimride and Zipcar as campus-wide ridesharing and carpool programs for UCF faculty, staff, and students.

POLICY 3.1.5: The University shall continue to study the effectiveness of distance learning (Internet and Satellite campuses) as a technique to reduce the need for students to travel to the University.

POLICY 3.1.6: The University shall continue to refine class scheduling, when feasible, as a method of mitigating peak-hour traffic conditions and to maximize utilization of existing transportation infrastructure investment.

POLICY 3.1.7: The University shall coordinate with the host local government and affected local governments concerning campus infrastructure development by submitting notices of development for review by the host community, as described in the Intergovernmental Coordination Element policies for reciprocal review, as appropriate.

POLICY 3.1.8: The University shall coordinate with the Central Florida Expressway Authority (CFX) regarding future transportation improvements, as appropriate.

POLICY 3 . 1 . 9 : The University shall continue to coordinate with the host local government regarding completing an east-west parallel route to reduce congestion on University Boulevard.

POLICY 3.1.10: The University shall work with the host local government, affected local governments, and LYNX to evaluate other mobility options for reducing the dependence on the personal automobile, such as enhanced transit service from businesses and residences off-campus, enhanced pedestrian and bicycle facilities and trails or other facilities to serve non-motorized transportation. If any of these proves to be economically feasible and practical, the University shall amend the adopted Campus

Master Plan, as needed, to incorporate these strategies into the overall transportation plan.

OBJECTIVE 3.2: To continue to improve future mobility options for UCF faculty, staff, students, and visitors by improving linkages between modes of travel.

POLICY 3.2.1: The University shall continue to encourage transit, bicycle, and pedestrian modes as a means of travel from residential areas and parking lots to other on-campus destinations.

POLICY 3.2.2: Visitor parking shall be connected to present and future walkways, as well as the existing campus transit system.

OBJECTIVE 3.3: To continue to facilitate safe and efficient multi-modal access to, from, and within the Campus, with an emphasis on maintaining traffic flow while minimizing conflicts.

POLICY 3.3.1: The University shall continue to monitor and improve ridership on its Shuttle Service through 2020.

POLICY 3.3.2: The University shall protect the restriction of general vehicular access to the campus core, as defined by the 1,200-foot radius sidewalk, unless vehicular access is deemed necessary to accommodate the University's parking demand.

POLICY 3.3.3: The University shall continue to minimize campus vehicular and non-vehicular conflicts by continuing to explore opportunities for the siting of additional multi-modal centers, particularly in conjunction with major new parking facilities.

POLICY 3.3.4: The University shall continue to include provisions for bicycle lanes on newly constructed or improved, on-campus roadways, where feasible.

OBJECTIVE 3.4: To implement measures to improve transit service to, from, and within the campus.

POLICY 3.4.1: The University shall continue to plan for future campus intermodal transportation terminals in conjunction with proposed parking facilities. The timing and phasing requirements and priorities for terminals would be identified in the Capital Improvements Element.

POLICY 3.4.2: The University, in conjunction with area public transportation systems and organizations, shall continue to enhance campus transit service to, from, and within

the University.

POLICY 3.4.3: The University shall continue to identify residential concentrations of students to provide convenient transit routes used most by campus patrons and increase transit service on these routes by decreasing bus headways, developing additional new routes, or modifying existing routes, as deemed appropriate by the University.

POLICY 3.4.4: The University shall continue to provide bicycle racks on transit vehicles serving the University.

POLICY 3.4.5: The University shall survey students every five years through 2025 regarding transit, bicycle, and pedestrian services.

POLICY 3.4.6: By 2020, the University shall implement, as appropriate, an evaluation of the availability of bicycle commuter support facilities (such as showers, lockers, and covered and secured bicycle parking) on campus on an annual basis.

GOAL 4: To provide adequate access (vehicular and transit) to the Campus, while continuing to coordinate required transportation improvements with local communities and appropriate planning agencies, as detailed in the Intergovernmental Coordination Element.

OBJECTIVE 4.1: To ensure the continued coordination of the University's transportation system improvements with the master plans and transportation improvement plans of the host local government, affected local governments, METROPLAN ORLANDO (the local Metropolitan Planning Organization), and the Florida Department of Transportation (FDOT).

POLICY 4.1.1: The University shall continue to coordinate with the host local government and affected local governments regarding their proposed transportation improvement projects.

POLICY 4.1.2: The University shall continue to coordinate with the FDOT, the host local government, the affected local governments, and METROPLAN ORLANDO to evaluate strategies and improvements to meet the projected need for additional access to the UCF campus. The adopted Campus Master Plan shall be amended, as needed, to incorporate the results of their evaluations.

POLICY 4.1.3: Proposed on-campus traffic circulation improvements shall be identified in the Capital Improvements Element.

OBJECTIVE 4.2: To continue to coordinate pedestrian and non-vehicular circulation systems with those developed by the host local government and affected local governments by reviewing their local comprehensive plans, bicycle plans, or pedestrian circulation plans, and meeting with local governments, as necessary.

POLICY 4.2.1: The University shall continue to coordinate with the host local government and affected local governments regarding the implementation of sidewalk, bicycle paths and lanes, and safety-enhanced pedestrian crosswalks along all vehicular corridors adjacent or leading into and out of campus.

POLICY 4.2.2: The University shall continue to coordinate with the host local government, affected local governments, and the FDOT, as appropriate, to ensure that signalization and signal synchronization is available when needed to reduce pedestrian and non-vehicular traffic conflicts. Any new signals shall be interconnected with adjacent signals, as appropriate.

Table A

UCF Campus Roadway Level of Service Capacities
Average Daily Traffic

No. Lanes	Level of Service (for NON-STATE other signalized roadways[1])				
	A	B	C	D	E
2L	N/A	N/A	6,570	13,320	***14,040
4LD	N/A	N/A	13,050	29,160	30,420

(1) FDOT Quality/Level of Service Handbook, 2012

Table B
UCF Campus Roadway Level of Service Capacities
Peak Hour Peak Direction

No. Lanes	Level of Service (for NON-STATE other signalized roadways[1])				
	A	B	C	D	E
1	N/A	N/A	333	675	720
2	N/A	N/A	657	1,467	1,530

(1) FDOT Quality/Level of Service Handbook 2012

1.0 INTRODUCTION

Since its inception in 1963 as the Florida Technical University, the University has experienced tremendous growth to the point where it is now the largest state University in Florida, based on enrollment. During the 2013 academic year the University had a total enrollment, including all campuses and web students of over 59,000 students. Current projections show the University's fundable headcount enrollment approaching 56,000 students as build-out by 2025.

This growing student population results in increased infrastructure demands in the form of new and improved roads, pedestrian walkways, bicycle facilities, transit improvements, and parking in the form of surface lots and garages. The University has already added significant transportation infrastructure to accommodate this growth. However, additional improvements will be required in order to keep pace with the University's growth.

The Transportation Element supports the Transportation Goals and Objectives and provides the collection and analysis of existing data. This analysis becomes the basis for measurable performance standards for the Goals, Objectives, and Policies. This supporting documentation is broken into three major sections. This first section inventories the existing transportation facilities within and surrounding the University including roadway, transit and bicycle/pedestrian facilities, and documents the current operating conditions of these facilities. The second section details planned transportation infrastructure improvements within the University Campus, as well as those planned in the surrounding host community and state agencies. The second section also projects future operating conditions of the transportation system. The final section details recommended mobility strategies to mitigate projected impacts. The multimodal mobility plan will address the long-term horizon YR 2025.

The purpose of this, and all Transportation Elements, as stipulated by Florida Statute, is to plan and provide for a multi-modal transportation system, with an emphasis on the integration and coordination of transportation modes. The University of Central Florida maintains a network of internal roadways, as well as a fleet of over 35 shuttle buses that provide a critical transit mode to and from the campus. In addition, the University also maintains an extensive network of pedestrian and bicycle facilities on campus. The increasing demands placed on all of these systems by the rapid growth of the student population creates an even greater need to integrate and coordinate all available modes of transportation within and surrounding the campus. The area that will be examined by this transportation element is shown in the context area map in Figure 2.11-1.

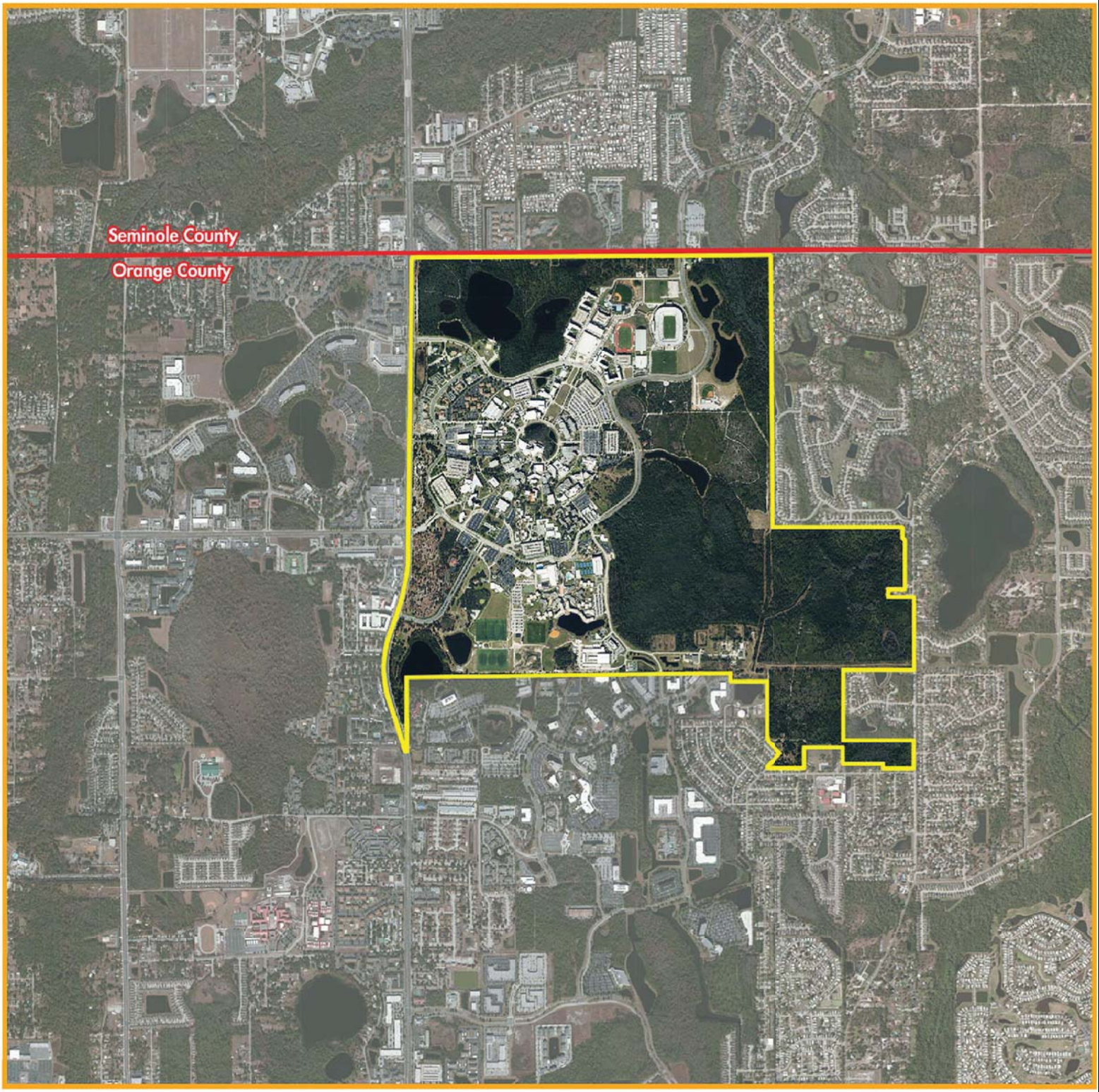


Figure 2.11-1

Context Area Map

Legend

- Study Area
- County Boundary
- UCF Campus Boundary

Comprehensive Master Plan Update
University of Central Florida
Orlando, Florida
2015-2025

N

All maps are diagrammatic and conceptual. The various areas shown are approximate and not to survey accuracy. The intent of these maps is to illustrate general areas of existing or potential use.

0 2,600 5,200 10,400 Feet

Rev. 20140415

2.0 EXISTING CONDITIONS

In order to evaluate the existing conditions of the transportation facilities within the UCF campus, as well as those external facilities and systems located within the context area, an inventory of the existing transportation systems and campus demographic data was performed.

A. *Campus Population and Employment*

The University of Central Florida has several campuses in the Central Florida area. The population chart below reflects the existing and projected population on the Main Orlando campus. As shown below, the projected number of students attending the University steadily increases over the ten (10) year period from YR 2014-15 to YR 2024-25, with a 12.3% increase in student population.

Table 2.11-1: UCF Projected Attendance for the Main Orlando Campus

Year	Orlando Campus Annual FTE*	Orlando Campus Fall Headcount**
2014-15	22,946	49,923
2015-16	22,890	50,714
2016-17	23,128	52,026
2017-18	23,484	53,295
2018-19	23,661	54,288
2019-20	23,661	54,155
2020-21	23,646	54,163
2021-22	23,833	54,577
2022-23	24,038	54,917
2023-24	24,237	55,241
2024-25	24,591	56,061

Source: UCF FTE Enrollment Program

The number of students attending the University will place an increasing demand on University facilities, as well as on the surrounding transportation infrastructure, transit and pedestrian systems. Typically on-campus, students use forms of transportation other than cars to move around campus. However, many faculty, staff, and students live off campus and currently drive automobiles to reach the campus. There is a correlation between an increase of students and the increase in number of additional faculty and staff to accommodate the students.

Without planned and scheduled improvements to the transportation and transit systems, there is the possibility that campus and surrounding roads could become congested, increasing delays and the potential for increased conflicts between pedestrians, bicyclists and vehicular traffic.

B. *Roadway Circulation*

For the purposes of this transportation element, the roadway, or traffic circulation system, will be defined as all roadway facilities within the University Campus boundaries, as well as the external facilities located within the context area, as shown in Figure 2.11-1. An inventory of the existing roadway facilities located within the context area is shown in Table 2.11-2. This inventory includes the following roadway characteristics: roadway name, segment limits, number of lanes, jurisdiction, adopted level of service (LOS), and functional classification.

Functional Classification System

The Florida Department of Transportation (FDOT) defines functional classification as, "the organization of roadways into a hierarchy based on the character of service provided. Typical classifications include arterial, collector, and local roadways." Roadways provide two functions within the classification noted above by providing varying levels of access and mobility. On the lower end of the spectrum, a local road essentially serves as total, direct access to the adjacent land uses. At the opposite end of the spectrum is the limited access freeway, which provides total mobility and no access. Generally speaking, as mobility increases, access decreases, and vice versa. Figure 2.11-2 shows the relationship between access and mobility. Figure 2.11-3 shows the relationship of the various roadway types to one another. The functional classification of a roadway is used to set level of service standards and to evaluate operational characteristics. Generally speaking there are six major classifications:

- Expressway Freeway,
- Principal Arterial,
- Minor Arterial,
- Collector (Major and Minor), and
- Local

Table 2.11-2 Roadway Facility Inventory

Road Name	From	To	No. of Lanes	Jurisdiction	Functional Classification	Adopted LOS
Alafaya Trail (SR 434)	Colonial Drive (SR 50)	Science Drive	6LD	State	Minor Arterial	E
	Science Drive	University Boulevard	6LD	State	Minor Arterial	E
	University Boulevard	McCulloch Road	6LD	State	Minor Arterial	E
	McCulloch Road	Chapman Road	6LD	State	Principal Arterial	E
Central Florida Boulevard	Alafaya Trail (SR 434)	Gemini Boulevard	4LD	UCF	Minor Collector	E
Centaurus Drive	Alafaya Trail (SR 434)	Gemini Boulevard	4LD	UCF	Minor Collector	E
Chapman Road	Aloma Avenue	Alafaya Trail (434)	4LD	Seminole County	Major Collector	E
Colonial Drive (SR 50)	Rouse Road	Alafaya Trail (434)	4LD	State	Principal Arterial	E
Discovery Drive/ Libra Drive	Research Parkway	Gemini Boulevard	2L	UCF	Minor Collector	E
Gemini Boulevard	Central Florida	University Boulevard	4LD	UCF	Minor Collector	E
	University Boulevard	Centaurus Drive	4LD	UCF	Minor Collector	E
	Alafaya Trail (SR 434)	Greek Park Drive	4LD	UCF	Minor Collector	E
	Greek Park Drive	N. Orion Boulevard	4LD	UCF	Minor Collector	E
	N. Orion Boulevard	Libra Drive	4LD	UCF	Minor Collector	E
Gemini Boulevard East	Libra Dr.	Scorpius St. (Star St.)	4LD	UCF	Minor Collector	E
Gemini Boulevard South	Andromeda Dr.	Hercules Dr.	4LD	UCF	Minor Collector	E
Greek Park Drive	Centaurus Drive	Gemini Boulevard	4LD	UCF	Minor Collector	E
Lake Pickett Road	Colonial Drive (SR 50)	Percival Road	2L	Orange County	Major Collector	E
	Percival Road	S. Tanner Road	2L	Orange County	Major Collector	E
Lokanotosa Trail	Rouse Road	Alafaya Trail (434)	2L	Orange County	Minor Collector	E
Lockwood Boulevard	McCulloch Road	Oviedo City Limits	4LD	Seminole County	Minor Collector	E
McCulloch Road	Alafaya Trail (SR 434)	Lockwood Boulevard	4LD	Seminole County	Minor Collector	E
	Lockwood Boulevard	Old Lockwood	2L	Seminole County	Minor Collector	E
N. Orion Boulevard	McCulloch Road	Gemini Boulevard	4LD	UCF	Minor Collector	E
Percival Road	Tanner Road	Lake Pickett Road	2L	Orange County	Minor Collector	E
Rouse Road	Colonial Drive (SR 50)	Lokanotosa Trail	4LD	Orange County	Minor Collector	E
	Lokanotosa Trail	University Boulevard	4LD	Orange County	Minor Collector	E
	University Boulevard	Seminole County Line	4LD	Orange County	Minor Collector	E
University Boulevard	Rouse Road	Alafaya Trail (434)	6LD	Orange County	Minor Arterial	E
	Alafaya Trail (SR 434)	Gemini Boulevard	6LD	UCF	Minor Collector	E
W. Plaza Dr.	Knights Victory Way	N. Orion Boulevard	2L	UCF	Minor Collector	E

Note: This table includes roadway segments within the context area, as shown in Figure 2.11-1

Roadways within the context area for the University's Campus Master Plan include the following classifications:

• Principal Arterial – This is the highest level of arterial and generally has restricted access, and serves longer distance through trips servicing larger metropolitan areas. The facility type connects minor arterials and freeways as well as other principal arterials.

• Minor Arterial – This type of roadways provides connections between principal arterials and collectors. It typically serves moderate lengths with less emphasis on mobility than a principal arterial and with a greater level of access to adjacent land parcels.

• Collector (Major and Minor) – The collector street system provides a combination of land access and mobility, generally within residential neighborhoods or larger industrial or commercial developments and joins with other collector systems. Collectors distribute traffic from arterials to the local street system and their final destinations.

• Local – According to the AASHTO "Greenbook", the local street system comprises all facilities that do not fall into one of the higher roadway classifications. The primary function of a local street is to provide direct access to adjacent land uses and to connect to the collector roadway system.

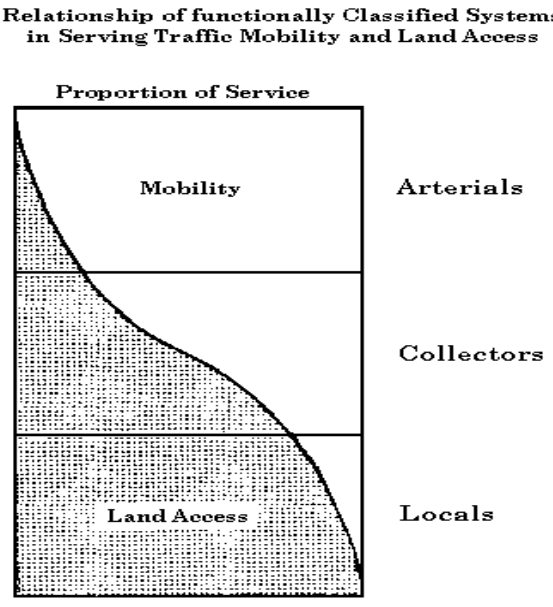


Figure 2.11-2 Mobility – Land Access Relationship

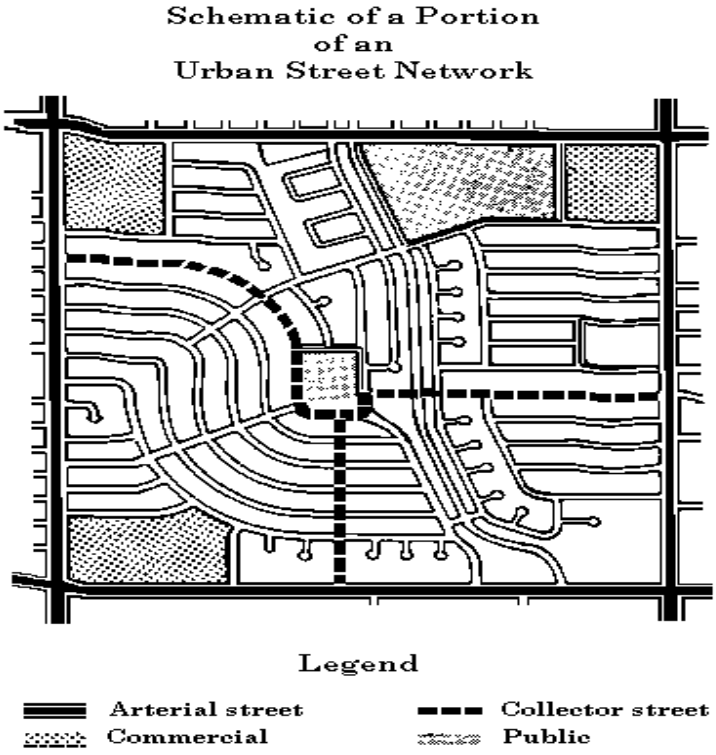


Figure 2.11-3 Roadway Functional Classification

Figure 2.11-4 details the functional classification of all study roadways within the context area.

Level of Service Standards

Level of service (LOS) is used to describe a qualitative measure of the operational performance of a roadway under existing or projected traffic conditions. There are six, alphabetical level designations used to describe the operating conditions of a roadway. These LOS designations range from the best, LOS "A", representing free-flow conditions, to the worst, LOS "F", representing breakdown conditions with significant delays. For the purposes of this update, this element will follow the LOS standards developed and adopted by the FDOT in the 2012 version of their Quality/Level of Service Manual. These standards are based on the research and analysis codified in the Highway Capacity Manual (HCM) developed by the Transportation Research Board (TRB) These standards delineate the threshold traffic volumes at which the perceived LOS changes from one designation to another, for a given roadway classification and area type. These threshold volumes are calculated using a variety of common traffic data, including number of lanes, free flow speed, intersection spacing, percentage of heavy vehicles, as well as a host of other traffic variables.

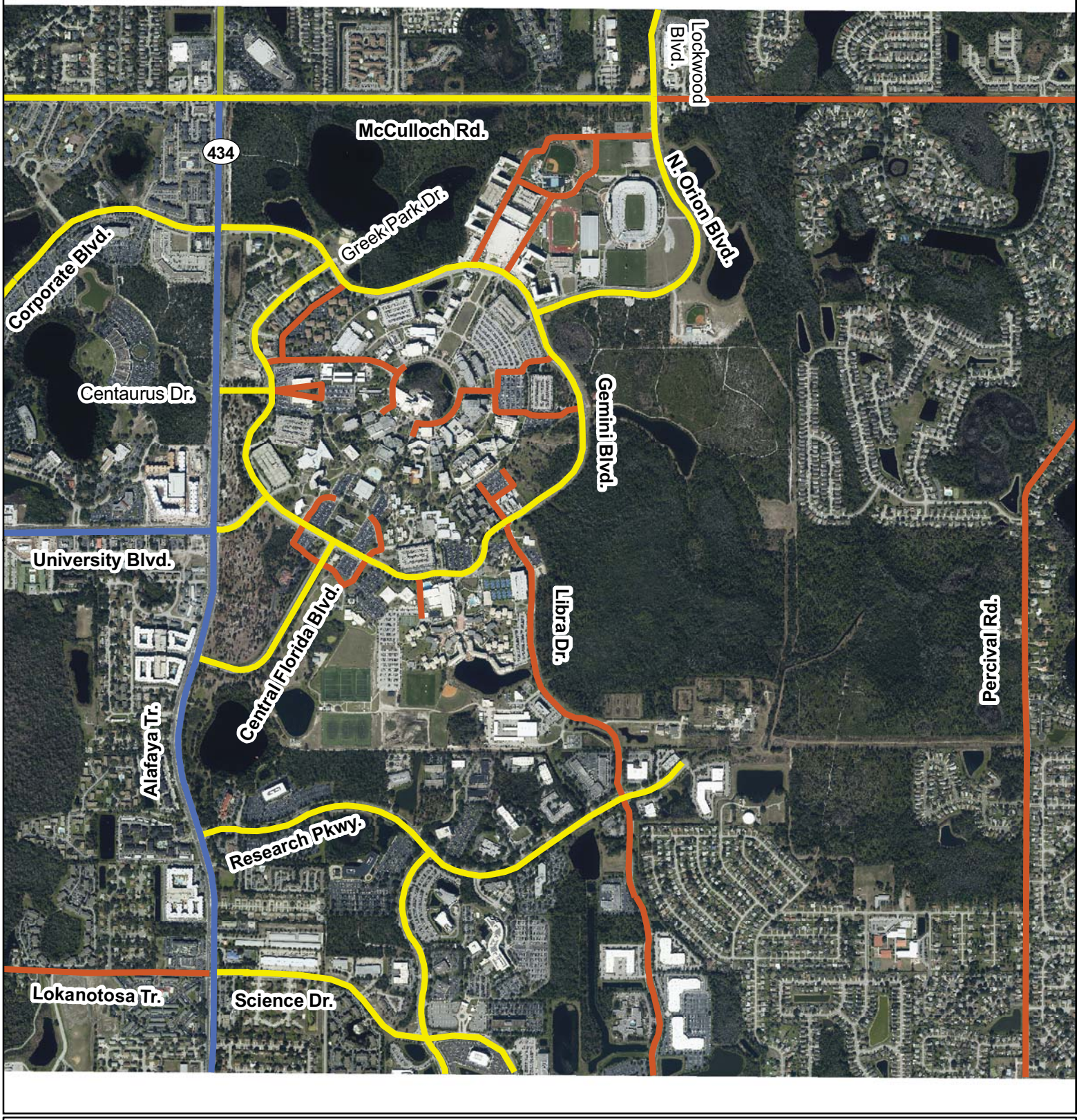


Figure 2.11-4

Campus Area Roadways by Functional Classification

Comprehensive Master Plan Update
University of Central Florida
Orlando, Florida
2015-2025

Legend

- Minor Arterial
- Minor Collector
- Principal Arterial
- Local Roadway

N

All maps are diagrammatic and conceptual. The various areas shown are approximate and not to survey accuracy. The intent of these maps is to illustrate general areas of existing or potential use.

0 1,515 3,030 6,060 Feet

Rev. 20140414

Table 2.11-3 details an analysis of existing conditions of the roadways shown in Table 2.11-2 and contained within the context area. The existing conditions documented in Table 2.11-3 include the following information: number of lanes, adopted level of service (LOS) standard, peak hour adopted level of service (LOS) standard, current peak hour volumes, and current LOS.

A copy of Table 7 from the FDOT 2012 Quality/Level of Service is shown below as Figure 2-11.5. Figure 2.11-6 shows the existing (2012/2013) traffic volumes, roadway geometry and Level of Service (LOS) for roadways within the Context Area.

TABLE 7

Generalized **Peak Hour Directional** Volumes for Florida's **Urbanized Areas**[1]

12/18/12

INTERRUPTED FLOW FACILITIES

STATE SIGNALIZED ARTERIALS

Class I (40 mph or higher posted speed limit)

Lanes	Median	B	C	D	E
1	Undivided	*	830	880	**
2	Divided	*	1,910	2,000	**
3	Divided	*	2,940	3,020	**
4	Divided	*	3,970	4,040	**

Class II (35 mph or slower posted speed limit)

Lanes	Median	B	C	D	E
1	Undivided	*	370	750	800
2	Divided	*	730	1,630	1,700
3	Divided	*	1,170	2,520	2,560
4	Divided	*	1,610	3,390	3,420

Non-State Signalized Roadway Adjustments
(Alter corresponding state volumes by the indicated percent.)
Non-State Signalized Roadways - 10%

Median & Turn Lane Adjustments

Lanes	Median	Exclusive Left Lanes	Exclusive Right Lanes	Adjustment Factors
1	Divided	Yes	No	+5%
1	Undivided	No	No	-20%
Multi	Undivided	Yes	No	-5%
Multi	Undivided	No	No	-25%
–	–	–	Yes	+ 5%

One-Way Facility Adjustment
Multiply the corresponding directional volumes in this table by 1.2

BICYCLE MODE[2]

(Multiply motorized vehicle volumes shown below by number of directional roadway lanes to determine two-way maximum service volumes.)

Paved Shoulder/Bicycle Lane Coverage	B	C	D	E
0-49%	*	150	390	1,000
50-84%	110	340	1,000	>1,000
85-100%	470	1,000	>1,000	**

PEDESTRIAN MODE[2]

(Multiply motorized vehicle volumes shown below by number of directional roadway lanes to determine two-way maximum service volumes.)

Sidewalk Coverage	B	C	D	E
0-49%	*	*	140	480
50-84%	*	80	440	800
85-100%	200	540	880	>1,000

BUS MODE (Scheduled Fixed Route)[3]

(Buses in peak hour in peak direction)

Sidewalk Coverage	B	C	D	E
0-84%	> 5	≥ 4	≥ 3	≥ 2
85-100%	> 4	≥ 3	≥ 2	≥ 1

UNINTERRUPTED FLOW FACILITIES

FREEWAYS

Lanes	B	C	D	E
2	2,260	3,020	3,660	3,940
3	3,360	4,580	5,500	6,080
4	4,500	6,080	7,320	8,220
5	5,660	7,680	9,220	10,360
6	7,900	10,320	12,060	12,500

Freeway Adjustments

Auxiliary Lane	Ramp Metering
+ 1,000	+ 5%

UNINTERRUPTED FLOW HIGHWAYS

Lanes	Median	B	C	D	E
1	Undivided	420	840	1,190	1,640
2	Divided	1,810	2,560	3,240	3,590
3	Divided	2,720	3,840	4,860	5,380

Uninterrupted Flow Highway Adjustments

Lanes	Median	Exclusive left lanes	Adjustment factors
1	Divided	Yes	+5%
Multi	Undivided	Yes	-5%
Multi	Undivided	No	-25%

[1] Values shown are presented as peak hour directional volumes for levels of service and are for the automobile/truck modes unless specifically stated. This table does not constitute a standard and should be used only for general planning applications. The computer models from which this table is derived should be used for more specific planning applications. The table and deriving computer models should not be used for corridor or intersection design, where more refined techniques exist. Calculations are based on planning applications of the Highway Capacity Manual and the Transit Capacity and Quality of Service Manual.

[2] Level of service for the bicycle and pedestrian modes in this table is based on number of motorized vehicles, not number of bicyclists or pedestrians using the facility.

[3] Buses per hour shown are only for the peak hour in the single direction of the higher traffic flow.

* Cannot be achieved using table input value defaults.

** Not applicable for that level of service letter grade. For the automobile mode, volumes greater than level of service D become F because intersection capacities have been reached. For the bicycle mode, the level of service letter grade (including F) is not achievable because there is no maximum vehicle volume threshold using table input value defaults.

Source:
Florida Department of Transportation
Systems Planning Office
www.dot.state.fl.us/planning/systems/sm/los/default.shtm

2012 FDOT QUALITY/LEVEL OF SERVICE HANDBOOK TABLES

Figure 2.11-5 FDOT Level of Service Table

Table 2.11-3 Existing Roadway Conditions

Road Name	From	To	No. of Lanes	Adopted LOS	AADT	K100	D	Adopted Pk. Hr. LOS Capacity	PM Pk. Hr./Dir. Volume	Source	2013/2014 LOS
Alafaya Trail (SR 434)	Colonial Drive (SR 50)	Science Drive	6LD	E	60,396	0.072	0.556	3,020	2,418	Orange Co. Annual Counts	C
	Science Drive	University Boulevard	6LD	E	60,396	0.072	0.556	3,020	2,418	Orange Co. Annual Counts	C
	University Boulevard	McCulloch Road	6LD	E	47,349	0.086	0.680	3,020	2,769	Orange Co. Annual Counts	C
	McCulloch Road	Chapman Road	6LD	E	38,000	0.090	0.528	3,020	1,806	FDOT Annual Counts	C
Central Florida Boulevard	Alafaya Trail (SR 434)	Gemini Boulevard	4LD	E	11,130	0.085	0.506	1,530	476	GMB Study	C
Centaurus Drive	Alafaya Trail (SR 434)	Gemini Boulevard	4LD	E	6,472	0.098	0.805	1,530	512	GMB Study	C
Chapman Road	Aloma Avenue	Alafaya Trail (434)	4LD	E	17,312	0.112	0.577	2,000	1,119	Seminole Co. Annual Counts	C
Colonial Drive (SR 50)	Rouse Road	Alafaya Trail (434)	4LD	E	46,439	0.065	0.528	2,000	1,594	Orange Co. Annual Counts	C
Discovery Drive/ Libra Drive	Research Parkway	Gemini Boulevard	2L	E	14,051	0.100	0.555	720	782	GMB Study	F
Gemini Boulevard	Central Florida Boulevard	University Boulevard	4LD	E	16,818	0.093	0.554	1,530	862	GMB Study	D
	University Boulevard	Centaurus Drive	4LD	E	12,818	0.098	0.678	1,530	855	GMB Study	D
	Alafaya Trail (SR 434)	Greek Park Drive	4LD	E	14,628	0.083	0.581	1,530	708	GMB Study	D
	Greek Park Drive	N. Orion Boulevard	4LD	E	15,021	0.094	0.504	1,530	712	GMB Study	D
	N. Orion Boulevard	Libra Drive	4LD	E	16,337	0.097	0.719	1,530	1,141	GMB Study	D
Gemini Boulevard East	Libra Dr.	Scorpius St. (Star St.)	4LD	E	21,447	0.097	0.586	1,530	1,217	GMB Study	D
Gemini Boulevard South	Andromeda Dr.	Hercules Dr.	4LD	E	15,998	0.090	0.521	1,530	747	GMB Study	D
Greek Park Drive	Centaurus Drive	Gemini Boulevard North	4LD	E	9,039	0.107	0.677	1,530	657	GMB Study	C
Lake Pickett Road	Colonial Drive (SR 50)	Percival Road	2L	E	13,570	0.082	0.748	880	832	Orange Co. Annual Counts	D
	Percival Road	S. Tanner Road	2L	E	9,220	0.137	0.867	880	1,095	Orange Co. Annual Counts	F
Lokanotosa Trail	Rouse Road	Alafaya Trail (434)	2L	E	8,179	0.111	0.625	800	567	Orange Co. Annual Counts	D
Lockwood Boulevard	McCulloch Road	Oviedo City Limits	4LD	E	15,972	0.101	0.733	1,700	1,182	Seminole Co. Annual Counts	D
McCulloch Road	Alafaya Trail (SR 434)	Lockwood Boulevard	4LD	E	26,918	0.082	0.630	2,000	1,391	Seminole Co. Annual Counts	C
	Lockwood Boulevard	Old Lockwood	2L	E	20,366	0.084	0.655	880	1,121	Seminole Co. Annual Counts	F
N. Orion Boulevard	McCulloch Road	Gemini Boulevard	4LD	E	13,164	0.1076	0.728	1,530	1,031	GMB Study	D
Percival Road	Tanner Road	Lake Pickett Road	2L	E	6,285	0.084	0.657	880	347	Orange Co. Annual Counts	C
Rouse Road	Colonial Drive (SR 50)	Lokanotosa Trail	4LD	E	19,694	0.092	0.584	2,000	1,058	Orange Co. Annual Counts	C
	Lokanotosa Trail	University Boulevard	4LD	E	18,907	0.103	0.533	2,000	1,038	Orange Co. Annual Counts	C
	University Boulevard	Seminole County Line	4LD	E	9,477	0.095	0.636	2,000	573	Orange Co. Annual Counts	C
University Boulevard	Rouse Road	Alafaya Trail (434)	6LD	E	51,344	0.082	0.505	3,020	2,126	Orange Co. Annual Counts	C
	Alafaya Trail (SR 434)	Gemini Boulevard	6LD	E	20,377	0.089	0.567	2,304	1,026	GMB Study	C
W. Plaza Dr.	Knights Victory Way	N. Orion Boulevard	2L	E	3,729	0.078	0.517	720	151	GMB Study	C

Note:
This table includes roadway segments included within the context area, as shown in Figure 2.11-1
LOS service volumes based on the 2012 FDOT Quality/Level of Service Manual, Seminole County CMS, Orange County
Traffic Volumes taken from latest Orange County (YR 2012) and Seminole County (YR 2013) count prograr
Traffic Volumes obtained from the GMB Study, conducted in January 2014

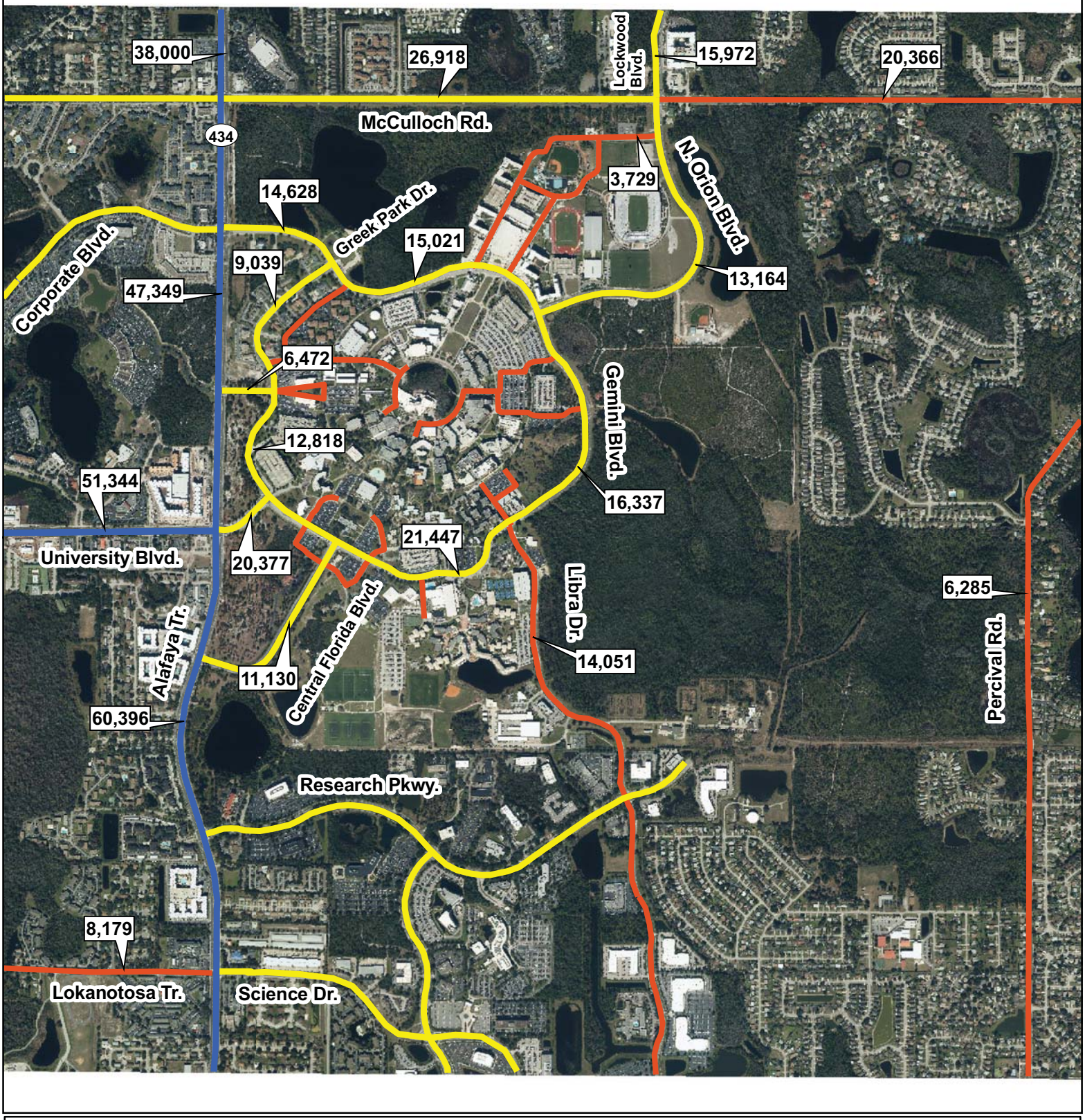


Figure 2.11-6

Existing Roadway Network and Daily Traffic Volumes

Comprehensive Master Plan Update
University of Central Florida
Orlando, Florida
2015-2025

Legend

- 6-Lane Roadway
- 4-Lane Roadway
- 2-Lane Roadway
- 11,111 Average Daily Traffic

N

All maps are diagrammatic and conceptual. The various areas shown are approximate and not to survey accuracy. The intent of these maps is to illustrate general areas of existing or potential use.

0 1,515 3,030 6,060 Feet

Rev. 20140414

C. *Parking System*

Since the majority (approximately 86%) of UCF's students commute to campus, as well as hundreds of faculty and staff members, the need for a large capacity of well-distributed parking is paramount. To accommodate parking demands, both permanent and temporary parking facilities are provided on campus. UCF has invested a great deal into providing this parking supply to form permanent and temporary parking facilities.

Parking is currently provided on the UCF campus in a variety of means such as surface lots, parking garages, metered spaces, and special locations, see Figure 2.11-7. There are currently six parking garages primarily used for student parking located around the perimeter of the campus and accessed by Gemini Boulevard. These facilities include Garages A, B, C, D H, and I. Garages B, C, D, and H, and I hold a maximum of approximately 1,300 vehicles, while Garage A has a capacity of approximately 1,650, for a total of 7,850 parking spaces in structured parking.

In addition to the structured parking, there are over forty (40) other surface parking lots spread throughout the campus. These surface lots are a combination of permanent and temporary spaces and are used by faculty, staff, students, and others, including specialty users such as motorcyclists. In total, the parking garages and surface lots add up to over 17,750 parking spaces available on campus. A detailed breakout of UCF's available parking supply is shown in Table 2.11-4.

Figure 2.11-7 Existing UCF Campus Parking Facilities

Table 2.11-4 UCF Campus Parking Facilities

LOT	Reserved	Faculty	Staff	Student	Disabled	Meters	Service	Motorcycle	Housing	Greek Park	Event Parking	Other	Total
AlphDeltPI					2					60			62
AlphXIDelt					2					56			58
Andromeda	1				4	16	1						22
ATO										43			43
B1	44	37			10	6	5	6					108
B2	18	71			15	6	6	6					122
B3	1		180		4	17							202
B4				174	2	17							193
B5				134									134
B6				142	2							20	164
B6-A (VPI)	1		17		1		2						21
B6- B												40	40
B7	2		35	255	6	8	4	4					314
B7-A (BPW)			18		1		3						22
B8	2		24	672	11			6				1	716
B9	4		36	179	6	3	10					3	241
B10			19		1							4	24
B11			42		1			2				9	54
B12			12	69	1		4	7				5	98
B13				42									42
B15	1			215	7	1		6					230
B16- Old Police			41	24	2			3				18	88
B17	1		77		8			10				94	190
B18			66										66
Bookstore					4		7						11
C1	25	146	277		10			19					477
C2	15		109				3						127
C3	17			140	4	3	13	5				46	228
C3 Extension					9			3					12
Chi Omega					2					40			42
Classroom 1					11		17						28
Comm. Bldg.	4						7					10	21
D1	5		65	532	22	6						4	634
D2				286									286
E1	1		42		2	6		5				3	59
E2				56									56
E4				101	3		2	2					108
East Plaza	2					34	11	4				4	55
Engineering							2					4	6
Fairwinds					3		1					24	28
Fraternity & Sorority Life						2	4					1	7
Garage A			7	1,616	10		2	12					1,647
Garage B				1,248	9		7	14				11	1,289
Garage C				1,272	2		2	14					1,290
Garage D				1,241	8		11	19					1,279
Garage E	1				15			4	677				697
Garage F	6		50		14						608		678
Garage G	2				14			4	677				697
Garage H		18	19	1,247	20			36					1,340
Garage I		5	6	1,220	12		12	15					1,270
H1	2	114			10	5	5	10					146
H2	2		143		6								151
H3			36	103	2								141
H4			65	188	10		2					2	267
H5					9								9
H5-LC									65				65
H6	1				1		2						4
H6-LC									25				25
H7					1								1
H7-LC									51				51
H8					3			2					5
H8-LC									132				132
H9					3			2					5
H9-LC									120				120
H10				65	3							2	70
HPA	1						5	8					14
Kap Delta										90			90
Kappa Kappa Gamma					2					40			42
Kappa Sig										40			40
Lake Claire												42	42
Library					12								12
Library Svc.							4					4	8
Life Center			13		3					82			98
Marketplace							1						1
Park-N-Ride												50	50
PI Beta Phi										35			35
PIKapAlph										30			30
Psychology					3		4					12	19
Rec. & Wellness							12						12
Sig Phi Ep										50			50
Sigma Chi										40			40
Stu. Union Svc.	4						4						8
TA-Int'l. Reading	1				1		4					10	16
T-200			35		1								36
Theatre Svc.					1		4						5
Theta Epsilon										60			60
Tri Delta										60			60
Visual Arts							4						4
West Plaza	2				4	35	10					6	57
Zeta					2					86			88
Sub-Total	**166**	**391**	**1,434**	**11,221**	**337**	**165**	**197**	**228**	**1,747**	**812**	**608**	**429**	**17,735**

UCF's parking supply is also segregated by user, i.e., faculty, staff, student, disabled, etc. Table 2.11-5 shows a detailed breakout of the Campus' parking supply by user type.

Table 2.11-5 Parking by User

Type of Parking	Number of Spaces	Percentage of Total (17,735)
Student	11,221	63.27%
Greek Park	812	4.59%
Lake Claire	393	2.22%
Garage E	677	3.82%
Garage G	677	3.82%
Overflow	132	0.74%
Staff	1,434	8.09%
Disabled	337	1.90%
Metered	165	0.93%
Faculty	391	2.20%
Specialty Parking	297	1.67%
Motorcycle	228	1.29%
Reserved	166	0.94%
Event Parking	608	3.43%
Service	197	1.11%

As Table 2.11-5 clearly shows, the majority of the parking is allocated for students, with slightly over 63% of the total spaces on campus. Faculty and staff total approximately 10% of the total number of spaces allocated on the campus. Some types of parking spaces could be used by all users, including faculty, staff, and students. These types of parking include disabled, overflow, event parking, and motorcycle and comprise slightly over 7% of the total number of spaces. Residential areas, such as the Greek Park, Garage E, Garage G, and Lake Claire comprise roughly 15% of the parking. These spaces may be used by students who keep their cars on campus not for the purpose of traveling to class, but for other means, such as trips off campus for tasks or to travel to and from their work.

Approximately 2,300 spaces on campus service "specialty" uses. These uses include: event parking, disabled, motorcycle, reserved, service, metered, overflow, and pay by space parking. Table 2.11-6 shows a breakout of these spaces.

Table 2.11-6 Specialty Parking

Event Garage (F)	608
Disabled	337
Motorcycle	228
Reserved	166
Service	197
Metered	165
Overflow	132
Pay by Space	20
Other (Visitor, Health Center, etc.)	409
Total	**2,262**

According to the number of spaces allocated for students (11,221) and the number of students attending the University in 2013(49,000), there are parking spaces for approximately 23% of the total student body.

University staff performed a detailed parking utilization study for all of the major facilities on Campus. The report lists number of vehicles parked in each lot, utilization of the parking areas by location and time, average lot counts by location and time of day, and parking capacity by type. The data collected by the University spans five (5) days in September 2013. The information is detailed to the lot location, time of day, and capacity of the lot.

Table 2.11-7 shows a breakout of parking utilization by user type for several periods during an average weekday. In summary, a review of the table shows that, in general, the faculty, staff, student, and housing parking lots are more than 70% occupied during most periods of the day, and several are at capacity (i.e., full). Based on the number of occupied spaces, the peak time period on an average weekday is between 10 am and 12 pm. During this time period, faculty and student lots were approximately 97 and 88 percent occupied, respectively. Availability in the faculty and student parking lots was seen after 4 pm on most days. A copy of the most recent study, dated September 2013, is included in Appendix A. In addition to the vehicular parking and as outlined in Section E, As the University also provides bicycle racks for approximately 6,500 bicycles throughout the campus. UCF's Parking and Transportation Services provides an interactive map for the locations of the bicycle racks around the campus. The interactive map is located at: http://map.ucf.edu/bikeracks/.

Table 2.11-7 Parking Utilization by User Type (Average Weekday)

Lot Type	Capacity	8:00 AM		10:00 AM		12:00 PM		2:00 PM		4:00 PM		6:00 PM		Average	
		Occupied Spaces													
FACULTY	391	353	90.23%	380	97.08%	379	96.98%	367	93.91%	300	76.83%	204	52.23%	331	84.54%
STAFF	1,434	854	59.58%	1,256	87.56%	1,267	88.33%	1,234	86.08%	1,056	73.65%	532	37.11%	1,033	72.05%
STUDENT	11,221	6,812	60.71%	9,617	85.70%	10,196	90.87%	9,551	85.12%	8,606	76.70%	7,434	66.25%	8,703	77.56%
DISABLED	327	111	34.07%	144	44.16%	147	44.89%	141	43.06%	124	37.92%	77	23.61%	124	37.95%
OVERFLOW	132	30	22.88%	47	35.91%	64	48.33%	62	46.97%	48	36.36%	40	30.45%	49	36.82%
HOUSING	1,747	1,389	79.50%	1,364	78.09%	1,369	78.37%	1,324	75.76%	1,272	72.79%	1,263	72.32%	1,330	76.14%
MOTORCYCLE	228	64	28.07%	96	42.11%	104	45.70%	101	44.39%	84	36.75%	61	26.75%	85	37.30%
EVENT PARKING	608	268	44.08%	506	83.29%	572	94.14%	563	92.63%	497	81.71%	394	64.84%	467	76.78%
TOTAL	16,088	9,881	58.47%	13,410	79.35%	14,098	83.42%	13,343	78.95%	11,987	70.93%	10,005	59.20%	12,122	71.73%
AVAILABLE		**6,207**	**41.53%**	**2,678**	**20.65%**	**1,990**	**16.58%**	**2,745**	**21.05%**	**4,101**	**29.07%**	**6,083**	**40.80%**	**3,966**	**28.27%**

D. *Transit Circulation*

Two transit systems; one public and one private currently serve the University.

LYNX is the regional, public transit service provider that connects the University to greater Orlando area, including Downtown Orlando. The bus service enters the campus via University Boulevard and utilizes the UCF/LYNX Super Stop, located near a parking garage, a large surface parking lot and outer perimeter pedestrian walkways. It is important to note that the LYNX bus routes also have stops near several residential clusters where they may serve students. UCF and LYNX have collaborated to implement the KnightLYNX bus service for a convenient and safe public transportation option. KnightLYNX consists of three distinguished routes that connects students with their high demand destinations. These routes are named as Red, Blue, and Green Lines. Each lines services different destinations and improves the transportation process for anyone from the UCF community by offering free rides to them. KnightLYNX operates on Friday and Saturday nights from 8 pm to 3 am.

LYNX

Link #13: This route is specific to the University, and it services the following areas:

- Commencement at the Downtown Bus Station
- Colonial Plaza Market Center
- Fashion Square Mall
- VA Clinic
- Winter Park Hospital
- Winter Park Pines
- Goldenrod
- University Boulevard
- The UCF/LYNX Super Stop at the University.

Primary stops for the link include the following:

- LYNX Central Station
- SR 436 & University Boulevard
- Colonial Plaza Market Center
- Corrine Drive & General Rees Avenue
- University Boulevard & Dean Road
- Lakemont Avenue & Aloma Avenue
- UCF/Lynx Super Stop

Link #104: This route stretches from Downtown Orlando at the LYNX Central Station, down to the UCF campus traveling on SR 50, Colonial Drive.

Primary stops for this link include:

- LYNX Central Station

- SR 436 & Colonial Drive
- Fashion Square Mall
- Valencia College East Campus
- Colonial Drive & Alafaya Trail
- UCF/Lynx Super Stop.

Link #434: This route offers a flex service within the City of Oviedo. The route originates at the Rosemont Super Stop and commences at the University, serving SR 434 in the following areas: University of Central Florida, Oviedo, Winter Springs, Longwood, and Forest City.

Primary stops for the link include:

- UCF/Lynx Super Stop
- Alafaya Tr. & Alafaya Woods BLVD.
- Oviedo Marketplace
- Winter Springs City Hall
- SR 434 & HWY. 17/92
- SR 434 & Markham Woods Rd.
- Seminole State College Altamonte Campus

KnightLYNX

1. **KnightLYNX Red (Link 212):** This line covers West Orlando area as it passes along Alafaya Tr. and the 408 Expressway towards downtown coming from UCF Main Campus.

   Serves:

   - Knights Plaza (UCF Arena)
   - UCF Recreation & Wellness Center
   - The Edge Apartments
   - Campus Crossings (Alafaya)
   - Pegasus Pointe Apartment
   - Alafaya Village S.C.
   - Downtown Orlando
   - Alafaya Commons S.C. (Colonial Dr. Stop)
   - Alafaya Commons S.C. (Alafaya Trail Stop)
   - Campus Crossings (College Station)
   - Boardwalk Apartments
   - Lake Claire Apartments/Greek Park Drive

   Stops:

   1. UCF Arena
   2. Colonial Drive & Alafaya Trail
   3. South Street & Bumby Avenue
   4. Garland Avenue & South Street

2. **KnightLYNX Blue (Link 210):** This line covers areas in East Orlando as it passes along Alafaya Tr. to Waterford Lakes Town Center and then commutes back to UCF Main Campus.

   Serves:

   - Knights Plaza (UCF Arena)
   - UCF Recreation & Wellness Center
   - The Edge Apartments
   - Campus Crossings (Alafaya)
   - Pegasus Pointe Apartments
   - Alafaya Village S.C.
   - Waterford Lakes Town Center (1)
   - Waterford Lakes Town Center (2)
   - Woodbury Road
   - Alafaya Commons S.C. (Colonial Drive Stop)
   - Alafaya Commons S.C. (Alafaya Trail Stop)
   - Campus Crossings (College Station)
   - Boardwalk Apartments
   - Lake Claire Apartments/Greek Park Drive

   Stops:

   1. UCF Arena
   2. UCF Recreation Center
   3. Alafaya Trail & Colonial Drive
   4. Alafaya Trails & Waterford Lakes Parkway

3. **KnightLYNX Green (Link 211):** This line mainly covers UCF Main Campus area starting from the UCF Arena to McCulloch and then it goes along Alafaya Tr. toward Central Florida Blvd. ending up at UCF Main Campus.

   Serves:

   - Knights Plaza (UCF Arena)
   - Northgate Lakes Apartments
   - Tivoli Apartments
   - University Palms S.C.
   - Pegasus Landings S.C.
   - University Commons S.C.
   - Sterling Central Apartments
   - UCF Recreation & Wellness Center

   Stops:

   1. UCF Arena
   2. University Boulevard & Turbine Drive
   3. UCF Recreation Center

All three LYNX routes circle areas where off-campus student housing exists, as well as running along the edge of single family residential and commercial/retail areas in Orange and Seminole Counties. The routes provide the opportunity for the transit service to alleviate congestion on roadways potentially created by student vehicles going from off-campus areas to the University or associated service areas. KnightLYNX service also has three routes that facilitate the movement of UCF community members from various locations such as downtown Orlando and the locations surrounding the campus. KnightLYNX service is free for anyone with a valid UCF ID while other riders are charged the regular rate. These three lines serve both UCF community members and the public while maintaining a safe and reliable transportation option.

Figure 2.11-8 Existing Campus Transit Service shows all of the existing LYNX routes.

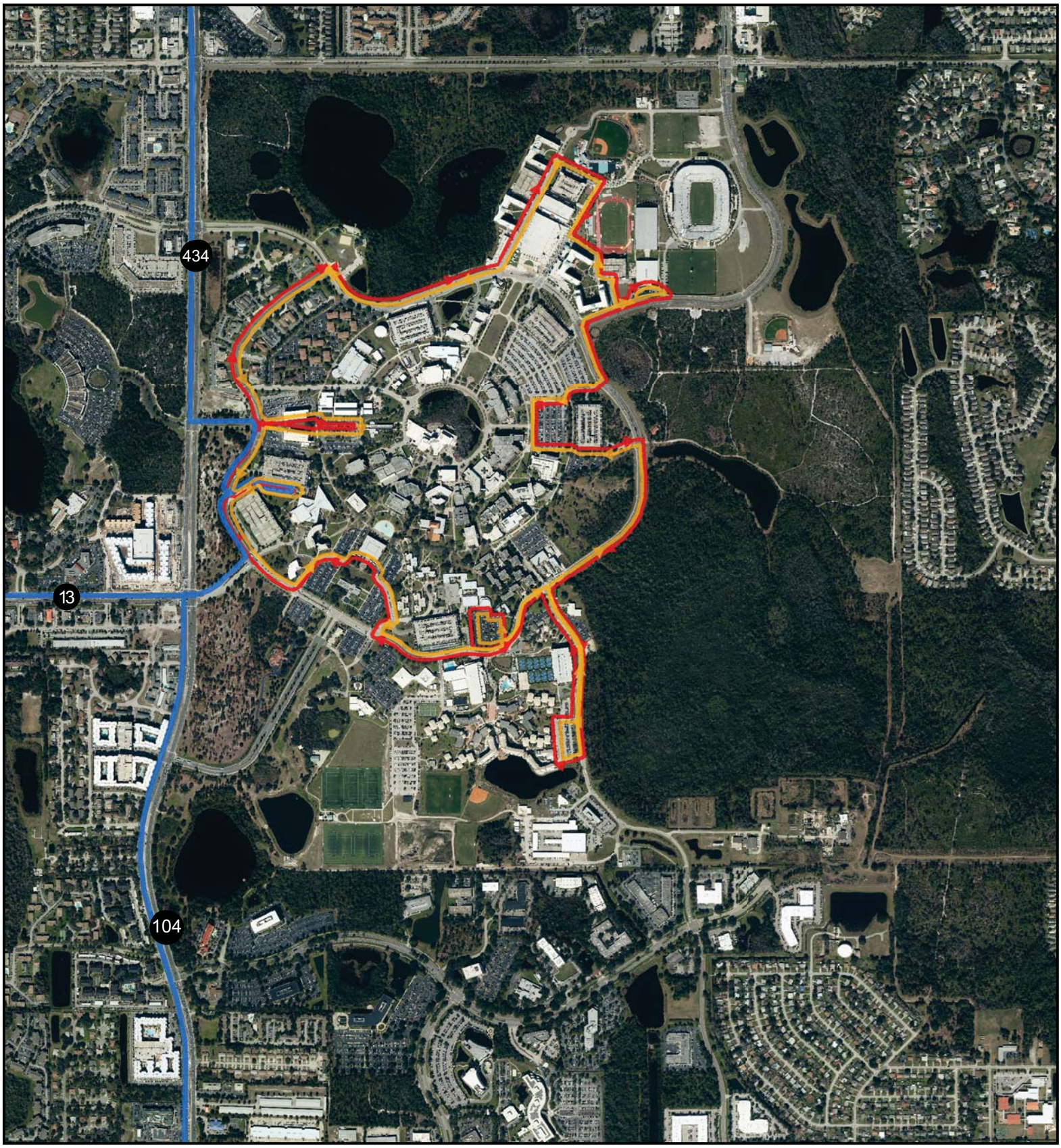


Figure 2.11-8

Existing Campus Transit Service

Comprehensive Master Plan Update
University of Central Florida
Orlando, Florida
2015-2025

Legend

- 13 Existing LYNX Routes
- Black Shuttle Route
- Gold Shuttle Route

N

All maps are diagrammatic and conceptual. The various areas shown are approximate and not to survey accuracy. The intent of these maps is to illustrate general areas of existing or potential use.

Rev. 20140414

0 1,110 2,220 4,440 Feet

Existing Campus Transit Shuttle

In addition to the LYNX and the KnightLYNX routes that service the UCF Campus, the University also maintains a fleet of approximately thirty-five (35) shuttle buses that service thirteen (13) off-campus transit routes to the surrounding student housing, two (2) on-campus routes, (1) route to the Rosen College of Hospitality Management, and one (1) route to the Health Sciences Campus at Lake Nona. These buses are air-conditioned and can carry a maximum of forty (40) passengers. The UCF Shuttle system provides a significant transportation alternative to the single passenger automobile. The UCF shuttle system carries approximately 13,500 riders per day during the 2013 fall semester. This equates to approximately 900 riders per day, per route.

The Rosen College of Hospitality Management and Health Sciences Campus routes provide a perfect transportation solution for students who attend these colleges. With nine round trips every day, the Rosen College shuttle bus provides a reoccurring transportation option for faculty, staff, and students to commute between the UCF Main Campus near the student union to their college. The Health Sciences route offers a convenient transportation mode from UCF Main Campus with eight round trips. This bus route stops near the physical sciences building and runs from the Biomolecular Research Annex to the UCF Main Campus until 10 pm.

To facilitate on-campus transportation for faculty, staff, and students, UCF offers two shuttles, Black and Gold, that operate on class days from 7 am to 7 pm. Shuttles on the gold route runs counter clockwise on Gemini Boulevard, while the black route runs clockwise on the same road offering convenience and easy mean of transportation.

The thirteen (13) off-campus routes that currently serve the surrounding student housing developments include:

UCF Shuttle

Route #1 Knights Circle:
Four buses travel along this route in a loop that starts and ends at the Student Union. Each bus turns right on Greek Park Dr. coming from Aquarius Agora Dr. towards Gemini Blvd. where it turns left and goes through Corporate Blvd. The first and second stops are Knights Cir. Apartment stop 5 and 6 which are reached by the bus as it turns right on Data Ct. They are then followed by stops 4 and 3 which are reached as the bus turns right on Knights Crossing Cir. Stops 2 and 1 are the last stops and they are reached through Golden Knight Cir. From which the bus exits to Corporate Blvd. back to Gemini Blvd. The bus then turns right on Greek Park Dr. followed by a left turn on Aquarius Agora Dr. to reach a stop at the Student Union.

Route #2 College Station/Boardwalk:
Two buses travel in a loop starting and ending at Millican Hall. After departure from Millican Hall, each bus makes a left turn on Gemini Blvd. S. followed by a right turn on

Central Florida Blvd. reaching Alafaya Tr. where the bus turns left. The bus travels along Alafaya Tr. passing Lokanotosa Tr. and then turning left on Renaissance Ct. to its first stop at College Station Apartments. Going to the second stop, the bus goes back on Alafaya Tr. towards UCF as it turns right on Boardwalk Dr. for the second stop at Boardwalk Apartments. On the way back to campus, the bus makes a right turn on Central Florida Blvd. from Alafaya Tr. and then makes a right turn on Gemini Blvd. by which it arrives to Millican Hall as it turns left on Andromeda Cir.

Route #3 The Edge/Arbor Apartments:
Three buses serve this route traveling in a loop with 4 stops. Departing from UCF/LYNX transit center, each bus turns right on Gemini Blvd W. towards Centaurus Dr. W. where it makes a left turn towards Alafaya Tr. The bus makes a left turn from that intersection passing University Blvd. until it reaches Mackay Blvd. where it turns right to the first and second stops at The Edge Apartments and Arbour Apartments. After that, the bus continues to the next two stops on Wagon Rd. which are also in Arbour Apartments Complex. Going back to Alafaya Tr. the bus turns right on Mackay Blvd. reaching Aalafaya Tr. where it is forced to make a right turn and then a U-turn at the first intersection going back to UCF. On University Blvd. the bus makes a right turn followed by a left turn on Gemini Blvd. and then another right turn to where the UCF/LYNX transit center is located.

Route#4: Alafaya Club/Campus Crossings/The Pointe at Central:
Four buses operate on this route starting from Millican Hall and stopping at three student housing complexes before it comes back to Millican Hall. Each bus makes a left turn on Gemini Blvd. towards Central Florida Blvd. where it turns right as continues to Alafaya Tr. Turning left from there, the bus proceeds to Lokanotosa Tr. where it turns right towards the first stop at Alafaya Club Dr. in Alafaya Club Apartments. Going back to Lokanotosa Tr., the bus after that turns right to Royal Wulff Ln. at the second stop of Campus Crossing Apartments. The last stop is at The Pointe at Central where the bus makes a right turn to College Park Tr. coming from Alafaya Tr. and then it makes a left on College Knight Ct. The way back to UCF campus is through Alafaya Tr. as the bus travels along the road and then it turns right at Central Florida Blvd. towards Gemini Blvd. where it makes another right and then left turn on Andromeda Cir. to reach Millican Hall.

Route # 5: Village At Science Dr./Human Resources
Two buses serve this route. They travel from the on-campus stop near the Student Health Center and depart the campus via Libra Drive, stopping at the Human Resources stop if any rider(s) desire. The buses turn right onto Research Parkway, left onto Technology Parkway, then right onto Science Drive. They enter VSD from Science Drive, and make the three designated stops therein. From VSD, the shuttles continue west on Science Drive into the Knights Landing property where there are two stops. They return to UCF via the same route, reversed, without stopping at VSD again. However, they will pick up and/or off-load passengers at the Human Resources stop on Libra Drive, if necessary.

Route # 6: Northgate Lakes/Tivoli Apartments
There are two buses on this route. They travel from the E1 Parking Lot stop located near the HPA, Engineering, and Business Administration buildings. They exit between Parking Lot E3 and the East Parking Garage onto to Gemini Boulevard, and turn left at the light. They continue east, and turn right onto North Orion Boulevard, then proceed to McCulloch Rd., where they turn left. Off McCulloch Rd, they make their first stop on this route inside the Northgate Lakes Apartments. From there, they turn right onto McCulloch Rd., then right again into the Tivoli Apartment complex, where there are two designated stops near the clubhouse. The shuttles return to UCF via McCulloch Rd. and North Orion Boulevard, back to E1 Parking Lot stop, approaching on Star Drive East.

Route # 7: Collegiate Village Inn
One bus serves the Collegiate Village Inn (CVI) route. Its on-campus stop is the Transit Center. From there, it travels outbound onto Alafaya Trail, proceeding south on University Boulevard. It turns left into CVI on Collegiate Drive, making its stop at the one designated pick-up/drop-off point at the entrance to the main office building and apartments. The shuttle then returns to the UCF Transit Center via the same route, reversed.

Route # 8: Riverwind Apartments
Two buses serve this route. They use the same on-campus stop as the Route 6 Shuttle, traveling from the E1 Parking Lot stop via Gemini Boulevard East and North Orion Boulevard onto McCulloch Rd. After turning left on McCulloch Rd, the shuttles proceed west to Alafaya Trail and turn right. Then they travel on to the Riverwind Apartments approximately one mile to the north. The shuttles stop inside the center of the property there, as well as at the entrance, as necessary. They return to UCF via the same route, reversed, to the E1 Parking Lot stop, making their approach on Star Drive East.

Route # 9: Research Park, Knights Landing
This route uses two buses, and it is the only route that is dedicated exclusively to Central Florida Research Park (CFRP). Nine stops in CFRP serve seven (7) entities there. They include the stop at UCF Human Resources on Libra Drive. The on-campus pick-up/drop-off point for this route is co-located with the Route 5 Stop at the Libra Drive terminus near the Student Health Center. The other CFRP stops are the Orlando Tech Center (OTC) (3 stops), and one each at Partnership Buildings I and II (PI & PII), the Institute for Simulative Training (IST), the Research Pavilion (RP), and the Bio-molecular Research Annex (BRA). From campus via Libra Drive, the shuttles will stop at HR, if necessary, before turning right onto Research Parkway. Then they make three stops at OTC, as necessary, before proceeding on to the IST stop. From there, they begin the return trip to UCF, stopping route at PI on Technology Parkway, PII and RP on Research Parkway, and BRA at the intersection of Research Parkway and Discovery Drive. They will also stop at HR on Libra Drive, as necessary.

Route #10: The Lofts/Orion on Orpington:
Two buses serve this route departing from UCF/LYNX transit center. Going towards

Alafaya, the bus turns right on Gemini Blvd. and then turns left on Centaurus Dr. Driving along Alafaya Tr., the bus makes a left turn on Orpington St. where it stops at Orion on Orpington Apartments. Two more stops are designated for this bus at Loftway Cir. which are The Lofts Apartments stop 1 and 2. The bus then drives back to Alafaya Tr. as it turns right on University Blvd. towards Gemini Blvd. and then it turns left from there to reach the right turn entrance of the UCF/LYNX transit center.

Route #11: Sterling University Central:
Two buses travel in a loop route serving Sterling University Central Apartment complex starting and ending at UCF/LYNX transit center. Coming out from UCF campus, the bus takes Gemini Blvd. and then Centaurus Dr. reaching Alafaya Tr. where it turns left. The first stop is reached as the bus turns right on Sterling University Ln. and then it departs back to UCF/LYNX transit center using Central Florida Blvd. and Gemini Blvd. passing University Blvd. then makes a right turn.

Route #12: University House Central Florida:
Two buses are designated to serve two communities coming back and forth from Millican Hall. The bus leaves Millican Hall by turning left on Gimini Blvd. and then it turns right on Central Florida Blvd. reaching Alafaya Tr. where it makes a left turn. The first community, University House, has two stops that are served by this bus which are located on Coed Dr. and Tudo Dr. After that, the bus makes a third stop at Campus Crossing Apartment Complex located on Royal Wulff Ln. which is reached through Lokanotosa Tr. The final trip goes from Lokanotosa Tr. to Central Florida Blvd. where the bus turns right towards Gemini Blvd. and then it makes another right turn to arrive at Millican Hall.

Route #13: NorthView:
One bus serves this route which covers the north area of the campus. Starting from CoHPA/Engineering bus stop, the bus travels on Gemini Blvd. towards N. Orion Blvd. and then it makes a right turn to reach McCulloch Rd. The bus passes the intersection of N. Orion Blvd. and McCulloch Rd. and then makes a right turn to the first stop at North View Apartment Complex. Traveling on Lockwood Blvd., the bus goes back to campus using N. Orion Blvd. and Gemini Blvd. to reach the CoHPA/Engineering bus stop.

Rosen College of Hospitality
Two busses operate from UCF Main Campus at the Student Union near stop no.1 on Aquarius Agora Drive to the Rosen College. This service is offered only on weekdays except Friday. In addition, it serves disabled patrons with an in advance contact.

Health Sciences Campus
Three busses are performing round trips from UCF Main Campus to the Health Sciences Campus at Lake Nona. The busses depart from the Physical Sciences building at UCF Main Campus and stops on their way to the Health Sciences Building at the Biomolecular Research Annex. This route serves students traveling from Laureate Blvd. (Health Sciences Building) to stop no. 9 at the UCF Main Campus.

Black and Gold

The Black and Gold routes stops:

1. Burnett Honors
2. Lake Claire Apartments
3. CFE Arena/Tower Apartments
4. COHPA/Engineering/Optics
5. Nike/Hercules/Neptune Communities
6. Marketplace/Student Resource Center
7. Welcome Center/Millican Hall
8. Teaching Academy/Welcome Center
9. Transit Center/Education Complex

UCF offers various options for faculty, staff, and students, faculty to transport on campus and off campus by providing UCF shuttle busses, Rosen College route, Health Sciences route, and Black and Gold bus lines. Using these free and convenient transportation modes would save UCF community members money, and money in addition to creating a stress free environment. Thirteen shuttle busses cover the locations where the majority of students live or commute to. Students of the Hospitality and Health Sciences colleges will be encouraged to rely on these free charge shuttles instead of driving their personal vehicles. In addition to UCF shuttle busses, Black and Gold on campus routes alleviate roadway congestion inside the campus which encourage students to use the shuttle on campus instead of using their personal vehicles. The two routes provide an alternative transportation option for faculty, staff, and students with 8 strategic bus stops around campus. Both on campus lines run also in Summer semesters from 7 pm to 4 pm except Saturdays.

Table 2.11-8 details the average ridership of all UCF shuttles for the 2013 fall semester. A review of Table 2.11-8 clearly shows that a significant portion of the University's faculty, staff, and students arrive each day via the shuttle system. This transit option significantly reduces the overall impact of the University on the surrounding roadway network.

Figure 2.11.9 Off-Campus UCF Shuttle Map shows all thirteen of the UCF Off-Campus Shuttle Routes.

Table 2.11-8 Average UCF Shuttle Ridership, Fall, 2013

Route No.	Route	Month					Total	Average Daily Ridership per Route
		August	September	October	November	December		
1	Knights Circle	39,829	70,525	77,283	50,223	14,508	252,368	3,658
2	College Station/Boardwalk	7,361	14,529	601	8,216	1,870	32,577	472
3	The Edge/Arbour	8,350	15,236	16,334	10,554	3,373	53,847	780
4	Alafaya Club/Campus Crossing/The Pointe at Central	17,481	33,011	30,529	25,059	7,567	113,647	1,647
5	Science Drive/Human Resources	6,958	14,246	15,269	9,933	2,770	49,176	713
6	Northgate/Tivoli	9,998	16,250	14,529	10,691	2,360	53,828	780
7	Collegiate Village Inn	1,781	4,029	4,470	2,867	904	14,051	204
8	Riverwind	4,949	9,632	9,029	5,667	1,639	30,916	448
9	Knights Landing/Research Parkway	3,977	7,011	7,463	5,363	1,536	25,350	367
10	Lofts/Orion Orpt.	8,357	14,806	15,992	10,535	2,631	52,321	758
11	Sterling	9,472	19,811	21,173	12,974	3,556	66,986	971
12	University House	12,927	20,610	22,577	14,722	3,764	74,600	1,081
13	Northview	6,043	9,173	6,818	9,658	2,946	34,638	502
B&G	Black and Gold Line	1,036	1,730	1,884	1,512	333	6,495	94
HSC	Health Sciences Campus	1,222	1,142	1,387	1,016	375	5,142	75
RC	Rosen College of Hospitality	10,211	20,469	21,126	14,142	3,439	69,387	1,006
Totals		149,952	272,210	266,464	193,132	53,571	935,329	
No. of Days of Service Per Month		12	20	12	18	7	69	
Average Daily Ridership		12,496	13,611	22,205	10,730	7,653	**13,555**	

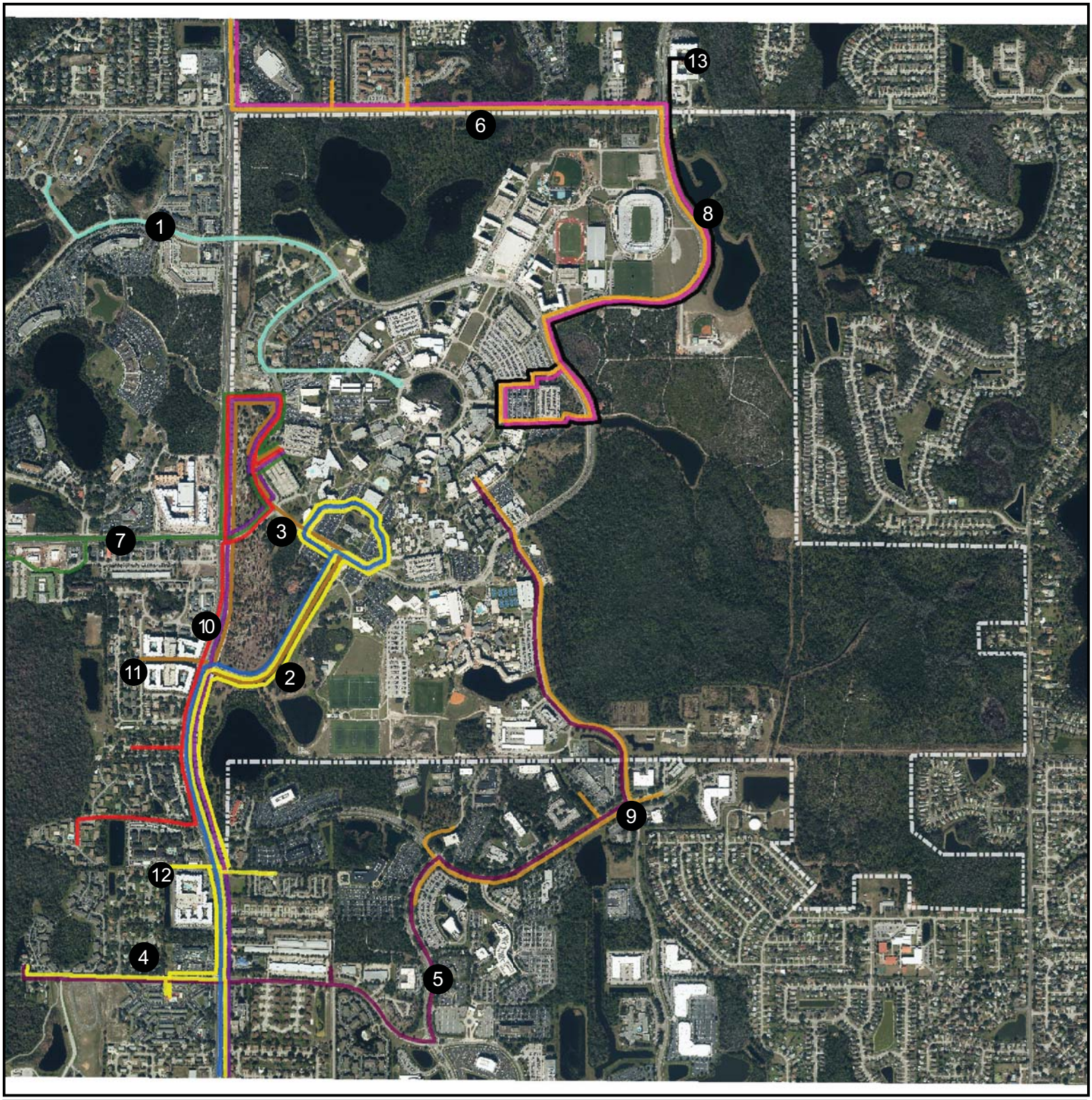


Figure 2.11-9

Off-Campus UCF Shuttle Map

Comprehensive Master Plan Update
University of Central Florida
Orlando, Florida
2015-2025

Legend

- 1 Knights Circle
- 2 College Station/Boardwalk
- 3 The Edge/Arbour Apartments
- 4 Alafaya Club/Campus Crossings /The Pointe at Central
- 5 Village at Science Dr./Human Resources
- 6 Northgate Lakes/Tivoli Apartments
- 7 Collegiate Village Inn
- 8 Riverwind Apartments
- 9 Research Park/Knights Landing
- 10 The Lofts/Orion on Orpington
- 11 Sterling University Central
- 12 University House Central Florida
- 13 NorthView

N

All maps are diagrammatic and conceptual. The various areas shown are approximate and not to survey accuracy. The intent of these maps is to illustrate general areas of existing or potential use.

Rev. 20140414

0 1,515 3,030 6,060 Feet

E. *Bicycle and Pedestrian Circulation*

A key part of the University's multi-modal transportation system is the pedestrian and bicycle network. Since most faculty, staff, and students walk between their destinations once on campus, it is important that a highly developed network exist that will allow for this circulation. To that end, the University has developed an intricate network of bicycle/pedestrian paths throughout the Campus. Figure 2.11-10 illustrates the location of the bicycle/pedestrian network on campus. This network is anchored with three concentric paths, as well as connecting paths that crisscross the campus and connect at significant pedestrian generators, such as academic buildings, parking facilities and on-campus residential units.

The bicycle/pedestrian network is key to ensuring that all of the other modes that access the Campus, such as personal vehicles (via parking facilities) and transit are utilized to their fullest extent.

To that end, the University has made significant investments in ensuring that the facilities necessary to encourage pedestrian and bicycle activity are in place, are aesthetically pleasing and are safe to use. These facilities see a great deal of use due to the large student population, as well as the active group of bicycle enthusiasts who enjoy the campus' scenic environment.

Other Bicycle Facilities

As noted above, bicyclists are able to use the walkway network throughout campus. In addition, most of the buildings that have significant student involvement also have one or more bicycle racks located at their entrances. As of the Spring 2014 semester, the University has provided bicycle racks for approximately 6,500 bicycles throughout the campus. UCF's Parking and Transportation Services provides an interactive map for the locations of the bicycle racks around the campus. The interactive map is located at: http://map.ucf.edu/bikeracks/.

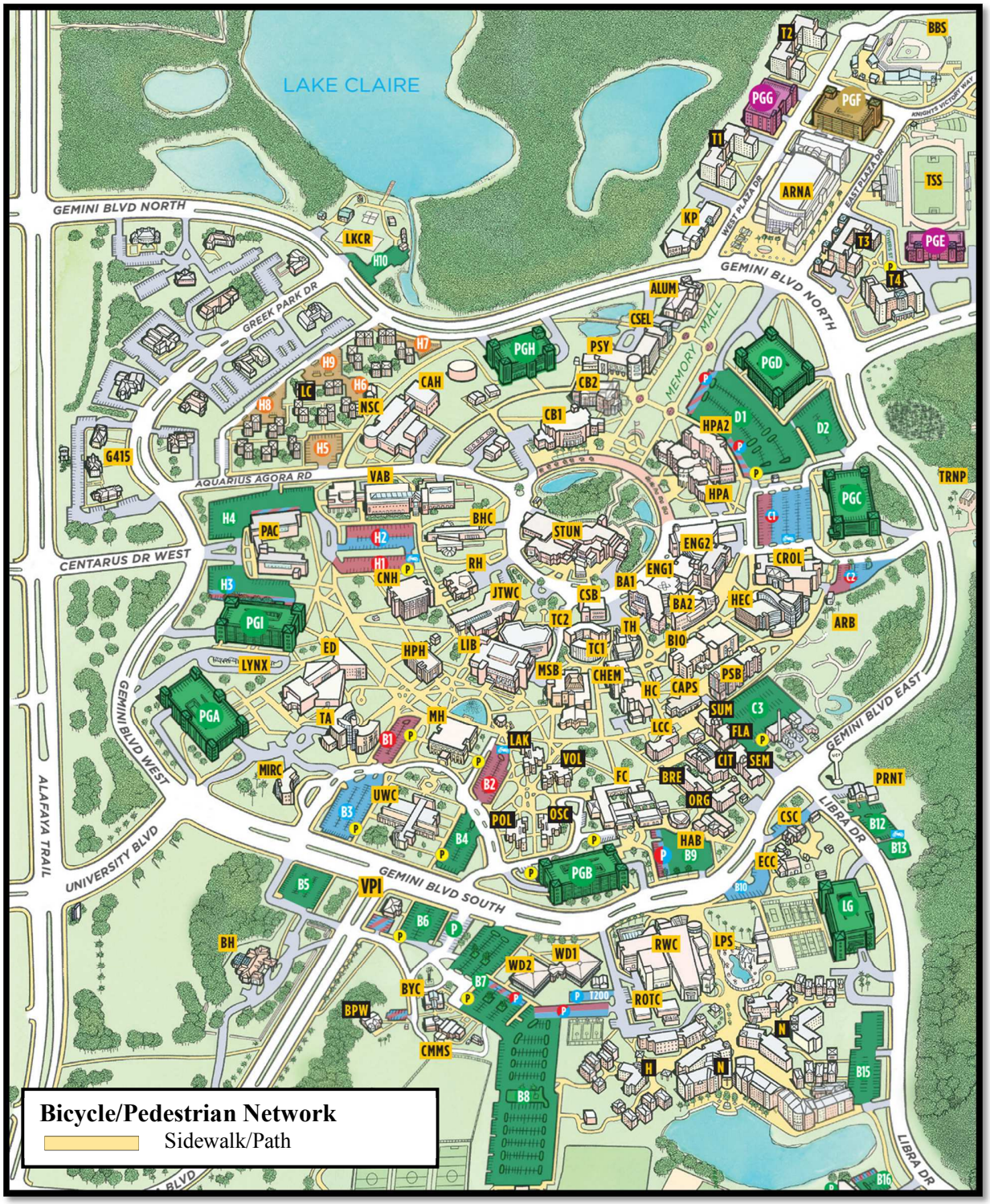


Figure 2.11-10 UCF Campus Map Detailing Bicycle/Pedestrian Network

F. *Other Mobility Options*

The University has been developing various mobility options to the use of the single-occupant vehicle and has been working to increase the student housing-to-enrollment balance within the context area. The primary mobility options and strategies to reduce the dependence upon the personal automobile offered by the University include enhanced transit service from businesses and residences off-campus and enhanced connectivity on-campus via pedestrian and bicycle facilities. In support of the enhanced bicycle facilities, the UCF Student Government Association in conjunction with the Student Union has a bike share program in place that allows students the daily rental of bicycles at two locations, the Student Union and the Recreation and Wellness Center. Another popular mobility option is the University's campus shuttle, with on-campus headways of 10 minutes or less during peak-periods and special events and off-campus headways of 15 minutes to University-affiliated housing in the context area. The University has identified residential concentrations of students in need of convenient transit routes, increased transit service, decreased bus headways, developing additional new routes, or modifying existing routes as deemed appropriate by the University.

Zipcar and ZimRide

Alternative transportation, such as Zimride and Zipcar offers driving solutions for the UCF community.

Zipcar is a membership-based car sharing company providing automobile reservations to its members billable by the hour, or day. It is an alternative to traditional car rental and car ownership. To date, over 750 University of Central Florida members actively participate in the service. There are six (6) existing Zipcar vehicles on campus located in lots B9, H4, and Garage G.

The University is committed to car-sharing for the reasons outlined below:

- helps to preserve the environment by reducing traffic congestion (every Zipcar reserved helps keep 15 vehicles off the road and helps reduce carbon dioxide);
- provides economical, stress-free, convenient, and safe alternative transportation for our faculty, staff, and students;
- promotes ridesharing and saves money on gasoline while reducing wear and tear on personally owned vehicles;
- enhance quality of life through the solution of alternative transportation provided by Zipcar.

In 2010, Student Government Association and Parking and Transportation Services initiated a ride sharing program called Zimride. This complimentary program offers faculty, staff, and students the flexibility to share rides to various destinations while using social networking. To date, 3,300 utilized the complimentary ride sharing program on http://zimride.ucf.edu/.

In summation, the UCF's transportation system reduces the demand for parking facilities on campus, gasoline consumption, carbon footprint, and traffic congestion on roads.

The University has also implemented park and ride lots within the context area. UCF shuttles continuously transport passengers every 15 minutes from Partnership II and the Orlando Tech Center to the University Health Services parking lot stop, with return shuttles approximately every 15 minutes. Furthermore, the University provides high-quality transit, bicycle, and pedestrian options for travel between residential areas and parking lots to other on-campus destinations. The University, in conjunction with LYNX continues to improve regional and campus transit service to, from, and within the University. The data collected shows the ridership throughout the academic school year, as well as the routes and locations of stops. Dormitories, visitor parking area, and campus parking lots are also connected to other campus destinations via a network of pedestrian walkways and bicycle paths as illustrated in Figure 2.11-10. Additionally, the University provides bicycle racks adjacent to classroom buildings and prohibits all non-service vehicles within the 1,200 ft Radius Sidewalk. The University has also adjusted class scheduling to mitigate peak-hour traffic conditions and maximize utilization of existing transportation infrastructure.

In a way to facilitate and increase UCF Shuttle ridership, shuttle buses are easily tracked through a website that offers a GPS locator for all of the busses. The website provides the estimated arrival/departure time, bus stop location, vehicle number, and direction of each bus to guarantee the process of transporting students in a timely manner. That service is provided by Unified Dispatch on this link: http://udishadow.veoliavision.com/UCF/.

The University actively promotes Transportation Demand Management (TDM) techniques both on-campus and in the context area. The University has implemented, where appropriate, TDM strategies, including, but not be limited to:

- flex scheduling for University staff;
- improved utilization of public or University-provided transit services;
- improved pedestrian and non-vehicular facilities;
- increased number of students living on or within walking/biking distance of campus;
- academic scheduling modifications; and
- traffic operational improvements to the on-campus roadway system, such as additional signalization and implementation of the SCOOT system.

The University also plans to study the effectiveness of distance learning (cable or internet classes) as a technique to reduce the need for students to travel to the University. The University has also opened a satellite campus, the Rosen School of Hospitality Management, which significantly reduces the commute from the tourist-related areas of the community to the campus.

G. *Intercollegiate Athletic Complex*

The Intercollegiate Athletic Complex is a mixed-use development located on the northern end of the campus. The Intercollegiate Athletic Complex was a major investment in on-campus athletic facilities to improve the quality of UCF's athletic programs and includes a 45,000 seat stadium which hosts UCF football games six to seven times a year. Although the football stadium is a special trip generator which does not occur in peak hour conditions, the impacts of the Intercollegiate Athletic Complex have been incorporated in the previous sections of this element,

Also in the north area, the convocation center includes three parking garages, 2,006 student residential units, and various retail and commercial spaces that generate traffic on a daily basis.

For the purposes of accommodating traffic generated by the stadium, the University has taken several measures to improve the flow of traffic entering and exiting the campus on game days. These techniques include guide signing programs, post-game activities to decrease traffic peaks, and the reversal of travel lanes, which doubles the capacity of a roadway by restricting traffic flow in all lanes to one direction.

In addition to the special generation produced by the football games, the UCF Arena also hosts over 200 on campus events per year. Major events that occur on-campus and require coordination of guest parking include, but are not limited to commencements, basketball and football games, and concerts. UCF garages and surface parking lots were successful in accommodating the guests of all the events with efficiency.

3.0 FUTURE CONDITIONS

H. *Future Socioeconomic Conditions*

The main campus of the University of Central Florida has been growing at a rapid pace over the last ten years and the enrollment numbers are anticipated to continue growing for the near and mid-term planning horizons, although actual growth has slowed due to enrollment caps and decreasing growth trends in Florida high school graduates. Based on current projections, the student population on the main UCF Campus is projected to approach 56,061 full time students on the Main Orlando Campus by 2025. Table 2.11-1 (shown below) illustrates the current growth projections for the main campus.

Table 2.11-1 UCF Projected Attendance for the Main Orlando Campus

Year	Orlando Campus Annual FTE*	Orlando Campus Fall Headcount**
2014-15	22,946	49,923
2015-16	22,890	50,714
2016-17	23,128	52,026
2017-18	23,484	53,295
2018-19	23,661	54,288
2019-20	23,661	54,155
2020-21	23,646	54,163
2021-22	23,833	54,577
2022-23	24,038	54,917
2023-24	24,237	55,241
2024-25	24,591	56,061

Source: UCF FTE Enrollment Program

I. *Committed Transportation Improvements*

Future Roadway Improvements

Based on the Metroplan Orlando Transportation Improvement Program (YR 2013/2014 – 2017/2018) and the Seminole County Public Works Department, there are no programmed improvements for the external facilities located in the context area.

The University has also been proactive in constructing on-campus roadway improvements as they have become needed. The Libra road widening is due to begin construction in Spring 2015. In Phase 1, an eastbound right turn will be constructed at the intersection of Gemini Blvd. and Libra Rd. and Libra Dr. will be widened to 4-lanes from Gemini Blvd. to the Libra Garage. Libra Dr. between Gemini Blvd. South and Discovery Dr. is part of a known cut-through route and has significant right-of-way constraints due

to existing facilities specifically at the southern end of Libra Dr. approaching the intersection at Discovery Dr. and conservation land on the east side of the road. These issues will be addressed in Phase II of the Libra Dr. widening project.

Future Parking Facilities

Most recently the University has constructed Garage I, Libra Garage and several new surface parking lots. In an effort of seeking to accommodate the growth of the campus as well as making the most efficient use of the University's property, UCF is also planning to construct two (2) additional parking facilities, Garage VII will be located along Central Florida Blvd. near the Visitor's Center and Global UCF Garage will be located on the North East quadrant of the campus.

Figure 2.11-11 Existing and Planned Parking Structures illustrates the existing and planned parking structures on the UCF Campus.

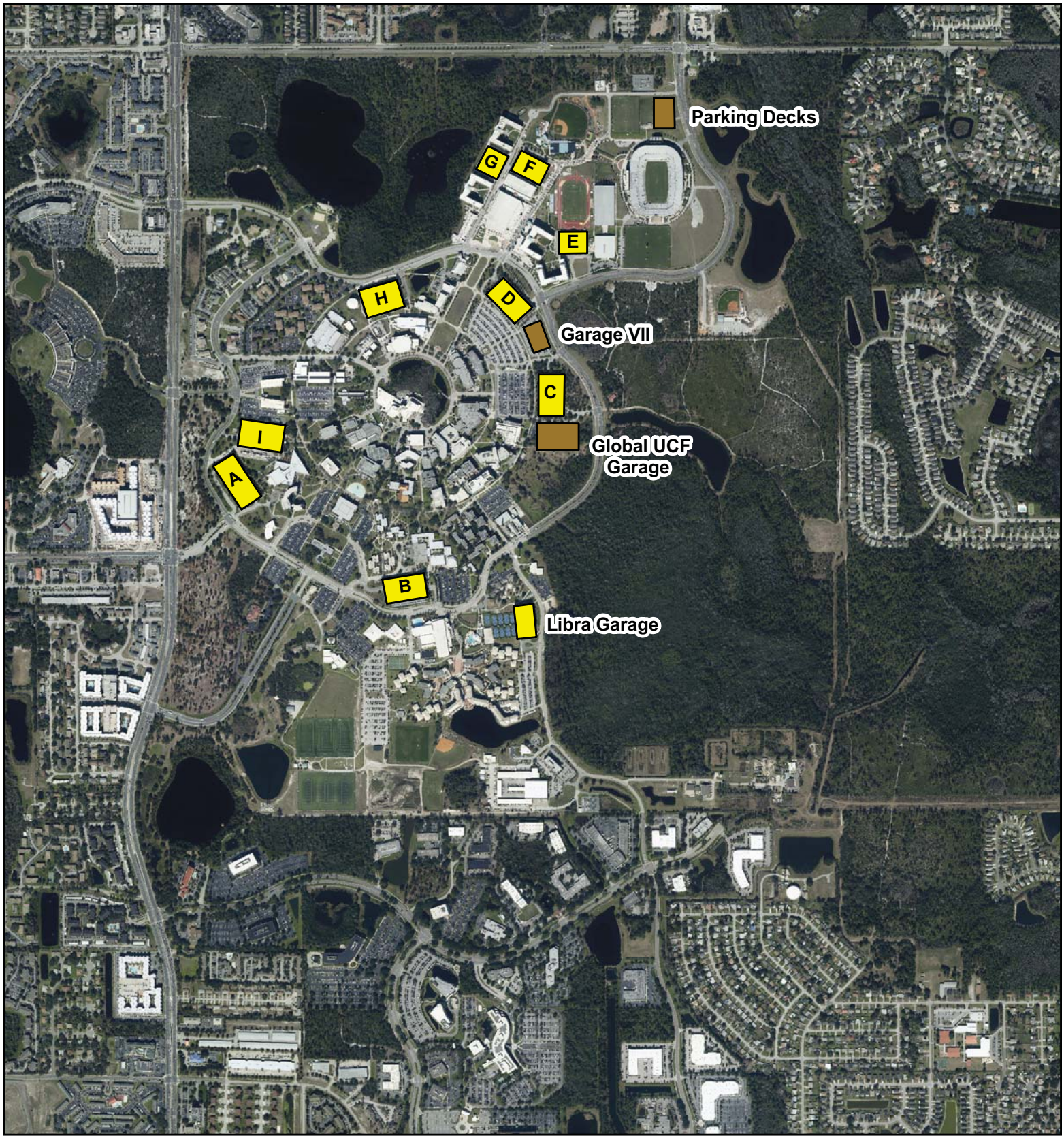


Figure 2.11-11

Existing and Planned Parking Structures

Comprehensive Master Plan Update
University of Central Florida
Orlando, Florida
2015-2025

Legend

- Existing Garage
- Planned Garage

N

All maps are diagrammatic and conceptual. The various areas shown are approximate and not to survey accuracy. The intent of these maps is to illustrate general areas of existing or potential use.

0 1,290 2,580 5,160 Feet

Rev. 20140512

J. *Horizon YR 2020 Roadway Conditions*

YR 2025 Offsite Roadway Analysis

Pursuant to Florida Statutes (FS) 1013.30(3) an analysis of the projected impacts of development on offsite infrastructure was conducted for horizon YR 2025. Similar to the existing roadway analysis, the YR 2025 Roadway Analysis was conducted for all offsite roadways within the context area. Growth rates were derived based on a comparison of historical traffic counts obtained from either the Orange County or Seminole County Annual Count Programs and growth rates obtained from the Orlando Urban Area Transportation Study (OUATS) model. Growth rates were then applied to the existing traffic counts to project future traffic volumes.

As shown in the Table 2.11-9, several roadways are projected to operate under adverse conditions based on the maximum service volumes provided in the 2012 FDOT Quality/Level of Service Handbook. It should be noted that these roadways will operate adversely with or without the anticipated trips generated by the campus student population growth; hence these roadways should be indentified as pre-existing deficiencies. As the University and the surrounding area continue to grow, the appropriate measures should be taken to ensure that the roadway facilities are concurrent with the traffic demands. The surrounding jurisdictions will monitor these roadways through the concurrency management systems, and if deemed necessary, conduct more detailed roadway analyses utilizing FDOT ARTPLAN software which provides a roadway specific maximum service volume.

Table 2.11-9 Horizon YR 2025 Offsite Roadway Conditions

Road Name	From	To	Roadway Characteristics						YR 2025 Background Traffic				UCF Trips Generated by Enrollment Growth			YR 2025 Total Trips				YR 2025 Traffic Conditions Comparison		
			No. of Lanes	Adopted LOS	Adopted Pk Hr. LOS Capacity	K100	D	Growth Rate	Daily	PM Peak	V/C	Pre-Existing Deficiency (Yes/No)	YR 2025 Distribution (%)	Daily Project Trips	PM Peak Project Trips	Daily	PM Peak	V/C	Deficiency (Yes/No)	YR 2025 Background V/C	YR 2025 Total V/C	Additional Deficiency Created (Yes/No)
Alafaya Trail (SR 434)	Colonial Drive (SR 50)	Science Drive	6LD	E	3,020	0.072	0.56	1.00%	68,247	2,732	0.90	No	21.07%	669	27	68,916	2,759	0.91	No	0.90	0.91	No
	Science Drive	University Boulevard	6LD	E	3,020	0.072	0.56	1.00%	68,247	2,732	0.90	No	24.12%	766	31	69,013	2,763	0.91	No	0.90	0.91	No
	University Boulevard	McCulloch Road	6LD	E	3,020	0.086	0.68	1.00%	53,504	3,129	1.04	Yes	80.50%	2557	150	56,061	3,278	1.09	Yes	1.04	1.09	No
	McCulloch Road	Chapman Road	6LD	E	3,020	0.090	0.53	1.00%	42,940	2,041	0.68	No	13.42%	426	20	43,366	2,061	0.68	No	0.68	0.68	No
Central Florida Boulevard	Alafaya Trail (SR 434)	Gemini Boulevard	4LD	E	1,530	0.085	0.51	1.00%	12,354	528	0.35	No	18.15%	577	25	12,931	553	0.36	No	0.35	0.36	No
Centaurus Drive	Alafaya Trail (SR 434)	Gemini Boulevard	4LD	E	1,530	0.098	0.81	1.00%	7,184	568	0.37	No	0.53%	17	1	7,201	570	0.37	No	0.37	0.37	No
Chapman Road	Aloma Avenue	Alafaya Trail (434)	4LD	E	2,000	0.112	0.58	1.00%	19,389	1,253	0.63	No	3.07%	98	6	19,487	1,259	0.63	No	0.63	0.63	No
Colonial Drive (SR 50)	Rouse Road	Alafaya Trail (434)	4LD	E	2,000	0.065	0.53	1.00%	52,476	1,801	0.90	No	5.56%	177	6	52,653	1,807	0.90	No	0.90	0.90	No
Discovery Drive/ Libra Drive	Research Parkway	Gemini Boulevard	2L	E	720	0.100	0.56	1.00%	15,597	868	1.21	Yes	13.44%	427	24	16,024	892	1.24	Yes	1.21	1.24	No
Gemini Boulevard	Central Florida Boulevard	University Boulevard	4LD	E	1,530	0.093	0.55	1.00%	18,668	957	0.63	No	18.26%	580	30	19,248	986	0.64	No	0.63	0.64	No
	University Boulevard	Centaurus Drive	4LD	E	1,530	0.098	0.68	1.00%	14,228	949	0.62	No	20.00%	635	42	14,863	992	0.65	No	0.62	0.65	No
	Alafaya Trail (SR 434)	Greek Park Drive	4LD	E	1,530	0.083	0.58	1.00%	16,237	786	0.51	No	14.12%	449	22	16,686	808	0.53	No	0.51	0.53	No
	Greek Park Drive	N. Orion Boulevard	4LD	E	1,530	0.094	0.50	1.00%	16,673	790	0.52	No	23.90%	759	36	17,432	826	0.54	No	0.52	0.54	No
	N. Orion Boulevard	Libra Drive	4LD	E	1,530	0.097	0.72	1.00%	18,134	1,266	0.83	No	20.74%	659	46	18,793	1,312	0.86	No	0.83	0.86	No
Gemini Boulevard East	Libra Dr.	Scorpius St. (Star St.)	4LD	E	1,530	0.097	0.59	1.00%	23,806	1,350	0.88	No	0.29%	9	1	23,815	1,351	0.88	No	0.88	0.88	No
Gemini Boulevard South	Andromeda Dr.	Hercules Dr.	4LD	E	1,530	0.090	0.52	1.00%	17,758	829	0.54	No	0.29%	9	0	17,767	829	0.54	No	0.54	0.54	No
Greek Park Drive	Centaurus Drive	Gemini Boulevard North	4LD	E	1,530	0.107	0.68	1.00%	10,033	729	0.48	No	9.77%	310	23	10,343	751	0.49	No	0.48	0.49	No
Lake Pickett Road	Colonial Drive (SR 50)	Percival Road	2L	E	880	0.082	0.75	1.00%	15,334	941	1.07	Yes	0.01%	0	0	15,334	941	1.07	Yes	1.07	1.07	No
	Percival Road	S. Tanner Road	2L	E	880	0.137	0.87	1.00%	10,419	1,238	1.41	Yes	0.16%	5	1	10,424	1,238	1.41	Yes	1.41	1.41	No
Lokanotosa Trail	Rouse Road	Alafaya Trail (434)	2L	E	800	0.111	0.63	1.00%	9,242	641	0.80	No	2.38%	76	5	9,318	646	0.81	No	0.80	0.81	No
Lockwood Boulevard	McCulloch Road	Oviedo City Limits	4LD	E	1,700	0.101	0.73	1.00%	17,889	1,324	0.78	No	7.17%	228	17	18,117	1,341	0.79	No	0.78	0.79	No
McCulloch Road	Alafaya Trail (SR 434)	Lockwood Boulevard	4LD	E	2,000	0.082	0.63	1.00%	30,148	1,557	0.78	No	5.53%	176	9	30,324	1,567	0.78	No	0.78	0.78	No
	Lockwood Boulevard	Old Lockwood Rd.	2L	E	880	0.084	0.66	1.00%	22,810	1,255	1.43	Yes	6.81%	216	12	23,026	1,267	1.44	Yes	1.43	1.44	No
N. Orion Boulevard	McCulloch Road	Gemini Boulevard	4LD	E	1,530	0.108	0.73	1.00%	14,612	1,145	0.75	No	15.22%	484	38	15,096	1,182	0.77	No	0.75	0.77	No
Percival Road	Tanner Road	Lake Pickett Road	2L	E	880	0.084	0.66	1.00%	7,102	392	0.45	No	0.21%	7	0	7,109	392	0.45	No	0.45	0.45	No
Rouse Road	Colonial Drive (SR 50)	Lokanotosa Trail	4LD	E	2,000	0.092	0.58	1.00%	22,254	1,196	0.60	No	5.65%	180	10	22,434	1,205	0.60	No	0.60	0.60	No
	Lokanotosa Trail	University Boulevard	4LD	E	2,000	0.103	0.53	1.00%	21,365	1,173	0.59	No	7.30%	232	13	21,597	1,186	0.59	No	0.59	0.59	No
	University Boulevard	Seminole County Line	4LD	E	2,000	0.095	0.64	1.00%	10,709	647	0.32	No	0.11%	3	0	10,712	647	0.32	No	0.32	0.32	No
University Boulevard	Rouse Road	Alafaya Trail (434)	6LD	E	3,020	0.082	0.51	1.00%	58,019	2,403	0.80	No	24.63%	782	32	58,801	2,435	0.81	No	0.80	0.81	No
	Alafaya Trail (SR 434)	Gemini Boulevard	6LD	E	2,304	0.089	0.57	1.00%	22,618	1,139	0.49	No	26.93%	856	43	23,474	1,182	0.51	No	0.49	0.51	No
W. Plaza Dr.	Knights Victory Way	N. Orion Boulevard	2L	E	720	0.078	0.52	1.00%	4,139	168	0.23	No	19.36%	615	25	4,754	192	0.27	No	0.23	0.27	No

Note:
This table includes roadway segments included within the context area, as shown in Figure 2.11-1
LOS service volumes based on the 2012 FDOT Quality/Level of Service Manual, Seminole County CMS, Orange County CMS
UCF Trips Generated by enrollment growth reflects the planned increase in student enrollment and the trip rate of 0.45 as determined between 2009 and 201

Multimodal Mobility Plan

An alternative analysis was conducted to identify the various methods the University is planning to continuously reduce the trip rate per student accessing the campus. These modal capture considerations include UCF shuttle ridership, Lynx Bus ridership, pedestrian and bicycle trips, park and ride areas, vehicle sharing, and high occupancy vehicle proposed parking. The projections for these considerations are based on existing data collected by UCF and consistent with the Goals, Objections, and Policies of the University to incorporate and promote the use of future alternative modes of transportation.

As shown in Table 2.11-10 and as utilized in Table 2.11-9, over the past five years, the University through its multimodal opportunities and travel demand strategies has produced a trip rate of 0.45 trips per student. This rate represents a 75% reduction from the ITE average rate of 1.71 trips per student.

As shown in Table 2.11-11, utilizing this trip rate and based on the YR 2025 enrollment projections the traffic generated by the University will increase by 3,177 daily trips over this Master Plan planning period. In order to not further exacerbate the traffic conditions on the surrounding roadways, the University has proposed to monitor and implement as necessary a multimodal mobility plan that encourages alternative modes of travel.

Table 2.11-10 UCF Trip Rate per Student (YR 2009 to YR 2014)

	YR 2009	YR 2014	Net Increase	**Trips per Student**
Students	42,150	49,000	6,850	**0.45**
Vehicle Trips	80,476	83,551	3,075	

Table 2.11-11 UCF Daily Vehicle Trips based on Enrollment Growth

	YR 2014	YR 2025	Net Increase
Students	49,000	56,061	7,061
Trips per Student	0.45		
Vehicle Trips	**83,551**	**86,728**	**3,177**

Internal and Multimodal Capture Projections

The following initiatives and strategies have been planned by the University to aid the increase multimodal capture. As discussed below, the University does not currently monitor all multimodal modes; therefore, the information presented below will be validated through the process of monitoring, surveying and conducting traffic counts as necessary.

On Campus Housing
Currently, approximately14.5% of the student population resides on campus. As the University approaches its goal of providing on campus housing for 16.5% of the student enrollment, the internal capture for the University will also increase.

Shuttle Ridership
Currently, UCF has a fleet of nearly 30 shuttle busses that account for an average daily ridership of approximately 13,500 riders per day. Based on the existing enrollment, this can be equated to approximately 28% of students attending the campus and approximately 16% of the average daily vehicles. The University currently has a new planned transit route to the Plaza on University student housing units which will increase this mass transit opportunity. The University should continue to provide transit service to all new communities within a one-mile radius of the campus.

Lynx Ridership
The University, in conjunction with LYNX continues to improve regional and campus transit service to, from, and within the University. To provide enhanced service, Link 47 is replaced with a new route for Link 434. This route will service the area north of the campus and the City of Oviedo specifically. It should also be noted that Link 104 now connects SunRail via the LYNX Central Station. The impact of this connection will be determined over the progression of this Master Plan planning period. The University will monitor ridership and develop a methodology for determining the optimal routes to serve the campus through surveys of current patrons and origin and destination studies. It is estimated that LYNX ridership accounts for approximately 3.5% modal capture under existing conditions. It is recommended that the University, in coordination with LYNX, provide the appropriate transportation plan to monitor, maintain, or potentially increase the 3.5% capture rate.

Pedestrian/Bicycle Facilities

At the current time the University does not monitor or quantify the existing amount of multimodal trips captured by pedestrians and cyclist. However, there are various planned improvements which should increase the connectivity and availability of bike/ped facilities in and around the campus. The Little Econ Greenway (LEG) Extension project (also known as the Innovation Way Trail and East Orange Trail) will provide a potential boost to this mode of travel. The existing Phase I of the LEG trail extends 4 miles from Blanchard Park to Goldenrod Road and features riverside recreation, picnicking, wildlife and horse and canoe trails. There are available parking areas on Harrel Road and Econlockhatchee Trail, just north of Colonial Drive. There is also a paved trailhead on the north side of 50, just east of Goldenrod Road. The LEG will eventually extend 10 miles linking the University of Central Florida to the Cady Way Trail, then to the Cross Seminole Trail system, through the City of Oviedo and back to Blanchard Park. While plans have not been completed, it is anticipated that the LEG extension will enter the UCF campus just south of Central Florida Boulevard and will skirt the southern edge of the existing recreational fields before joining the Libra Drive corridor. The trail will then follow the Libra Drive corridor north until it intersects with North Orion Boulevard, where it will turn north to McCulloch Road and out of the UCF Campus. Figure 2.11-12 Pedestrian and Bicycle Network shows all of the significant existing and planned pedestrian and bicycle facilities on the UCF campus.

It should also be noted that the FDOT is in the process of conducting a corridor planning study on Alafaya Trail from SR 50 (East Colonial Dr.) to McCulloch Road. The objective of this study is to evaluate several multimodal improvements that will transform Alafaya Trail into a walkable urban thoroughfare utilizing a context-sensitive approach. The study aims to increase intersection safety, improve transit access, improve crossing opportunities, and create safe and continuous bicycle and pedestrian facilities.

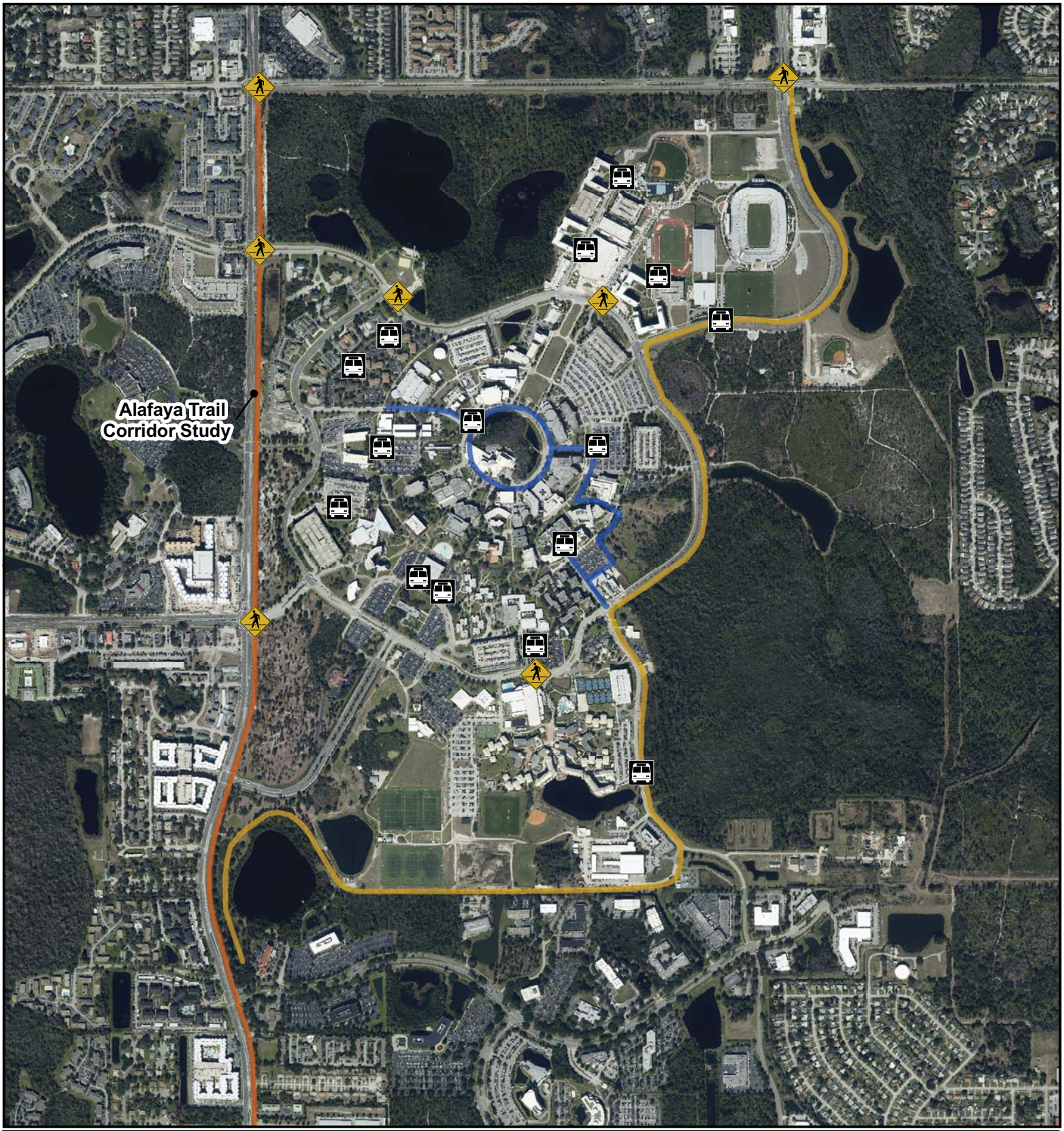


Figure 2.11-12

Pedestrian and Bicycle Network

Comprehensive Master Plan Update
University of Central Florida
Orlando, Florida
2015-2025

Legend

- Major Crossing Movements
- Proposed Little Econ Trail
- Pedestrian Activity Corridor
- Alafaya Trail Corridor Study
- Shuttle Stops

N

All maps are diagrammatic and conceptual. The various areas shown are approximate and not to survey accuracy. The intent of these maps is to illustrate general areas of existing or potential use.

Rev. 20140507

0 1,290 2,580 5,160 Feet

Park and Ride
As discussed in Section 2.0 of the Transportation Element, the University has implemented a park and ride area in Research Park for faculty, staff, and students to park their car and ride on the Black and Gold shuttle lines into the main campus.

Vehicle Sharing
There are currently two commuting and vehicle sharing alternatives utilized by the University. Zimride and Zipcar allow faculty, staff, and students with an alternate and convenient way to meet their transportation needs.

Zipcar is a membership-based car sharing company providing automobile reservations to its members billable by the hour, or day. Based on existing studies, it is estimated that every Zipcar reserved keeps fifteen (15) vehicles off the road. There are six (6) Zipcars available to use on a daily basis. These vehicles are strategically located in parking lot H4 and B9. In the last two years, three hundred (300) new members joined the Zipcar system.

Zimride, is a complimentary program which offers travelers the flexibility to share rides to various destinations while using social networking. For every ninety (90) days, about 140 new users join the Zimride community, which results in a significant decrease in the daily trips to and from the campus.

The University will continue to utilize these services to reduce the trips entering and exiting the campus on a daily basis.

Multimodal Mobility Plan

The University will play an integral role in ensuring that various modes of travel exist for the purposes of reducing the number of single occupant vehicles entering the campus, which in turn will reduce the number of vehicles utilizing the capacity of the surrounding offsite roadway network. The University will validate the assumptions made in this report and exemplify the results through the process of monitoring, surveying and conducting traffic counts as necessary. The University will also continue to coordinate with local jurisdictions and transportation authorities, while providing expansion of on campus and vicinity housing, and providing improved facilities to encourage multimodal travel (shuttle fleet, travel demand strategies, bike lanes, bike racks on campus, pedestrian networks).

GOAL 1: To achieve the goals, objectives, and policies of the UCF Campus Master Plan through the use and promotion of intergovernmental coordination with local, regional, state, and federal government entities.

OBJECTIVE 1.1: To promote land use compatibility between the University and the host local government through the coordination of the UCF Campus Master Plan with the comprehensive master plans of the host community.

POLICY 1.1.1: Proposed amendments to the Comprehensive Policy Plan of Orange County which have the effect(s) of changing land uses or policies that guide the development of land within the context area, affect the provision of local services, or otherwise impact University facilities or resources shall be submitted to the UCF Director of Facilities Planning and Construction for review and comment.

POLICY 1.1.2: The University shall establish, in conjunction with Orange County, a process for reciprocal review of comprehensive plans.

POLICY 1.1.3: Proposed amendments to the adopted Campus Master Plan which exceed the thresholds established in Chapter 1013.30(9), F.S., shall be transmitted to the Orange County Planning Division, East Central Florida Regional Planning Council, St. Johns River Water Management District, Florida Game and Fresh Water Fish Commission, Florida Department of Transportation, Florida Department of State, Florida Department of Environmental Protection, Florida Land Management Advisory Council, the State of Florida Department of Economic Opportunity , and other applicable governing bodies for review in accordance with the procedures established in Chapter 6C-21, Part 1, Florida Administration Code.

POLICY 1.1.4: Proposed amendments to the Campus Master Plan which do not exceed the thresholds established in Chapter 1013.30(9), F.S., and which have the effect of changing the manner in which development on campus may occur or impacting off-campus facilities, services or natural resources, shall be transmitted to the Orange County Planning Department for a courtesy review.

POLICY 1.1.5: The University shall meet with appropriate government entities, as needed, for review and comment on enrollment projections of the UCF Campus Master Plan, and to review appropriate elements of local government comprehensive plans by the University.

POLICY 1.1.6: Every effort shall be made to formalize the terms and conditions of the reciprocal plan review process through an inter-local agreement or memorandum of understanding.

OBJECTIVE 1.2: To establish administrative procedures and coordination mechanisms for the reciprocal review of campus and host community development plans.

POLICY 1.2.1: Whenever practical and reasonable, proposed development within the context area which has the potential to impact or affect University facilities or resources shall be submitted to the University's UCF Director of Facilities Planning and Construction for review. The areas for review would include land use, transportation, utilities infrastructure, and conservation.

POLICY 1.2.2: Whenever practical and reasonable, the UCF Director of Facilities Planning and Construction shall meet with local officials to establish the criteria and thresholds for development proposals, which would be subject to review by the University; for example, comprehensive plan amendments, rezoning, and special exceptions to context area properties. The construction or renovation of single-family homes, and other small-scale developments are to be excluded from review by the University.

POLICY 1.2.3: In Section 1013.30, F.S., the provisions of the UCF Campus Master Plan and associated Campus Development Agreement shall supersede the requirements of Part II of Chapter 163, F.S.

POLICY 1.2.4: University officials shall participate and cooperate with local officials in the review of proposed campus enrollment projections to assess potential impacts on local, regional, and state resources and facilities.

POLICY 1.2.5: Once the campus development agreement is executed, all campus development shall proceed without further review by the host local government if it is consistent with the adopted UCF Campus Master Plan and associated Campus Development Agreement.

POLICY 1.2.6: University officials shall participate and cooperate with local officials and representatives from appropriate regional and state agencies in the identification of appropriate strategies to mitigate the impacts of campus development on local, regional, and state resources and facilities.

POLICY 1.2.7: University officials shall participate and cooperate with local officials in the review of proposed development within the context area to assess potential impacts on University resources and facilities.

POLICY 1.2.8: When it is determined that enrollment projections on campus would have an adverse impact on local services, facilities or natural resources, University officials shall participate and cooperate with Orange County and other pertinent regional and state agencies in the identification of appropriate strategies to mitigate the impact consistent with the terms and conditions of the inter-local agreement.

POLICY 1.2.9: A Memo of Understanding, dated August 3, 2010 was executed between Orange County and UCF. This memo would require Orange County to transmit to the UCF Office of Facilities Planning and Construction any application for Development Order or Construction Permit within the designated context area surrounding the University which is subject to review under the policy above regarding establishment of criteria and thresholds for review of development proposals.

POLICY 1.2.10: When it has been determined that proposed development within the designated context area would have an adverse impact on the University's facilities and resources, UCF officials shall participate and cooperate with local, regional or state officials in the identification of appropriate strategies to mitigate the impacts on UCF facilities and resources.

POLICY 1.2.11: Any dispute between the University and a host or affected local government regarding the assessment or mitigation of impacts shall be resolved in accordance with the process established in Subsection 1013.30 (8), F.S.

OBJECTIVE 1.3: To assess and mitigate the impacts of on-campus development on the surrounding community, host and affected local governments, and service providers.

POLICY 1.3.1: As provided for in s. 1013.30, F.S., within 270 days after adoption of the UCF Campus Master Plan by the Division of Colleges and Universities, a draft UCF Campus Development Agreement shall be transmitted to appropriate host and affected local governments. This Agreement shall:

- identify geographic area covered by the Agreement;
- establish the duration of the Agreement (5-10 years);
- identify LOS Standards for public services and facilities, the entity to provide these services and facilities and any financial arrangements between the Division of Colleges and Universities and the service provides;
- determine impact of proposed campus development on identified public services and facilities and any deficiencies likely to occur as a result;
- identify facility improvements to correct deficiencies;
- identify the Division of Colleges and Universities' "fair share" of the costs of needed improvements; and
- be consistent with the adopted Campus Master Plan and host local government comprehensive plan.

POLICY 1.3.2: The Division of Colleges and Universities and host government shall execute the UCF Campus Development Agreement within 180 days after receipt of the draft agreement.

POLICY 1.3.3: Once the UCF Campus Development Agreement is executed, all campus development shall proceed without further review by the host local government if it is consistent with the Campus Development Agreement and the adopted Campus Master Plan.

POLICY 1.3.4: Once the Division of Colleges and Universities investigates its "fair share" for capital improvements as identified in the UCF Campus Development Agreement, all concurrency management responsibilities of the University and Division of Colleges and Universities shall be deemed to be fulfilled.

POLICY 1.3.5: Any dispute between the University and host local government which arises from the implementation of the UCF Campus Development Agreement shall be resolved in accordance with the process established in s. 1013.30 (16), F.S.

POLICY 1.3.5.6: In accordance with Senate Bill 1514 of the 2013 Legislative Session, notwithstanding subsections (10), (11), (12) and (13) of s 1013.30, Florida Statutes, and subsection (4) of s. 1013.51, Florida Statutes, the University may enter into a local development agreement with an affected host local government. This agreement would identify specific projects in the University's Campus Master Plan to be constructed by the University, for purposes of negotiating mitigation for the impact of such projects on the host local government.

OBJECTIVE 1.4: To use University facilities and resources as shelters and for the staging of emergency services for an emergency event.

POLICY 1.4.1: The University shall work closely with the Orange and Seminole Counties' Office of Emergency Management, the Sheriff's Department, the American Red Cross, and other relevant organizations to develop standards and operating procedures for the activation and operation of emergency shelters on campus to house on-campus and near-campus faculty, staff, and students.

POLICY 1.4.2: The University shall participate in emergency exercises to evaluate management plans and procedures.

OBJECTIVE 1.5: **To ensure the provision of adequate public services and facilities necessary to support development on campus and to meet the future needs of the University.**

POLICY 1.5.1: The University shall coordinate the provision of additional storm water management facilities consistent with General Infrastructure Element.

POLICY 1.5.2: The University shall coordinate the provision of additional potable water facilities consistent with the General Infrastructure Element.

POLICY 1.5.3: The University shall coordinate the provision of additional sanitary sewer facilities consistent with the General Infrastructure Element.

POLICY 1.5.4: The University shall coordinate the provision of additional solid waste collection facilities consistent with the General Infrastructure Element.

POLICY 1.5.5: The University shall coordinate the provision of additional electrical power and natural gas service consistent with Utilities Element.

POLICY 1.5.6: The University shall coordinate with appropriate authorities, such as the Expressway Authority, for transportation system improvements consistent with Future Land Use Element and the Transportation Element.

POLICY 1.5.7: The University shall coordinate pedestrian and non-vehicular circulation improvements consistent with the Transportation Element.

POLICY 1.5.8: The University shall coordinate the provision of affordable housing off-campus consistent with Housing Element.

OBJECTIVE 1.6: **To ensure the protection of natural, historical and archaeologically significant resources from the adverse impacts of development on campus.**

POLICY 1.6.1: The University shall coordinate the protection of environmentally sensitive areas, species, and natural resources consistent with the Future Land Use Element, the Conservation Element, and the Landscape Design Guidelines Element.

POLICY 1.6.2: The University shall coordinate the protection of historical and archaeologically significant resources consistent with the Future Land Use Element.

The University of Central Florida Intergovernmental Coordination Element promotes proper communication and coordination between the University and affected state and local governments. The rapid growth of the University means that increased development and infrastructure coordination with the host community and other governmental bodies, particularly Seminole County, will be vital to meet future needs in a planned and effective way. Per Florida law, "affected state and local governments" include the following entities:

Orange County
Seminole County
City of Oviedo
City of Orlando
St. Johns River Water Management District
Florida Department of Economic Opportunity
East Central Florida Regional Planning Council
Florida Department of Transportation
Florida Department of State
Florida Department of Environmental Protection
Florida Freshwater Fish and Wildlife Conservation Commission

Intergovernmental Coordination and the UCF Campus Master Plan Outreach Program

As reflected in the Goals, Objectives, and Policies, the University will continue to develop and implement its community outreach program with respect to the UCF Campus Master Plan. Currently, the University presents the plan at various phases throughout the update process in the form of public hearings, informal information sessions, and neighborhood groups meetings. The coordination process with local governments throughout the plan update is critical to ensure that all input is considered prior to the plan's final adoption.

Intergovernmental Coordination and the Campus Development Agreement

Per Section 1013.30 Florida Statutes, the University is required to enter into a Campus Development Agreement(s) (CDA) with local government(s) that addresses the impacts of University development on local government support infrastructure. Negotiation of the CDA occurs in conjunction with every five-year update to the Campus Master Plan and includes the identification of a process whereby the impacts of development are assessed. The primary purpose of the CDA is for the University and local government to identify areas of impact from University-generated development on the local infrastructure system and to address mitigation for the University's proportionate share of the impacts. The UCF Campus Master Plan updates and the CDA are coordinated closely with local government representatives to ensure consistency with state and local comprehensive plans.

In 2010, Orange County and the University of Central Florida developed a Memorandum of Understanding (MOU). This MOU ensures frequent communication, allows the exchange of mutually beneficial information, and provides the opportunity to discuss coordination issues.

Intergovernmental Coordination and the UCF Facilities Planning and Construction Website

The above referenced website (www.fp.ucf.edu) houses the current and former Campus Master Plans, in addition to a wealth of support documentation for the Plan update. The website is a critical tool the University uses to communicate with state and local governments, the on-campus community, and the public. The University will continue to use this electronic medium to provide easy access to the UCF Campus Master Plan in order to streamline the local and state review process.

Intergovernmental Coordination and Transportation

In the area of transportation, the University may participate in the regional transportation planning body, MetroPlan, which seeks to address the overall transportation challenges of the rapidly growing area in which the University itself is growing rapidly. The University participates with the local area public transportation entity, LYNX, and through that participation has developed a public transportation mall adjoining the west parking garage to facilitate use of public transportation facilities faculty, staff, and students. Finally, the University will continue to coordinate with localities looking to interconnect multiuse trail systems through and/or around the campus.

The University will continue to implement its policy of close coordination with effected state and local governments with regard to transportation issues resulting from University-generated development including impacts on area and on-campus roadways, transit, parking, and bicycle/pedestrian facilities. Please refer to section 2.11 for University policies regarding transportation.

Intergovernmental Coordination and Fire Protection

The University partnered with Orange County by providing land in its northeast corner for a fire station serving the University and the adjoining neighborhoods.

Intergovernmental Coordination and Storm Water Master Planning

The St. Johns River Water Management District approved the update to the Campus Storm water Master Plan in March, 2007, thus providing adequate and environmentally sound storm water management and capacity for the past and future growth of the campus. The update significantly reduces University-generated offsite storm water impacts on the surrounding community as discussed in the storm water Sub-element of

this plan. The University will continue to coordinate with state and local governments as it develops within the parameters of the approved Storm Water Master Plan. In addition, the University intends to sponsor public symposia addressing this issue with local storm water officials and the public.

Intergovernmental Coordination and Potable Water and Sanitary Sewer

The University has secured a long-term ability to meet potable water needs through coordination with Orange County by providing an easement through its southern property for a new regional water service line that replaces the on-site wells previously used. In addition, the University has coordinated with the host government and has upgraded its sanitary sewer infrastructure by sending its sanitary waste to City of Orlando's Iron Bridge facility for processing and re-use. As part of that agreement the University will receive treated effluent from Iron Bridge for non-potable uses.

Intergovernmental Coordination and Environmental Protection

The cumulative effect of growth of the University and the surrounding community has been to change the nature of the University and its environs from a semi-rural, suburban area to an increasingly urban center. This increases the need to coordinate environmental monitoring and conservation efforts. Joint planning and coordination of growth management efforts are important to the growth of the University and the community. As a center of learning the University occupies an important position in this partnership. As part of its mission it should provide critical knowledge and expertise and demonstrate its commitment to beneficent growth management.

Identification of Opportunities for Increased Coordination

The University will explore the following opportunities for increased intergovernmental coordination through the year 2025planning horizon:

2.1	Academic Mission	
	Sub-issue	**Partnership campuses**
	Sub-issue	**Community outreach**
2.2	Urban Design	
	Sub-issue	**Compatible urban fabric interface**
2.6	Support Facilities	**Joint-use of facilities (Student Union, etc.)**
2.7	Housing	
	Sub-issue	**Availability and proximity**

2.8	Recreation and Open Space	**Joint-use of facilities**
2.12	Intergovernmental Coordination. Sub-issue	**Community safety**
2.14	Capital Improvements Sub-issue	**Funding of joint-use facilities**

GOAL 1: To maintain a commitment to the protection of its ecosystems and natural lands of significant environmental importance to ensure that these resources are protected for the benefit of present and future generations, while accommodating the continued development and expansion of the campus's built environment.

OBJECTIVE 1.1: To ensure that the UCF Department of Landscape and Natural Resources will continue to oversee and review the conservation element of the Campus Master Plan and to designate environmentally sensitive lands for protection based on state and regionally determined criteria.

POLICY 1.1.1: As established by the adoption of this Plan, the University shall maintain, in a natural state, all of those sites identified as Conservation on the Conservation Map (Figure 13-1). New areas shall be considered for potential designation as Conservation Areas based on documented conservation values, e.g., presence of imperiled or vulnerable species or natural communities or other features of state, regional, or local concern, because of declines or vulnerability to further losses of those species. Consistent with the Future Land Use Element, except for minimal structures and improvements necessary to ensure safe access and essential support functions, there shall be no construction in these areas except pursuant to an amendment to this Plan adopted in accordance with all applicable state and local requirements.

POLICY 1.1.2: The University shall continue to use the Future Land Use designation of "Conservation Easement" for the purposes of environmental protection of natural lands that are set aside in perpetuity pursuant to a recorded conservation easement. This designation will allow very low- impact for recreational and educational uses such as hiking, non-motorized boating, bird watching, horseback riding, fishing, primitive camping, nature study or other low-impact uses that are not in violation of recorded conservation easements.

OBJECTIVE 1.2: To conserve, manage, appropriately use, and protect native vegetative communities and wildlife habitat, and to maintain the natural areas within the campus as a system of interconnected wetlands and upland preserves, as shown on the Conservation Map (Figure 13-1).

POLICY 1.2.1: The University shall continue to coordinate with appropriate state and regional environmental agencies, such as the St. Johns River Water Management District (SJRWMD), Florida Fish and Wildlife Conservation Commission (FWC) and Florida Forest Service (FFS), to manage designated Conservation Areas appropriately. The scope of the work shall include, but is not limited to:

1. a Geographic Information System (GIS) database that includes digital overlays depicting the location of vegetative communities and management units within designated Conservation Areas;

2. digital overlays depicting documented locations of imperiled or vulnerable species of plant communities (e.g., ranked as G1-G3 or S1-S3 by the Florida Natural Areas Inventory);

3. a land management plan that includes management and restoration techniques;

4. a monitoring and evaluation schedule and a description of compatible uses;

5. implementation of UCF's Weed Management Plan, detailing the methods for the removal and control of invasive, exotic plants in the designated Conservation Areas; and

6. development of specific guidelines to ensure the protection of the Arboretum.

POLICY 1.2.2: The University shall use Florida-friendly plant species in landscaped areas. . In cases where non-invasive, exotic plants are used to enhance the landscape, plantings shall be limited to those non-invasive species that are able to withstand periods of drought and which require little fertilization and limited use of pesticides.

POLICY 1.2.3: The University shall remove all non-native invasive plants (whether grasses, shrubs or trees) listed as Category 1 invasive species by the "2013 Florida Exotic Pest Plant Council (FLEPPC) Invasive Species List" from the campus grounds. Limited use of Category 2 invasive species may be used in landscaped areas where there is limited chance of spread into adjacent natural lands. The Department of Landscape and Natural Resources will periodically survey campus lands for the presence of such species and will properly remove and dispose of these exotic species as defined in UCF's Weed Management Plan. If the exotic species fall within a Conservation Easement, approvals and/or permits for removal will be obtained from SJRWMD.

POLICY 1.2.4: The University shall manage established buffers, termed Riparian Habitat Protection Zones (RHPZ), of at least 50 feet of upland areas adjacent to identified on-campus wetland areas. These buffers will be maintained to protect required buffer plantings and will be managed for invasive, exotic species that may impact these areas. Where feasible, the buffer will be widened to better conserve wetland function.

POLICY 1.2.5: Prescribed burns of selected preserved areas of fire-maintained native habitats (i.e., sandhill, upland pine, pine flatwoods, etc.) shall be conducted periodically as conditions allow. Such activities will follow well-accepted ecological guidelines for prescribed burning, comply with all applicable regulatory guidelines, and include direct coordination with the UCF Administration, UCF departments of Facilities Planning and Construction, Landscape and Natural Resources, Facilities Operations, and Environmental

Health and Safety ,the Florida Department of Agriculture and Consumer Services, Florida Forest Service; and the Orange County Fire Department. The Department of Landscape and Natural Resources will be responsible for conducting and coordinating the prescribed burn program. When conducting prescribed burns in conservation easements, SJRWMD approval will be obtained.

POLICY 1.2.6: The University shall continue to protect and conserve imperiled and vulnerable plant and animal species, including threatened and endangered species, and species of special concern, as required by the Endangered Species Act of 1973, as amended, Ch. 68A-27, F.A.C. Rules Relating to Endangered or Threatened Species, and federal and state management policies relating to the protection of threatened and endangered species, and species of special concern.

The University shall coordinate with the Florida Fish and Wildlife Conservation Commission to maintain and manage gopher tortoise populations located within the campus' natural areas and designated Conservation Areas (Figure 13.1). Upland preservation areas may serve as gopher tortoise relocation sites until the carrying capacity has been reached for that specific parcel (as defined and permitted by the Florida Fish and Wildlife Conservation Commission). Silt fencing will be installed to prevent re-located tortoises from entering nearby roadways and help them adapt to their new relocation site. The University shall explore the future protection of upland habitats to serve as a gopher tortoise relocation and management site.

POLICY 1.2.7: University personnel shall, when encountering listed species, follow procedure and seek consultation with the Florida Fish and Wildlife Conservation Commission and U.S. Fish and Wildlife Service.

OBJECTIVE 1.3: To restrict activities that may threaten the habitat and survival of imperiled and vulnerable habitat (such as wetlands) and plant and animal species (Threatened, Endangered, and Species of Special Concern as defined by Florida Fish and Wildlife Conservation Commission).

POLICY 1.3.1: Any proposed development adjacent to a designated Conservation Area shall be carefully sited and integrated into the existing landscape to have minimal visual and environmental impact on the area. Landscape treatment shall preserve significant existing vegetation to allow a gradual transition from developed areas to undeveloped areas to preserved areas. The existing vegetation shall serve to buffer proposed development in order to maintain the natural and undeveloped character of the area. Biological and hydrological impacts to designated Conservation Areas shall be avoided or minimized.

POLICY 1.3.2: Before any encroachment into a designated buffer (as defined in Policy 1.2.4, above) is authorized and a plan of development is approved, the University shall review all available environmental and economic options (including the costs of mitigation). If this review indicates that encroachment into the buffer is the only viable option, then the University shall pursue all reasonable efforts to minimize and mitigate any unavoidable impacts. A permit shall be obtained from the SJRWMD if proposed improvements are within a District conservation easement.

POLICY 1.3.3: Copies of land development criteria and standards that reflect the policies contained in the adopted Campus Master Plan shall be provided to design consultants and appropriate University staff. The University shall standardize the construction review process to ensure adherence to appropriate Master Plan policies.

POLICY 1.3.4: In order to consider the feasibility of plant or animal species relocation elsewhere on the campus, the University's Facilities Planning and Construction director shall provide the Department of Landscape and Natural Resources with four (4) weeks minimum written notice of the pending development of an undeveloped natural vegetation site.

POLICY 1.3.5: The University shall continue to require the use of best management construction practices, including the use of soil stabilizers, silt screens, surface moisture applications, and other techniques to reduce the impact of development activities.

POLICY 1.3.6: During the initial planning phase of any physical changes to the campus, the University shall perform an environmental assessment and census of wildlife and plants in the area to be affected. Plants or animals identified in the "Official Lists of Endangered and Potentially Endangered Fauna and Flora in Florida," which is updated annually by the Florida Fish and Wildlife Conservation Commission, or otherwise afforded protection by the host communities and state and federal agencies, or ranked as G1-G3 (critically imperiled globally, imperiled globally, or vulnerable globally) or S1-S3 (same, but assessed as state scale) shall be noted. Protection plans for those identified species shall be formulated consistent with those of the host communities and appropriate state and federal agencies prior to construction activities.

OBJECTIVE 1.4: To conserve, appropriately use, and protect the quantity and quality of regional water sources.

POLICY 1.4.1: The University shall require that appropriate methods of controlling soil erosion and sedimentation, as outlined in the University's Department of Environmental Protection (DEP) National Pollutant Discharge Elimination System (NPDES) permit, be applied to help minimize the destruction of soil resources during site development. Actions are taken to fulfill each of the

five (5) Stormwater Management Program's Minimum Control Measures that UCF is required to implement as outlined in our Phase II MS4 NOI with Florida Department of Environmental Protection (FDEP). Compliance is monitored continuously by UCF, and reported on biennially to the FDEP.

- Public education is promoted through various different platforms, such as brochures stocked at the kiosks in our natural areas and information on our website. Signs are also posted along environmentally sensitive areas and on the stormwater curb inlets to inform citizens that stormwater flows into a waterway and dumping is not permitted.
- Volunteer clean- up events and our adopt-a-pond and adopt-a-road programs involve the public in stormwater pollution prevention and awareness.
- Our underground stormwater infrastructure is being mapped so that we can detect and eliminate illicit discharge in a more timely manner.
- Construction site stormwater runoff is controlled through BMPs that are predetermined by the contractor and approved by UCF. Since 2011, these BMPs have been monitored monthly for proper maintenance by UCF.
- Landscape and Natural Resources runs a street sweeper to prevent pollution from entering waterways. Storm drains and baffle boxes are inspected and maintained by the UCF stormwater coordinator for debris build- up. Good housekeeping measures include natural pesticides and fertilizers used where possible. Records are kept for each application. Stormwater ponds are maintained by a contractor and monitored by UCF.

Landscape and Natural Resources shall be responsible for updating the NPDES permit and coordinating NPDES activities.

The University shall minimize stormwater-borne pollutants generated as a result of University operations and maintenance practices through adherence to General Infrastructure Element policies (see section 2.9).

POLICY 1.4.2: The University shall use reclaimed water, sourced from the Iron Bridge Treatment plant in Seminole County, for irrigation.

POLICY 1.4.3: The University shall explore every opportunity to plant native wetland species around existing and future ponds on campus throughout the planning period.

POLICY 1.4.4: The University shall continue to monitor and test raw well water, destined for potable use, on a daily and monthly basis per DEP requirements.

The University shall continue to monitor and test treated potable water on a daily and monthly basis per DEP requirements.

The University shall continue to monitor Lake Claire for compliance with existing surface water quality standards. The Department of Landscape and Natural Resources will monitor for parameters identified under the University's NPDES program. The Department of Environmental Health and Safety will monitor Lake Claire for human health-based water quality criteria.

POLICY 1.4.5: The University shall continue to implement a comprehensive water conservation program, to include:

1. the use of treated waste water effluent for an expanded campus irrigation system and chilled water system make-up water;
2. the use of automated timers and other irrigation flow-monitoring mechanisms;
3. Florida-Friendly® landscape treatments for new building construction and new campus common areas;
4. the use of low-flow and low-flush fixtures in new building construction as appropriate; and
5. implementation of the water conservation plan submitted by the University to the SJRWMD, which is a basis for issuing the University's consumptive use permit.

POLICY 1.4.6: The University shall not undertake activities on campus that would contaminate groundwater sources or designated recharge areas unless provisions have been made to prevent such contamination or otherwise provide mitigation for such activities so as to maintain established water quantity and quality standards.

NOTE: Details concerning the physical operation of the University's potable, wastewater and stormwater systems are found in the General Infrastructure Element (Section 2.9).

POLICY 1.4.7: The University shall continue to maintain and update the University Spill Prevention Control and Countermeasures Plan. The University shall inspect and maintain all petroleum storage tanks to prevent oil discharges from occurring and to prepare the University to respond in a safe and effective manner to mitigate the impacts of discharge to navigable waterways.

OBJECTIVE 1.5: To maintain or improve existing air quality on campus.

POLICY 1.5.1: The University shall continue to participate in and consider those programs that will maintain or improve existing air quality on campus lands. Such programs include: the area apartment shuttles, the on-campus black and gold-line shuttles, participation in local transportation management associations, LYNX connections, and the promotion of bicycle and pedestrian circulation improvements. This includes the development of bicycle paths that would connect to existing Orange and Seminole County networks to accommodate faculty, staff, and student access. The Parking and Traffic and Master Planning Committees, along with designated University departments (such as Landscape

and Natural Resources and Sustainability and Energy Management)) shall hold joint annual meetings to evaluate this subject.

POLICY 1.5.2: The University shall reduce mobile sources of air pollution through Transportation Element policies designed to discourage dependence on personal automobiles as the primary transportation mode on campus, and to encourage alternative modes of transportation on campus (i.e., public transit, bicycles, etc.) and alternative fuels as means of vehicular power (e.g., solar cells, hydrogen fuel cells, bio-fuels, and hybrids).

POLICY 1.5.3: The University shall minimize emissions of air pollutants by minimizing the storage and use of volatile and hazardous materials in campus buildings, as established by the Department of Environmental Health and Safety.

POLICY 1.5.4: The University shall determine the potential impacts on air quality before construction of parking facilities. Parking structures shall be designed to facilitate rapid ingress and egress of vehicles to minimize idling time, and to maximize air-flow through them to eliminate pockets of stagnation where pollutant levels can build up.

POLICY 1.5.5: The University shall continue to comply with its Air Operating Permit 0950015-009-AO. The University shall monitor and maintain records, provide compliance testing, and maintain stationary combustion equipment and pollution controls to ensure emissions are within permitted parameters. The University shall meet federal and state air quality regulations prior to construction of stationary combustion equipment.

OBJECTIVE 1.6: To maximize on-campus reclamation of hazardous materials and consumer products.

POLICY 1.6.1: All University buildings shall be designed with facilities to accommodate collection, storage, and disposal of recycled materials.

POLICY 1.6.2: The University shall coordinate on-campus recycling programs with those of local government in regard to materials collected and disposal/collection procedures.

POLICY 1.6.3: The University shall provide on-campus facilities for the collection and storage of hazardous materials used in University operations as required by federal, state, and local regulations.

POLICY 1.6.4: The University shall implement academic programs that promote awareness of environmental impacts of resource recycling.

POLICY 1.6.5: The University shall continue to enforce hazardous materials handling and storage procedures per the recommendations of the Department of Environmental Health and Safety.

POLICY 1.6.6: The University shall use only licensed and permitted hazardous waste transportation and disposal companies.

GOAL 2: To maintain a commitment to the conservation of its energy resources to ensure that these resources are protected for the benefit of present and future generations, while accommodating the continued development and expansion of the campus' built environment.

OBJECTIVE 2.1: **The University shall continue to implement a variety of existing programs and conserve the use of energy on the campus through the Department of Sustainability and Energy Management.**

POLICY 2.1.1 Energy-conserving fixtures, air conditioning, and lighting systems, as well as and other building-specific energy use and management techniques, shall continue to be a required element of all new buildings constructed on the campus.

POLICY 2.1.2: Where feasible, existing buildings shall be retrofitted with energy conservation lighting fixtures.

POLICY 2.1.3: UCF's Department of Sustainability and Energy Management shall serve as the University's principal advisor and approval authority for ensuring that the standards and practices for design, construction, and operation of all UCF facilities are consistent with LEED practices.

A. Executive Summary

From the conservation element analysis in the Master Plan approved in January 2003 by the UCF Board of Trustees, the following sub-elements were included: Air Quality, Surface Water Quality, Underground and Above Ground Tanks, Toxic Waste and Hazardous Materials, and Surface and Groundwater Hydrology. Additionally, a section on natural areas was included. This data and analysis section captures the conservation efforts accomplished or needed to achieve the objectives and goals of the Conservation Section of the Master Plan.

The UCF campus contains an abundance of significant natural resource areas, many of which are protected from future development. Areas of interest include the Arboretum, Lakes Lee and Claire, as well as an extensive forested wetland system within the southeastern portion of the campus, which ultimately outfalls into the Little Econlockhatchee River. This campus was designed around a cypress wetland system located at the center of the campus adjacent to the Student Union. The majority of the campus development activity is concentrated in concentric rings around this cypress stand, protecting much of the natural features and beauty of the campus margins, especially on the north and east boundaries of the campus..

Natural areas provide not only habitat to substantial wildlife populations, but also offer attractive campus assets and recreational opportunities. The preservation of both the quantity and quality of these resources is vital to the function of these resources and to ensure the continued attractiveness of the campus.

The University has independently developed conservation strategies for wetlands, floodplains, mitigation sites, water quality, etc., as the need has arisen over the last twenty years. Currently, there are approximately 337 acres of natural uplands and wetland habitats preserved in perpetual conservation easements to the St. Johns River Water Management District. There are approximately 539 additional acres of natural areas on campus that currently have verbal commitments for long-term preservation. These additional acres include upland and wetland areas and wetland buffers. In addition, the campus contains an extensive network of stormwater ponds. These areas, in combination with the large area occupied by wetlands that, for the most part, cannot be developed, constitute a large percentage of the land occupied by the UCF campus.

The University developed a long-term strategy for the management of these natural lands. Objectives for this land management plan include:

1. conserving biodiversity within the myriad of upland and wetland communities on-site;
2. implementing monitoring methods to capture the habitat changes through time;
3. developing approaches to capitalize on the research and educational opportunities afforded by these lands;

4. improving the recreational opportunities and aesthetic benefits of natural lands; and taking measures to ensure the maintenance of a viable interconnected network of natural lands in perpetuity, incorporating ecological principles of connectivity, and avoiding further fragmentation where possible.

To initiate this plan, the University used the following steps. UCF:

1. developed a detailed map of existing conservation lands that depicts natural communities of uplands and wetlands, as well as stormwater ponds and lakes.
2. determined what level of protection for their lands is currently in place, i.e., owned by the St. Johns River Water Management District (SJRWMD), conservation easements in place, verbal commitments from UCF Administration, jurisdictional wetlands, etc.;
3. identified those lands necessary for active use by the Arboretum, for stormwater storage, and connectivity (both hydraulic and dispersal);
4. mapped the extent of habitat occupied by, and suitable for, protected species.
5. defined management strategies suitable for an urban setting, including prescribed fire and mechanical management;
6. mapped the regional linkages of natural communities off of the UCF campus
7. assigned a leader to develop and maintain the conservation strategies needed to accomplish identified goals;
8. organized a committee that includes representatives from UCF Administration, UCF ecologists, environmental interest groups, Arboretum personnel, recreation specialists, planners, and others as appropriate, to outline issues and prepare maps of the overall conservation strategy; and
9. prepared a comprehensive Land Management Plan.

B. **Surface Water Quality**

Although formal water quality monitoring is not required by a specific regulatory agency, the departments of Landscape and Natural Resources and Environmental Health and Safety, have initiated the informal testing of water quality in campus surface waters and compilation of data by students. Data was collected over a 12-month period, beginning in 2007.

The University of Central Florida's water features include 12 constructed stormwater ponds, two natural lakes, and several other natural wetland and stream systems. These water bodies are monitored regularly by Department of Landscape and Natural Resources staff and volunteers to observe the health of each surface water feature. Periodic measurements of pond and lake systems include dissolved oxygen, temperature (both air and water), acidity (pH), conductivity, and turbidity (Table 1).

Table 1: Average Water Quality Data for UCF Water Bodies. Most pond samples were taken at pond outlets. Values represent averages of values from a variable number of sample dates, ranging from 20 to 29 sampling events.

Surface water body	pH	Cond. (µs)	D.O. (mg/L)	NH4 (mg/L)	NOx (mg/L)	Total N (mg/L)	DRP (mg/L)	Total P (mg/L)
1D Pond	7.56	236	7.71	0.072	0.004	0.489	0.012	0.019
2HEX Pond	7.23	186	8.38	0.132	0.052	0.601	0.011	0.015
2H Pond	7.17	211	9.41	0.133	0.087	0.675	0.011	0.017
3A Pond	8.05	223	9.09	0.081	0.091	0.619	0.011	0.031
4L Pond	7.10	228	7.37	0.112	0.265	0.495	0.011	0.027
4M Pond	7.49	159	7.45	0.058	0.013	0.425	0.012	0.015
4R Pond	7.30	160	8.70	0.077	0.003	0.449	0.012	0.012
Bonneville Creek	6.99	129	7.15	0.125	0.077	0.580	0.012	0.020
4B2 pond	6.97	176	5.27	0.128	0.074	0.598	0.017	0.026
Lake Claire	7.37	145	7.76	0.049	0.003	0.457	0.012	0.009
Lake Lee	7.29	118	7.62	0.054	0.010	0.392	0.012	0.010
PGH Pond	7.47	220	8.17	0.056	0.005	0.658	0.014	0.024
W5 Stream	6.90	149	6.09	0.075	0.034	0.474	0.021	0.019
W9 Stream inlet	6.62	328	4.30	0.129	0.633	0.672	0.024	0.025
W9 Stream outlet	6.82	144	6.27	0.067	0.009	0.509	0.024	0.011

C. **Summary of UCF Natural Areas Surveys**

A Natural Areas Annual Report (SEE APPENDIX B) is prepared to summarize results from compliance monitoring and also includes biological surveys of plants and animals, student research projects, compliance reports, and general field operations that are performed each year. An executive summary is provided below on the key factors captured in the 2013 report.

Invasive Species

The Department of Landscape and Natural Resources updated the UCF Weed Management Plan (APPENDIX C) identifying nuisance plant species in the natural lands. All plants list by the Florida Exotic Pest Plant Council 2013 List are monitored, mapped, and chemically treated yearly. Most of these invasive, exotics are being properly managed and are stable or decreasing in coverage.

Threatened and Endangered Plants and Animals

All listed planted and animal species that are observed during annual compliance monitoring and general field observations are documented, mapped and reported annually in the Natural Areas Annual Report (APPENDIX B).

Monitoring

Vegetation monitoring is completed twice a year, in June and December, for compliance monitoring required for environmental permits with the St. Johns River Water Management District. A total of thirty nine (39) vegetation plots are located in the natural areas, and data collected is also used for habitat evaluation and restoration research.

Compliance

Currently the Department of Landscape and Natural Resources is reporting on two mitigation projects and one wetland restoration consent order with the St. Johns River Water Management District. These reports are summarized in the Natural Areas Annual Report (APPENDIX B).

Gopher Tortoises

Gopher Tortoises and their burrows are surveyed and monitored periodically by the Landscape and Natural Resources department using staff and students. A tortoise burrow survey conducted in 2009 showed there was a total of 47 gopher tortoise burrows within the sampling area. A follow-up survey in 2011 showed that the number of gopher tortoise burrows had increased to a new total of 50 burrows and most recently, a 2013 survey indicates an even higher increase, with 78 burrows recorded. Using the FWC gopher tortoise density equation, data from the most recent survey indicates that there are approximately 0.66 tortoises/acre within the sampling area. According to the FWC the tortoise capacity is two (2) tortoises per acre. The current gopher tortoise density is below the FWC standard, and therefore tortoises found at other locations within UCF boundaries may be relocated to these natural areas if needed for mitigation.

D. Environmental Health and Safety

1. Underground and Above-ground Tanks

The University has a number of above-ground storage tanks associated with diesel generators, lubricant oil, motor vehicle oils, and used oils. The University's regulated diesel generators have double-walled above-ground fuel tanks, with containment as large as 4,500 gallons. The oil and used oil storage tanks are double-walled, ranging from 250 gallons to 1,000 gallons. The University remediated and closed several old underground storage tanks in the 1990s as well as the 140,000 gallon, above-ground heating oil tank in 2003. The current fuel island was installed in 1995 at the Facilities and Safety compound. This underground tank has a capacity of 20,000 gallons and is FDEP-compliant.

The University continues to maintain and update its Spill Prevention Control and Countermeasures Plan. The University inspects and maintains all petroleum storage tanks to prevent oil discharges from occurring. The Department of Environmental Health and Safety provides training to prepare University personnel to respond in a safe and effective manner to mitigate the impacts of discharge to navigable waterways.

2. Hazardous Materials and Waste (received from representatives of the UCF Department of Environmental Health and Safety (EHS)).

By virtue of its academic and research activities, the University is a user of hazardous materials. All such materials are carefully monitored and regulated such that there is no indication of any prior or current toxic waste problems on the campus property.

Environmental Management within EHS is responsible for ensuring the University's compliance with local, state, and federal environmental laws and regulations. Areas covered include hazardous materials storage, hazardous waste management, environmental assessments, site remediation, the investigation and cleanup of contaminated media on state-owned property, storage tanks, environmental health, and regulatory monitoring to track changes to environmental regulations as they relate to environmental compliance.

EHS is responsible for the safe and legal disposal of all hazardous chemicals and wastes generated by the University. Various campus departments, particularly those involved in engineering, science, or health-related research, generate hazardous waste. EHS contracts with licensed and permitted contractors for final disposal of these wastes, after they are collected, profiled, and safely characterized at the Laboratory and Environmental Support Building.

Hazardous material inventory is maintained by laboratory managers and shop managers. The EHS Chemical Safety and Security Coordinator oversees the inventory training, auditing and outside agency reporting.

The UCF Laboratory and Environmental Support Building was built in 1989 at a cost of $214,500. Its original size was 1,824 gross square feet. A laboratory addition of 200 square feet was completed in 1994, and an additional 4,500 gross square feet was added in 2009. The expansion provides storage space for additional materials and waste associated with new research efforts and increased amounts of laboratory space on campus.

Air Quality

The Department of Environmental Health and Safety (EHS) provides monitoring, recordkeeping, and compliance testing in accordance with Air Operating Permit 0950015-009-AO. The University maintains stationary combustion equipment and

pollution controls to ensure emissions are within permitted parameters. The University obtains construction permits for new, stationary combustion equipment.

E. Energy Sustainability and Maintenance and Operations Requirements

Background

To help reduce growing energy costs, promote sustainable energy practices, and help protect our environment, the University of Central Florida has created an extensive energy policy. The policy will be reviewed periodically, with a goal of continual improvement, as public awareness, management techniques, and technology change. The policy will be updated periodically by the Department of Sustainability and Energy Management. The department welcomes comments and suggestions on this policy, and requests that input be submitted to www.energy.ucf.edu.

Maintenance

It is the intent of the departments of Facility Operations, Landscape and Natural Resources, and Facilities Planning and Construction to adopt and incorporate all aspects of the University of Central Florida's Energy and Sustainability Policy into the ongoing maintenance operations programs within Facility Operations and Landscape and Natural Resources. These programs will include modification and renovation to existing buildings or structures, routine maintenance, preventive maintenance, and capital renewal. Incorporation of this policy will enhance the effective and efficient use of all resources needed for operations.

Operations

All UCF buildings and facilities, regardless of the sources of funding for their operation, will be operated in the most energy-efficient manner, without endangering public health and safety, and without diminishing the quality of education, research, and service. The University's previous Master Plan Goal, using the 2005-2006 fiscal year, was to reduce energy consumption by 20% in existing Educational and General facilities as a baseline through the 2011 calendar year. This target was met at 22.4% reduction, with a 22% electrical cost increase stated in December 2008. With evolving energy-efficient technologies, evaluation of alternative generation means, and utilizing the best practices set forth by the ASHRAE standards, the University seeks to have a 15% reduction through 2019. With a ~~20% 15%~~ reduction in energy consumption, UCF will save more than 18 million kWh annually, resulting in cost avoidance in excess of $1.6 million per year (using FY 2012 -2013 energy costs**).** Additionally, attainment of a 15% reduction in energy consumption will result in annual carbon dioxide emissions being reduced by approximately 145,000 tons annually. Together, attainment of these goals will both enhance our efforts to achieve energy sustainability and significantly improve our environment.

Indoor Environmental Conditions

To maintain reasonable comfort and lower energy expenditures, the University has established the following standard for cooling, heating, humidity control, and ventilation rates.

OCCUPIED HOURS

- When cooling, normal building temperature setpoints will be 74º F, and upon request, can be lowered, but not below 70º F. When heating, normal building temperature setpoints will be 68º F, and upon request, can be raised, but not above 70º F.
- Thermostat set points for corridors and large common spaces will be set at 78º F when cooling and 68º F when heating.
- Outdoor air ventilation will be set at ASHRAE 62.1 guidelines or such other higher limits as prescribed by state law or regulations.

UNOCCUPIED HOURS

- When cooling, normal building temperature setpoints will be 82º F (or HVAC OFF), and upon request can be lowered, but not below 78º F. When heating, normal building temperature setpoints will be 60º F (or HVAC OFF), and upon request can be raised, but not above 68º F.
- Intermittent operation of the A/C system during humid weather conditions on weekends and holiday periods will be permitted to maintain indoor relative humidity control.
- Thermostat setpoints for corridors and large common spaces will be set at 78º F when cooling and 68º F when heating.
- Outdoor air ventilation will be shut OFF. HVAC system start-up will begin 30 to 60 minutes prior to occupancy in order to flush accumulated air contaminants prior to occupancy.

These rules may be relaxed, as necessary, if special operating conditions, such as scientifically critical areas, so require.

Data processing and server rooms are to be conditioned to within 10% of the maximum recommended space temperature, as stated by the original equipment manufacturer. All new data centers located within the range of the central chilled water distribution loop shall have dedicated chilled water fan coil units to provide adequate space conditioning. If a new data center is not located within the chilled water loop, the space shall be conditioned utilizing a dedicated direct expansion unit without ventilation.

All exterior windows and building doors will be kept closed when cooling systems are operating.

Indoor Lighting

All members of the University community should assume responsibility for turning off lights when leaving a room. Lighting levels inside buildings will always be maintained at an appropriate level in order to ensure security. All lighting, except what is required for security purposes, will be turned off when buildings are unoccupied, such as at the end of the workday. Housekeeping will turn lights back on only for the time actually required for custodial work.

All indoor lighting will be fluorescent or LED type, unless an exemption is specifically authorized for designated low-usage fixtures. All indoor lighting levels will be surveyed and recorded. The lighting levels will be adjusted to the appropriate Illumination Engineering Societies (IES) recommendation for the given task being performed in the space.

Occupancy sensors will be installed in all offices, classrooms, conference rooms and utility rooms to reduce and/or turn off lights in unoccupied areas. New energy-saving fixtures, lamps, and ballasts will be used to replace existing, less efficient lighting wherever appropriate. Existing incandescent lamps for general-purpose lighting will be phased out, and future incandescent lamps will not be installed unless exempted for extremely limited and specialized tasks. Personal desktop task lights should be fluorescent or LED type.

Outdoor Lighting

Outdoor lighting levels will always be maintained at an appropriate level in order to ensure security. Outdoor illumination will be high pressure sodium, metal halide, LED, or fluorescent type, with the efficacy of the lighting system being no less than 85 lumens per watt. Outdoor lighting shall be dark-sky compliant, as indicated by manufacturer. Low wattage landscape and step lighting is exempted from the dark-sky requirement. The average lighting level will be 2 foot candles (FC), and the minimum lighting level will be 1 FC. Purely decorative lights beyond reasonable display lighting, inside or outside, will not be used anywhere on campus.

Convenience Appliance Use

Portable electric heaters and fans are prohibited in UCF facilities, unless specifically required by occupants because of medical conditions, failure of the building heating, ventilating or air conditioning systems, or when building heating, ventilating or air conditioning systems cannot be adjusted to achieve minimum comfort levels within the provisions established by the indoor environmental conditions requirements. If a member of the campus community feels that a space heater is necessary for adequate warmth, this may indicate that the central heating system needs repair. Facilities Operations and Sustainability and Energy Management should be notified through the work order system if the central cooling or heating system is incapable of meeting comfort requirements.

All staff and faculty members are requested not to use personal refrigerators. Departmental refrigerators should be located in common areas, eliminating the need for individual units in personal offices. All other personal appliances, such as coffee pots, clocks, radios, and all other peripheral office items should be kept to a minimum and turned off or unplugged at night and during weekends and holidays. UCF community members are asked to take personal responsibility for turning off and unplugging all appliances when not in use.

Office Equipment

All faculty, staff, and students should turn off personal computers when they are to be left unoccupied for extended periods of time. Additionally, all personal computers shall be configured to engage automatically low-power sleep mode in times of inactivity. Directions for implementation of this procedure are available at www.energy.ucf.edu. All peripheral computer items should be left in the OFF position until needed. Computers should be shut down over the weekends, evenings, and holidays.

All new office equipment must meet or exceed the Energy Star ratings for high efficiency operation. Remaining legacy equipment should be replaced with energy-efficient equipment as funding becomes available.

Monitoring of Energy Consumption

Energy conservation programs will be most successful if progress is monitored on a regular basis. Most buildings on campus have metering devices installed. Meter readings can be used to track utility consumption to locate problem areas, as well as to determine if conservation goals are being met.

Additionally, each member of the UCF community has the opportunity to view on-line energy consumption data for specific buildings on campus through the Open Energy Information System. Each new building on campus will include a monitoring system which can be viewed on the Open Energy Information System. The Department of Sustainability and Energy Management will maintain appropriate monitoring of all energy consumption throughout the campus.

Space Scheduling

Scheduling of all spaces on campus is controlled through the Space Resource Allocation Office. During the weekends and holiday periods, there is an opportunity for significant reduction in energy consumption on campus by setting back comfort settings. Buildings which are not occupied should be placed into a set-back mode. In the set-back mode, lighting levels are reduced to minimal safety levels, and set points for cooling, heating, and ventilation systems are adjusted to a less energy-intensive level.

The Space Resource Allocation Office shall strive to consolidate classes and meetings to only core campus locations, especially during weekends and holiday periods. Classroom and meeting assignments should be made in such a way as to maximize the use of a few buildings, while leaving the majority of buildings unoccupied and available for set-back conditions.

Alternative Fuel Vehicles

Alternative Fuel Vehicles (AFVs), as defined by the Energy Policy Act of 1992 (EPAct), include any dedicated, flexible-fuel, or dual-fuel vehicle designed to operate on at least one alternative fuel. Alternative fuel vehicles come in a variety of vehicle models, such as sedans, pickup trucks, sport utility vehicles, vans, shuttle buses, medium-duty vehicles (such as delivery trucks), heavy-duty buses, and heavy-duty trucks. As vehicles are purchased, the University is required to purchase a new vehicle fleet with at least 75% being AFV. When replacing existing fleet vehicles or adding to the fleet, the University shall seek out alternative fuel, flex fuel or hybrid fueled vehicles. The Department of Sustainability and Energy Management will maintain a list of appropriate vehicles which meet the State of Florida mandates for such purchases. The list can be found at www.energy.ucf.edu.

Awareness and Education

The Department of Sustainability and Energy Management will foster and support the establishment and continued growth of heightened energy awareness on campus. Educational publications, promotional materials, updated websites, and programs for faculty, staff, and students will keep the entire UCF community involved in the ongoing efforts of energy conservation. The department shall solicit and evaluate feedback from faculty, staff, and students to monitor the effects of energy conservation efforts. Training on new energy management concepts and programs will be provided, as necessary.

The Department of Sustainability and Energy Management will maintain the Energy Sustainability Plan, and notify the UCF community when significant changes occur. Suggestions for additional energy saving initiatives can be submitted at www.energy.ucf.edu.

Building Construction and Renovation Requirements

Background

As a leader in higher education, the University of Central Florida has made a commitment to being excellent stewards of environmental resources. The construction of new facilities, renovation of existing facilities, and continued maintenance operations must demonstrate high standards of environmental stewardship. Therefore, the

requirements outlined below represent the minimum acceptable standards for any UCF facility in order to achieve desired levels of energy stewardship.

Implementation

It is the responsibility of the architect/engineer (A/E) to insure the requirements established within the "Construction Requirements" of the Energy and Sustainability Policy are achieved. It is expected that the A/E be both knowledgeable of, and in full compliance with, the "Construction Requirements." The A/E should contact the Department of Sustainability and Energy Management to review these requirements and to address any questions.

The A/E should identify and make recommendations to incorporate construction design, techniques, products, or other design or construction-related methods and principles which will further enhance operational sustainability and reduce energy consumption of the construction project. The A/E will forward any recommendations to the Department of Sustainability and Energy Management, which will then coordinate a review with the ice President (VP) and Associate Vice President (AVP) of Administration and Finance, the Director of Facilities Planning and Construction, the Director of Landscape and Natural Resources, the Director of Environmental Health and Safety, and the Director of Facilities Operations to determine which recommendations, if any, will be incorporated within the design.

At the completion of schematic design, conceptual design, 50% construction document and 90% construction document phases, the A/E will provide UCF with a comprehensive report detailing the accomplishment of the "Construction Requirements" within each phase of the design process. In preparing the report, the A/E will follow the format provided by Facilities Planning and Construction.

The A/E will forward the report to the Department of Sustainability and Energy Management, which will coordinate a review of the report with the VP and AVP of Administration and Finance, the Director of Facilities Planning and Construction, the Director of Landscape and Natural Resources, the Director of Environmental Health and Safety, and the Director of Facilities Operations. Where the report is incomplete or the "Construction Requirements" are not fully incorporated within the design phase, the A/E will (at their cost) complete the report and make revisions to the design phase being reviewed, incorporating any missing items in the "Construction Requirements."

All new construction shall be registered with the US Green Building Council (USGBC) and meet a minimum Leadership in Energy and Environmental Design (LEED) Silver rating, utilizing the NC 2.2 rating (or the most current). Once the project is completed, it must receive a minimum of Silver certification.

Furthermore, the following LEED credits are required (not optional), as they have been identified as crucial to meeting UCF's goal to construct more energy-efficient and sustainable buildings:

1. Credit SS 6.1 Stormwater management, rate, and quantity
2. Credit SS 6.2 Stormwater management, treatment
3. Credit SS 7.2 Heat island effect, roof
4. Credit WE 1.1 Water efficient landscaping
5. Credit WE 1.2 Water efficient landscaping
6. Credit WE 3.1 Water use reduction 20%
7. Credit WE 3.2 Water use reduction 30%
8. Credit EA 1 Optimize energy (minimum 5 points must be achieved)
9. Credit EA 3 Additional commissioning
10. Credit EA 5 Measurement and verification
11. Credit IE 1 Carbon dioxide monitoring
12. Credit IE 7.1 Thermal comfort
13. Credit IE 7.2 Thermal comfort, permanent monitoring

The remaining credits needed to achieve the Silver rating will be determined by the design team for each project, and approved by the Department of Sustainability and Energy Management.

Facilities Operations plays a vital role in the implementation and maintenance of the standards and practices established by the Energy and Sustainability Policy. Inclusion of these standards and practices for design and construction specified within the policy will ensure attainment of energy and sustainability standards throughout the process of building modifications or renovations performed as minor projects or Facilities Improvements projects. The use of proactive, routine maintenance, preventive maintenance and capital renewal programs will enhance and continue the benefits derived from energy and sustainability practices incorporated by this policy.

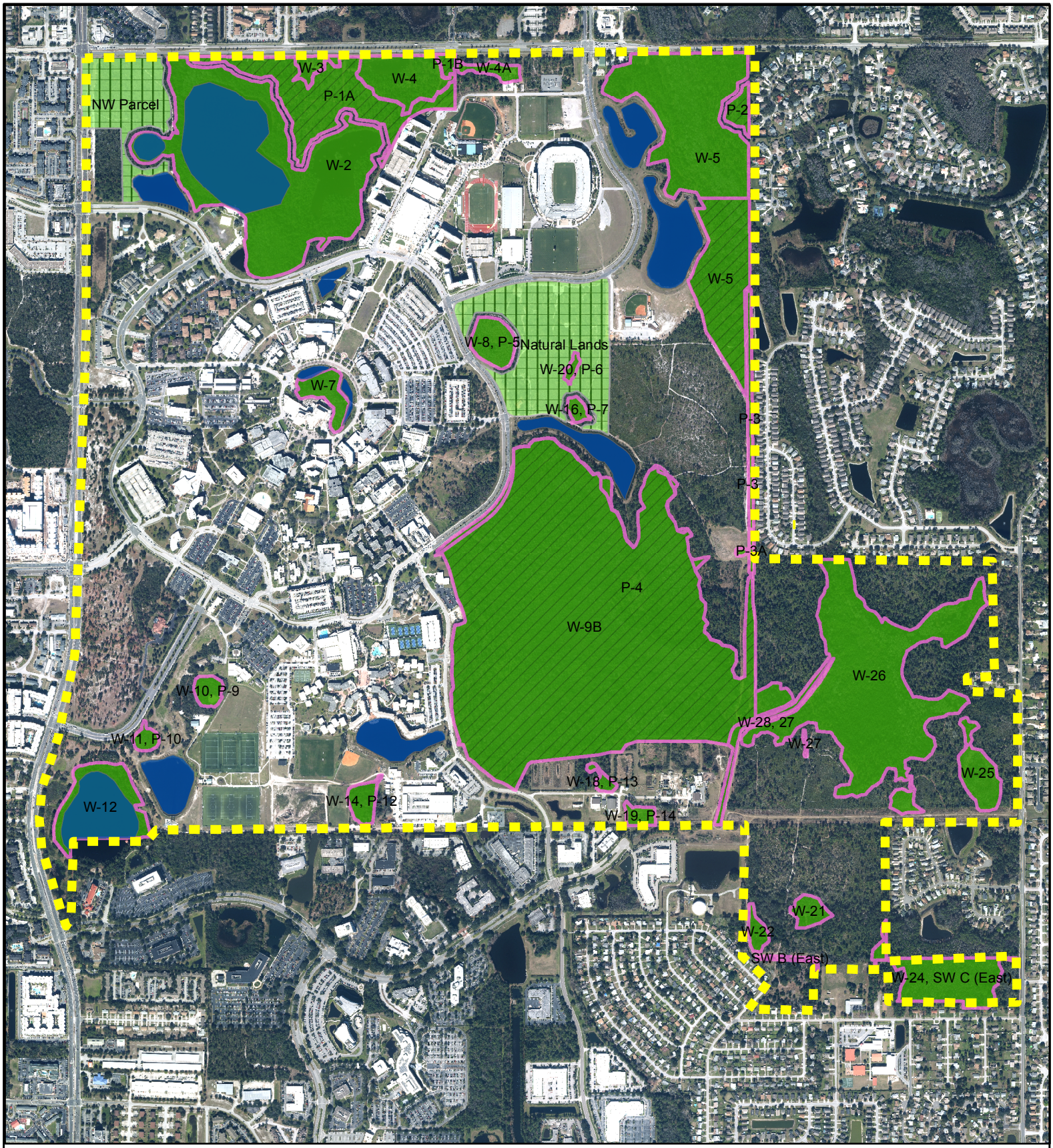


Figure 13-1

Conservation

Comprehensive Master Plan Update

University of Central Florida

Orlando, Florida

2015-2025

Legend

- Upland
- Conservation Easement
- Wetland
- Lakes & Ponds
- Boundary

0 1,050 2,100 4,200 Feet

N

All maps are diagrammatic and conceptual. The various areas shown are approximate and not to survey accuracy. The intent of these maps is to illustrate general areas of existing or potential use.

Rev. 20141120

GOAL 1: To provide academic, research, and support facilities to meet the academic needs of student enrollment as projected in the Academic Program Element; the Educational Plant Survey; and UCF's office of Space Planning, Analysis, and Administration (SPAA); and the education, research, and support mission of the University.

OBJECTIVE 1.1: To seek a reasonable share of state capital construction funds to construct teaching, research, and support facilities.

POLICY 1.1.1: The University shall prepare a yearly Capital Improvement Plan requesting planning, construction, and equipment funds for all proposed capital projects within the next five (5) year time frame. The CIP Plan shall include narratives justifying the need for the projects.

OBJECTIVE 1.2: **To include provisions for the renovation, repair, upgrading, and elimination of existing and aging facilities that do not serve existing or future needs.**

POLICY 1.2.1: Funding for building renovations shall be requested to coincide with and compliment the construction of new buildings. In this way, areas, which are vacated when a new building is completed, are immediately renovated for the new occupants. The University shall seek space to accommodate faculty, staff and students displaced by renovation.

OBJECTIVE 1.3: To coordinate land use decisions and available resources in order to maintain the level of service standards adopted in the Campus Master Plan and to meet existing and projected facility needs.

POLICY 1.3.1: Construction project priorities shall be reviewed each year by the University Administration.

POLICY 1.3.2: The criteria for setting UCF priorities for new construction, renovations, and infrastructure shall be established by the University Administration. Priorities are based on the University's mission and values. The primary objective is to provide an environment to support the education, research, and public service mission of the University. Based on this objective, projects are listed on the ten (10) year Capital Improvement Plan in the Campus Master Plan, and priorities are revisited yearly as part of developing the five (5) year Capital Improvement Plan that is sent to the State to request funding and approvals.
POLICY 1.3.3: All final decisions on priorities for new construction, renovations and infrastructure shall rest with the President of the University and the Board of Trustees, as appropriate.

POLICY 1.3.4: The campus ten (10) year project list shall provide a schedule of committed and projected campus capital improvements by year along with the estimated cost of those improvements. The projects included are those which will

be needed to serve the expected program mix of students who will be enrolled, the research to be performed, and the support for the University's mission.

Projected costs of projects, which will be state-funded, and the yearly distribution of those projects, are within the estimated resource guidelines projected by the Board of Governors. Funding for non-PECO-funded projects depends on private donations, student fee collections, campus auxiliary funding sources, and the sale of revenue bonds. Non-PECO projects shown can be reasonably expected to be funded in the time frame shown in the ten (10) year project list.

Site locations for all planned projects shown on the ten (10) year project list will be documented in the Urban Design and Capital Improvements Element.

OBJECTIVE 1.4: To complete studies and review enrollment patterns, classroom needs, research laboratory needs, faculty and staff office needs, and infrastructure needs in relation to projected capital improvements funding to assure that adequate facilities and supporting infrastructure will be available when needed.

POLICY 1.4.1: All campus structures shall be reviewed on an annual basis to determine the need for repairs, renewal, or renovations to meet on-going and changing needs of the campus.

POLICY 1.4.2: Campus infrastructure needs shall be reviewed annually to determine if electric, water, wastewater treatment, and telecommunications utilities are adequate to meet the needs of the campus for the next five (5) years.

OBJECTIVE 1.5: **To be prepared to limit on-campus enrollment if adequate capital construction, including infrastructure, cannot be provided or funded.**

POLICY 1.5.1: Capital budget requests each year shall be consistent with the provisions of the Campus Master Plan and with a Campus Development Agreements entered into with external agencies.

POLICY 1.5.2: When necessary, in order to continue providing access, the University shall consider the use of facilities in other areas, to include Regional Campus and Partnerships with State Colleges.

GOAL 2: **To provide support facilities including utility plants, student services buildings, libraries; computer services buildings, food services buildings, auxiliary services buildings, and other buildings to meet the needs of students who live on or near campus.**

OBJECTIVE 2.1: To seek additional funds to augment state capital construction funds.

POLICY 2.1.1: The University shall work with the UCF Foundation to seek external funds in the form of gifts and donations, which can be matched by state funds to provide campus facilities.

POLICY 2.1.2: The University shall obtain funding through the selling of revenue bonds to continue construction and renovation of student housing, on-campus healthcare facilities and on-campus parking structures.

POLICY 2.1.3: The University shall earmark funding in auxiliary budgets that can be set aside for specific construction needs, such as parking lots, parking garage structures, bookstore expansion, and other auxiliary support space needs.

POLICY 2.1.4: The University shall seek funding through other state and non-state sources to meet off-campus construction requirements that may be needed as part of the Campus Master Planning process.

POLICY 2.1.5: The University shall seek funding through local sources with the backing of the UCF Foundation and the UCF Research Foundation, to construct research and special purpose facilities on campus.

The Capital Improvements Element evaluates the need for public facilities as identified in other Campus Master Plan elements; to estimate the cost of improvements for which the University has fiscal responsibility; to analyze the fiscal capability of the University to finance and construct improvements; to adopt financial policies to guide the funding of improvement; and to schedule the funding and construction of improvements in a manner necessary to ensure that capital improvements are provided when required based on needs identified in the other Campus Master Plan elements. All development is contingent upon the availability of funding.

Current and Future Facility Needs

The University uses the best available data to determine the needs, estimated costs, and priorities for renovation and construction of facilities. A Critical Needs Assessment will be completed yearly, and input will be solicited from faculty, staff, and students.

Proposed academic space needs and changes will be coordinated with Space Planning, Analysis, and Administration (SPAA), and projects which will impact energy consumption, operations and maintenance costs, security, environmental health and safety, and natural resources will be coordinated with Facilities and Safety.

Capital Improvements prioritization will be reviewed yearly by the Board of Trustees prior to submission to the Board of Governors.

Existing and Anticipated Revenue Sources and Funding Mechanisms

The University of Central Florida, receives funding from the State of Florida for capital improvements in various appropriation types.
The primary source available to the University is Public Education Capital Outlay (PECO). These funds are appropriated to the State University System (SUS) pursuant to Section 1013.64(4), Florida Statutes, which provides that a list of projects is submitted to the Commissioner of Education for inclusion within the Commissioner's Fixed Capital Outlay Legislative Budget request. In addition, a lump sum appropriation is provided for remodeling, renovation, maintenance, repair, and site improvements for existing satisfactory facilities. This lump sum appropriation is then allocated to the universities. The projects funded from PECO are normally for institutional, academic support, or institutional support purposes.

Another source for capital projects is the Capital Improvement Trust Fund (CITF). This fund receives money from University students who pay Building Fees and Capital Improvement Fees as part of their tuition. This revenue source is used to finance university capital projects or debt services on bonds issued by the SUS. Projects financed from this revenue source are primarily student-related facilities, such as student unions, outdoor recreation, and athletic facilities.

Private donations and grants are another source of revenue authorized by Section 1013.74, Florida Statutes. Authority is provided within this section to finance facilities to support auxiliary enterprises from the issuance of bonds supported by University auxiliary revenue. Legislative approval of the proposed projects is required.

The Facilities Enhancement Challenge Grant, "Courtelis Program", established pursuant to Section 1013.79,Florida Statutes, provides for the matching of private donations for facilities projects that support instruction or research. Under this program, each private donation for a project is matched by state funds. Currently, no funding exists for the Facilities Enhancement Challenge Grant program.

Auxiliary University Organizations, such as the Business Services Department, Intercollegiate Athletics, Housing and Resident Life, and Parking Services, use revenues collected from their operations to complete capital improvements or use those revenues to bond the necessary funding for these purposes. The Libra Parking Garage and Greek Housing Life Center are examples of recently completed bonded projects.

University Practices that Guide the Timing and Funding of Construction

At UCF, the timing and funding of capital improvement projects is determined through the preparation of the University's annual Fixed Capital Outlay Budget Request, which is prepared by the Facilities Planning and Construction Department. The preparation of this request leads to a Five Year PECO List, which is a prioritized list of capital improvements. At UCF, this list is developed jointly by the Associate Vice President of Facilities and Safety, the Vice President of Finance and Administration and the University Provost. They prepare and recommend a draft list of priorities based primarily on the previous year's list. The list is sent to the University President for his review and approval prior to submittal to the University's Board of Trustees (BOT). Once approved by the BOT, the list is submitted to the Board of Governors.

Projects funded by CITF are determined by Student Development and Enrollment Services and the Student Government Association. They develop and recommend a list of capital improvements using CITF funds. This list is considered in the annual preparation of the Fixed Capital Outlay Budget.

The timing of projects funded by grants and auxiliary funds is the most difficult to determine. They are primarily dependent of the successful awarding of grant applications and on financial opportunities.

Operations and Maintenance Costs for Existing Facilities

The State of Florida provides Plant Operations and Maintenance (PO&M) funding for university facilities that contain Educational and General (E&G) space. In some cases, PO&M funding is provided for in a grant award. The cost of operating and maintaining auxiliary space is derived from auxiliary revenues.

Cost of Future Capital Improvements

The Capital Improvements List (Figure 14-1), provides an estimate of the cost of future capital improvements. This list is based on the Five Year Capital Improvements Plan, a component of the University Fixed Capital Outlay Budget Request. The priorities listed in the first five (5) years of this ten year list are based upon the University's Five Year PECO list. These projects, along with those listed in years six through ten, are prioritized based on needs currently identified throughout the other Campus Master Plan Elements. Due to uncertainties in funding, these priorities may change. However, they are updated yearly in the Capital Improvement Plan sent to the Board of Governors and will be reported every five (5) years in the Campus Master Plan Update.

UNIVERSITY OF CENTRAL FLORIDA

	MAIN CAMPUS FTE		22,890	23,128	23,484	23,661	23,661	23,646	23,833	24,038	24,237	24,591			
	PROJECT LIST 2015 -2025 Revised 12/02/2014	*Fund Type	2015-2016 YR #1	2016-17 YR #2	2017-18 YR #3	2018-19 YR #4	2019-20 YR #5	2020-21 YR #6	2021-22 YR #7	2022-23 YR #8	2023-24 YR #9	2024-25 YR #10	Net	Gross	Total Estimated Cost ($M)
1	ENGINEERING BLDG. I RENOVATION	PECO	$13,954,277	$925,000									118,186	130,885	7,241,445
2	MATHEMATICAL SCIENCES BLDG. REMODELING & RENOVATION	PECO	$9,422,105	$700,000									100,289	106,523	10,122,105
3	UTILITIES, INFRASTRUCTURE	PECO	$14,000,000	$14,000,000	$14,000,000	$14,000,000	$14,000,000	$14,000,000	$14,000,000	$14,000,000	$14,000,000	$14,000,000	N/A	N/A	98,000,000
4	LIBRARY RENOVATION PHASE II	PECO,CITF	$3,500,000	$29,500,000	$3,500,000								222,387	226,506	36,500,000
5	INTERDISC. RESEARCH & INCUBATOR FAC.	PECO	$5,924,183	$33,852,470	$5,924,183								78,676	118,013	45,700,836
6	UCF VC CLASSROOM BLDG	PECO	$7,500,000												7,500,000
7	ARTS COMPLEX PHASE II (PERFORMANCE)	PECO	$5,000,000	$40,000,000	$5,000,000								100,396	150,594	50,000,000
8	MILLICAN HALL RENOVATION	PECO		$349,418	$6,363,058	$349,418							87,742	88,680	7,061,894
9	BUSINESS ADMINISTRATION RENOVATION	PECO		$9,475,843	$494,001								118,624	121,074	9,969,844
10	CHEMISTRY RENOVATION	PECO		$539,843	$9,815,338	$539,843							43,265	49,073	10,895,024
11	FACILITIES & SAFETY COMPLEX RENOVATION	PECO			$4,856,238										4,856,238
12	VISUAL ARTS RENOVATION AND EXPANSION	PECO			$3,000,000	$24,000,000	$3,000,000						79,373	85,000	30,000,000
13	MULTI-PURPOSE RESEARCH & EDUCATION BLDG	PECO		$2,779,189	$22,235,512	$2,779,189							47,310	75,384	27,793,890
14	COLLEGE OF NURSING	PECO, C		$3,476,712	$27,813,698	$3,476,712							119,206	170,684	34,767,122
15	PARTNERSHIP IV	PECO	$2,450,000	$19,600,000	$2,450,000								78,294	117,442	24,500,000
16	HOWARD PHILLIPS HALL RENOVATION	PECO			$6,564,996	$652,249							56,903	64,619	7,217,245
17	COLBOURN HALL RENOVATION	PECO			$7,865,978	$410,075							73,500	83,957	8,276,053
18	FERRELL COMMONS (E AND G SPACE) RENOVATION	PECO			$6,564,996	$652,249							86,149	93,860	7,217,245
19	COLLEGE OF SCIENCES BUILDING RENOVATION	PECO				$317,437	$2,539,494	$317,436					49,580	54,644	3,174,367
20	REHEARSAL HALL RENOVATION	PECO				$48,007	$384,055	$48,006					9,322	10,743	480,068
21	CLASSROOM BLDG. III	PECO			$2,400,000	$19,200,000	$2,400,000						53,332	79,998	24,000,000
22	FACILITIES BLDG AT LAKE NONA	B,P			$600,000	$4,800,000	$600,000						13,866	20,799	6,000,000
23	RECYCLING CENTER	PECO				$2,300,000	$18,400,000	$2,300,000					26,666	40,000	23,000,000
24	HUMANITIES & FINE ARTS II (Phase I)	PECO				$2,772,353	$17,060,631	$2,772,353					58,362	87,543	22,605,337
25	SIMULATION AND TRAINING BUILDING	PECO				$2,370,336	$18,410,374	$2,370,336					39,950	59,924	23,151,046
26	BUSINESS ADMIN. III BLDG.	PECO				$1,584,527	$12,307,012	$1,584,527					41,118	61,677	15,476,066
27	EDUCATION BLDG II	PECO				$2,062,318	$15,594,083	$2,062,318					51,479	77,219	19,718,719
28	BAND BUILDING	PECO				$455,045	$2,800,279	$455,045					10,024	13,529	3,710,369
29	ARTS COMPLEX PHASE III	PECO				$1,210,857	$7,627,447	$1,210,857					25,447	38,171	10,049,161
30	SOCIAL SCIENCES FACILITY	PECO													
31	COASTAL BIOLOGY STATION	PECO			$2,500,000										2,500,000
32	INTERDISC. RESEARCH BLDG. II	PECO								$2,370,336	$17,330,596	$2,370,336	40,543	60,815	22,071,268
33	CENTER FOR EMERGING MEDIA BUILD OUT	PECO								$6,360,339			16,544	24,816	6,360,339
34	ROSEN STORAGE SHED	P	$225,000												225,000
35	ROSEN EDUCATIONAL FACILITY	P	$17,000,000												17,000,000
36	[NOT USED}														
37	PEGASUS HEALTH EXPANSION	P, B			$10,000,000										10,000,000
38	HUMANITIES AND FINE ARTS II (Phase II)	PECO								$1,107,260	$8,600,076	$1,107,260	27,364	41,045	10,814,596
39	PARTNERSHIP CAMPUS	PECO											N/A	N/A	0
40	CAPITAL IMPROVEMENT RESERVE	PECO											N/A	N/A	0
41	SUSTAINABILITY CENTER (Phase I)	PECO, C								$5,000,000			5,000	7,500	5,000,000
42	CIVIL AND ENVIRONMENTAL ENGINEERING	PECO, C		$1,160,667	$14,508,333	$1,741,000							50,000	75,000	17,410,000
43	SUSTAINABILITY CENTER (Phase II)	PECO, C				$5,000,000							5,000	7,500	5,000,000
44	[NOT USED}														
45	CREATIVE VILLAGE GARAGE	P,B	$15,000,000												15,000,000
46	SPECIAL PURPOSE HOUSING & PARKING GARAGE I	P, B	$25,000,000										106,667	160,000	25,000,000
47	SPECIAL PURPOSE HOUSING II	P, B	$8,000,000										21,333	32,000	8,000,000
48	PARKING DECKS	P, B	$17,000,000										112,000	168,000	17,000,000
49	GRADUATE HOUSING	P, B	$50,000,000										100,000	150,000	50,000,000
50	REFINANCE UCF FOUNDATION PROPERTIES	P, B	$37,410,000										288,167	432,250	37,410,000
51	STUDENT HOUSING	P, B	$50,000,000										149,333	224,000	50,000,000
52	GARAGE EXPANSION	P, B	$5,000,000										33,891	50,837	5,000,000
53	CLASSROOM & LAB BUILDING, LAKE NONA	P, B	$23,475,601										60,976	91,464	23,475,601
54	FACILITIES BUILDING AT LAKE NONA	P, B	$6,000,000										13,866	20,799	6,000,000
55	EXPO CENTER HOUSING	P, B	$16,000,000										68,667	103,000	16,000,000
56	REGIONAL CAMPUSES MULTI-PURPOSE BUILDINGS	P, B	$28,000,000										40,000	60,000	28,000,000
57	PARTNERSHIP GARAGE	P, B	$7,000,000										994,900		7,000,000
58	PARKING DECK (ATHLETIC COMPLEX)	P, B	$5,000,000										112,000	168,000	5,000,000
59	BASEBALL STADIUM EXPANSION PHASE II	P, B	$4,500,000										3,800	5,700	4,500,000
60	BASEBALL CLUB HOUSE EXPANSION & RENOVATION	P, B	$1,000,000												1,000,000
61	BRIGHTHOUSE NETWORKS STADIUM EXPANSION PHASE I- SEATING	P, B	$11,000,000										N/A	N/A	11,000,000
62	WAYNE DENSCH SPORTS CENTER EXPANSION & RENOVATION	P, B	$1,000,000										12,000	18,000	1,000,000
63	TENNIS COMPLEX PHASE I	P, B	$1,400,000										4,980	7,470	1,400,000
64	TENNIS COMPLEX PHASE II	P, B	$1,000,000												1,000,000
65	TENNIS COMPLEX PHASE III	P, B	$2,000,000												2,000,000
66	MULTI-PURPOSE MEDICAL RESEARCH AND INCUBATOR FACILITY	P, B	$112,863,923												112,863,923
67	HEALTH SCIENCES CAMPUS PARKING GARAGE I	P, B	$15,000,000												15,000,000
68	BIO-MEDICAL ANNEX RENOVATION AND EXPANSION	P, B	$12,800,000												12,800,000
69	OUTPATIENT CTR	P, B	$75,000,000												75,000,000
70	DENTAL SCHOOL	P, B		$73,000,000											73,000,000
71	INFRASTRUCTURE & SITEWORK LAKE NONA CLINICAL FACILTIES	P, B			$10,000,000										10,000,000
72	STRATEGIC LAND AND PROPERTY	P, B	$100,000,000										N/A	N/A	100,000,000
73	BRIGHTHOUSE NETWORKS STADIUM TOWER EXPANSION	P, B	$5,000,000										14,225	21,337	5,000,000
74	TRACK/SOCCER CLUB HOUSE	P, B	$850,000										2,800	4,200	850,000
75	SOFTBALL PRACTICE FIELD	P,B	$250,000										N/A	N/A	250,000
76	ATHLETICS PRACTICE FIELD	P, B	$500,000										N/A	N/A	500,000
77	WOMENS COMPETITION/PRACTICE FIELD	P, B	$2,000,000										N/A	N/A	2,000,000
78	BASEBALL PRACTICE FIELD	P, B	$400,000										N/A	N/A	400,000
79	BASKETBALL PRACTICE FACILITY	P, B	$12,000,000										32,000	48,000	12,000,000
80	RECREATION AND WELLNESS CENTER PHASE III	P, B	$20,000,000										5,200	7,800	20,000,000
81	LIFE SCIENCES INCUBATOR, LAKE NONA	P, B	$30,000,000										36,667	55,000	30,000,000
82	EAST ATHLETICS CENTER	P, B	$15,000,000										11,706	17,559	15,000,000
83	CARACOL in BELIZE	C		$350,000									49,570	72,555	#REF!
84	BURNETT BIO-MEDICAL SCIENCE CTR INFRASTRUCTURE	C		$7,500,000									6,271	9,407	7,500,000
85	ORLANDO REPERTORY THEATRE III RENOVATIONS	C		$75,000	$75,000	$75,000							8,000	12,000	225,000
86	RESEARCH LAB, LAKE NONA	C, P, B	$6,412,845	$97,268,758	$9,180,000								132,018	198,027	112,861,603
87	[NOT USED}														
88	HOTEL/CONFERENCE CENTER	P	$60,000,000										190,000	250,000	60,000,000
89	PARKING GARAGE VII	B		$20,000,000									242,667	364,000	20,000,000
90	LIBRARY EXPANSION	CITF, P	$44,114,399	$40,471,926	$40,471,926								109,703	164,554	125,058,251
91	LAKE CLAIRE RENOVATION	CITF	$3,000,000										100,000	150,000	3,000,000
92	CREATIVE SCHOOL FOR CHILDREN	CITF	$6,000,000										25,000	37,500	6,000,000
93	STUDENT UNION II (Phase I)	CITF	$14,000,000										37,800	56,700	14,000,000
94	STUDENT UNION II (Phase II)	CITF	$6,000,000										17,000	25,500	6,000,000
95	STUDENT UNION II (Phase III)	CITF	$21,000,000										60,000	90,000	21,000,000
96	RWC PARK PHASE IV	CITF	$5,000,000										32,000	32,000	5,000,000
	TOTAL														
												New Campus Sq. Ft.			
												Off Campus Sq. Ft.			

Funding sources denote probable building completion year

Projects in green denote projects planned **off-campus.**

Projects in blue denote renovation and/or remodeling projects

*Fund Types:

PECO (Public Education Capital Outlay), C (Courtelis), P (Private),
B (Bond), CITF (Capital Improvement Trust Fund), O (Other)

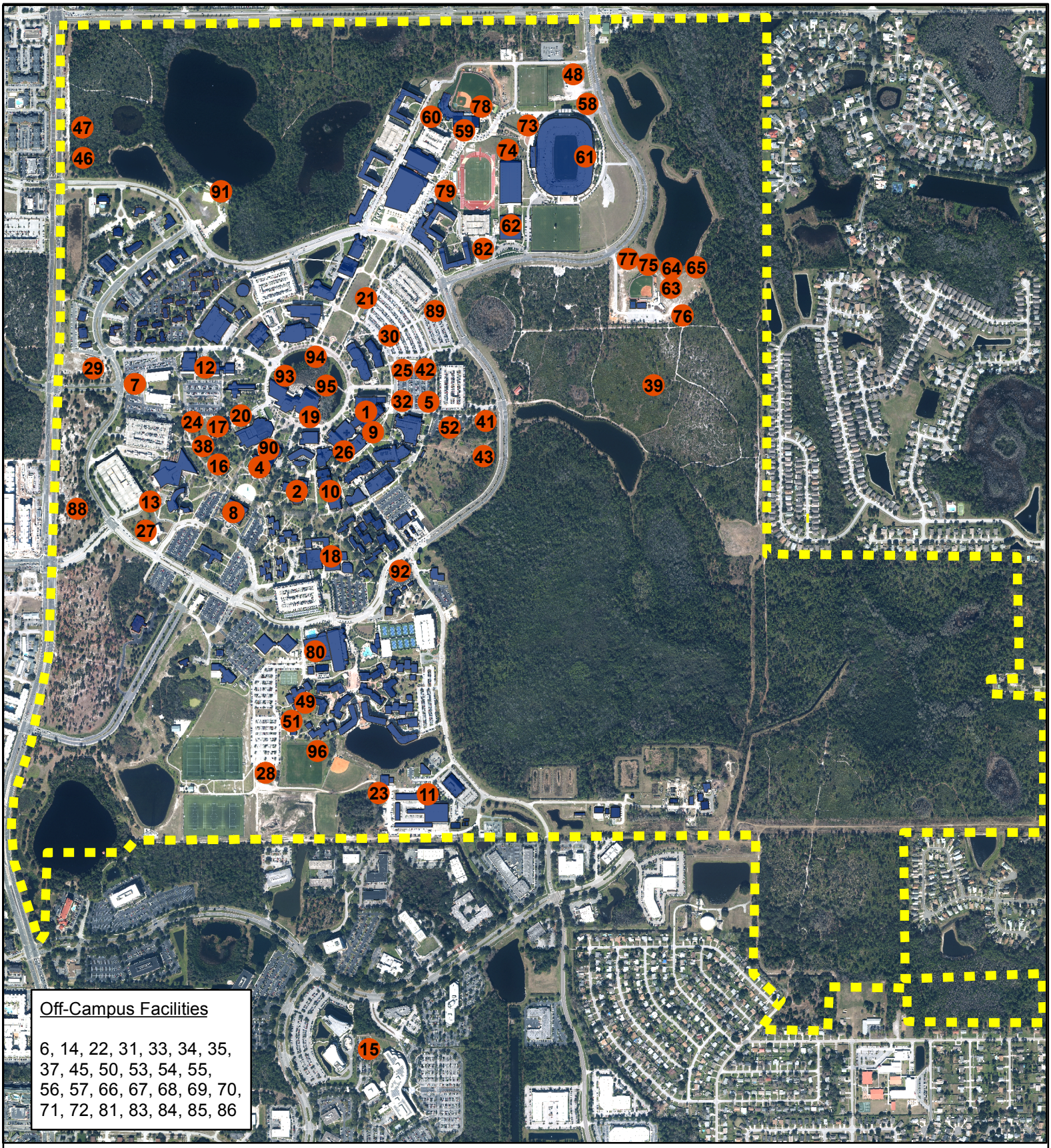


Figure 3-1

Urban Design and Capital Improvements

Comprehensive Master Plan Update

University of Central Florida

Orlando, Florida

2015-2025

Legend

- 2015 Capital Improvements List Item
- Existing Buildings
- Boundary

To locate buildings on map, refer to Element 14: Capital Improvements List

N

All maps are diagrammatic and conceptual. The various areas shown are approximate and not to survey accuracy. The intent of these maps is to illustrate general areas of existing or potential use.

Rev. 20141202

0 1,000 2,000 4,000 Feet

GOAL 1: **To develop a campus which recognizes a legacy of consistency and excellence in the architecture already in place, and sets a standard of excellence for future design endeavors.**

OBJECTIVE 1.1: To define the elements of consistency (materials, massing, color, detailing, etc.) that exist in the current campus in order to derive the principles that govern future designs.

POLICY 1.1.1: Buildings in the academic core shall be between three (3) and four (4) stories in height; however, buildings can exceed four (4) stories in height based on the height of adjacent structures, functional characteristics, and aesthetic considerations. Exceeding six (6) stories in height must be approved by the Administration during the programming or initial design process.

POLICY 1.1.2: Buildings outside the core shall be between one (1) and four (4) stories in height; buildings can also exceed six (6) stories in height, if approved by the Administration during the programming or initial design process.

POLICY 1.1.3: Brick shall be the predominant building material on campus. Masonry and glass are secondary materials of enclosure.

POLICY 1.1.4: Architectural details shall be rendered in masonry.

OBJECTIVE 1.2: To create a palette of materials, textures, colors, and scale that will continue the traditions of the existing architecture.

POLICY 1.2.1: Future campus buildings shall emulate the established qualities described in Objective 1.1.

POLICY 1.2.2: The predominant masonry material shall continue to be ~~on~~ campus is brick, especially within the academic core. However, building facades may use other material types to denote entry.

POLICY 1.2.3: Architectural details shall generally be done in masonry, in order to provide visual interest and relief.

POLICY 1.2.4: The blend of brick materials that produces the "UCF Blend" shall be emphasized as the preferable blend. However, other brick colors may be considered, but must be approved by the Administration during the programming or initial design process.

POLICY 1.2.5: Reflective glass shall not be used on campus buildings because of problems with glare.

POLICY 1.2.6: The maximum height of buildings shall not normally exceed six (6) stories. Buildings can exceed six (6) stories in height, but must be approved by the Administration during the programming or initial design process.

POLICY 1.2.7: Screen walls and service area enclosure materials, colors and finishes shall be consistent with the exterior elevations of the buildings, which they serve.

POLICY 1.2.8: Project proposals shall comply with the UCF Design, Construction, and Renovation Standards published by the Department of Facilities Planning and Construction.

POLICY 1.2.9: The final judgment on matters concerning aesthetics and architectural character for campus project proposals shall be reserved for the President of the University.

POLICY 1.2.10: The Director of Facilities Planning and Construction shall review each design proposal for individual merit. Provisions shall be made so that unique or innovative design solutions appropriate to the atmosphere of a thoughtful academic community shall not be discouraged by campus policies or guidelines.

POLICY 1.2.11: The Department of Facilities Planning and Construction shall review each newly constructed, renovated or remodeled facility six months after completion so that any necessary adjustments may be made to the UCF Design, Construction, and Renovation Standards.

POLICY 1.2.12: The designs for buildings on satellite campuses shall be afforded a courtesy review by the Department of Facilities Planning and Construction, so that the quality of those designs may reflect the standards set forth by the UCF Design, Construction, and Renovation Standards.

OBJECTIVE 1.3: To adhere to existing guidelines and minimum standards for the campus graphics and signage program that will be harmonious with the architecture and landscape, and will stress permanence.

POLICY 1.3.1: Graphics and signage for campus buildings shall comply with the UCF Design, Construction, and Renovation Standards. Buildings shall have their names displayed near their respective main entrances.

OBJECTIVE 1.4: To establish guidelines and standards for energy efficiency and life cycle costing.

POLICY 1.4.1: New buildings shall comply with the UCF Design, Construction, and Renovation Standards for energy efficiency and life cycle costing.

OBJECTIVE 1.5: To establish guidelines and standards for site lighting, plaza, sidewalk, and other hardscape materials, furniture, building illumination, and landscape materials and design, and other elements that contribute to the overall environment and safety of the campus.

POLICY 1.5.1: Hardscape materials for plazas and sidewalks shall be medium broom finished and poured-in-place concrete. Exceptions may be made in special areas, such as campus entrances, where a specific contrast or effect is desired.

POLICY 1.5.2: Primary walkways (800 and 1200 foot radii) shall be sixteen

(16) feet in width. Secondary walkways (all others) shall be a minimum of six (6) feet in width.

POLICY 1.5.3: Site lighting and furniture, hardscape materials, and design shall conform to the UCF Design, Construction, and Renovation Standards.

OBJECTIVE 1.6: To establish guidelines and standards for building siting and linkages that consider campus safety issues.

POLICY 1.6.1: All new building construction shall consider the use of Crime Prevention Through Environmental Design (CPTED) concepts and principles to improve campus safety.

POLICY 1.6.2: Future academic core buildings shall be sited so that their pedestrian entrances face the 800-foot radius (Mercury Circle) and their service entrances shall occur on the opposite side. The siting shall segregate vehicular and service traffic away from major pedestrian zones.

POLICY 1.6.3: Future academic buildings situated inside the 800-foot radius (Mercury Circle) shall be serviced from the 400-foot radius (Pegasus Circle). Academic buildings which fall outside of the 800-foot radius (Mercury Circle) shall be serviced off of Gemini Boulevard, when applicable.

POLICY 1.6.4: Projects enhancing campus safety and disabled accessibility shall be prioritized according to the following order:

- **Priority 1**
  Projects that reduce pedestrian vs. vehicular conflicts.
- **Priority 2**
  Projects that reduce bicycle vs. vehicular conflicts.
- **Priority 3**
  Projects that remove barriers to people with disabilities.
- **Priority 4**
  Projects that enhance lighting conditions on campus.

- **Priority 5**
  Projects that reduce bicycle vs. pedestrian conflicts.

OBJECTIVE 1.7: To establish guidelines and standards for architectural treatments along the campus edges, to coordinate with the host community.

POLICY 1.7.1: Campus entrances shall be kept as open corridors or view envelopes to permit views looking into and out of the campus.

POLICY 1.7.2: Campus entrances shall be articulated with unique or contrasting landscape and or architectural elements that distinguish them from campus edge treatments.

General Description of the Campus Architectural Character

Since they reside within the Academic Core, in close proximity to one another, the major academic buildings within the core need to be associated architecturally. The academic core is meant to act as a setting for architectural relationships. It should be natural for the core buildings to relate to one another in mass, materials, form, and style.

The inherent symbolic content of the Campus Plan should not be ignored. The rings of the academic core carry astronomical and astrological names. The "helix shaped" roadways, which were meant to circumnavigate the core, are symbolic of the basic structure of life, the double helix. All of the roadways are named after constellations. The apses of the roadways were to contain "academic villages" that were directly connected to the core, which in turn contained all of the major academic buildings. It could be argued that the original campus plan represents an encapsulated universe. Some architectural schemes have responded to this symbolic content in plan and in form. For example, the CREOL Building, which has a long curved wall on its principal façade, creates a large circular landscape island floating beyond the building that looks, in plan, like a planet in orbit.

Architecturally Significant Historic Buildings

Because the University is 50 years old, there may be historically significant buildings on campus. It is important to note that the John C. Hitt Library was the first building to be constructed on campus, followed by Millican Hall the Administration Building.

Materials

The predominant exterior building material throughout the campus is brick, occasionally accented by architectural elements that are rendered in either stucco or exposed concrete.

Color

There are many different shades of brick on campus that vary from dark brown to dark red. One particular blend of brick has been defined as the "UCF blend", which is the brick of choice for buildings residing within the academic core. Natural mortar has now become the standard for campus buildings, since it tends to define the brick with a wall surface.

Style

The architectural style of the campus can be described as multi-faceted. A variety of styles is represented, which define and place buildings in a particular architectural period. The Library, Administration Building, and Mathematical Sciences Building all relate, since they exhibit a similar architectural element, the "UCF Arch". These original core buildings are also similar in monumentality and massing.

Siting

Buildings within the academic core are directly affected by a concentric sidewalk system. The architecture within the core has responded to this condition by attempting to create at least two facades, facing each concentric sidewalk system. Since the academic core is the most dominant central geometric element on the campus, siting of buildings outside the core should recognize the core's "concentric lines of force".

Following is an assessment of the degree to which existing building designs are coordinated, and the degree to which they contribute to or detract from the present visual or functional quality of the University.

1. There has been a trend in the design of campus facilities since the 1995 update, in which designs have begun to introduce other materials, colors, and design details which deviate noticeably from the original, campus architecture. Whereas the older campus buildings were more consistently covered in the "UCF blend brick" of reddish-brown color, many newer facilities have introduced various amounts of cream colored brick. Also, newer structures have started to introduce metal, usually in a silver-metallic finish, as a significant exterior material. There is a noticeable trend in the newer designs emphasizing horizontal lines. In design details, the older facilities were more austere, using brick as an unarticulated exterior surface with simple, punched openings. Newer designs have relied on different trim materials or varying brick coursing, corbelling, and coloring to articulate openings. , The trend in the newer designs is meant to reflect contemporary design aesthetics as opposed to reflecting the aesthetic of the era of the older buildings.

2. Current trends show an awareness of modern architectural styles that are more reflective of the high-tech, increasingly diverse world in which the University exists and of the more recent research-oriented, diversity-enhanced mission of the University. From the point of view of the current student and research-oriented faculty, the newer facilities as individual designs may create an esthetic more reflective of the University's contemporary mission.

3. The challenge for the designers and the reviewers is to build a design bridge between the older campus aesthetic and- the more contemporary, progressive aesthetic. This should be a major goal of the University's architectural design guidelines.

4. Another major issue of concern is the degree to which the "vertical" facilities reinforce the campus radial planning organization. The radial plan works well as an organizational element to create a pedestrian-only academic core. On

the other hand, since most users are overwhelmingly acclimated to an off-campus world of orthogonal urban planning, the radial plan creates great challenges in way-finding. New students and visitors are particularly worthy of consideration, as their level of comfort with the campus environment will certainly affect their initial and perhaps overall impression of the campus. The University clearly values retention of freshman as reflected in its policy of providing on-campus housing for 80% of freshman. Ease of way-finding is critical in the adjustment of new students and visitors to the large, potentially intimidating environment of a major University.

5. An improvement to the current situation is - to clearly define urban design and future land use goals and objectives and policies. The goals and objectives should clearly state design principles which are to be achieved. The policies should establish procedures for communicating these principles and means for directing and monitoring progress toward achieving these principles.

An assessment of the accessibility of University buildings to disabled persons:

1. The University has a process for new designs to adhere to handicapped accessibility requirements. Because of the relative youth of the campus, the backlog of existing deficiencies is of less impact than older universities. Nonetheless, the importance of accessibility to mission and to admission policies makes it a priority.
2. All new facilities are to meet all current accessibility requirements.
3. Deficiencies have been identified and catalogued for correction during scheduled remodeling or renovations.

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

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.

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

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

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 McCullouch 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.

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

GOAL 1: To implement planned and routine maintenance programs which will extend the useful life of all buildings and prevent premature capital outlay for replacement. Through managed maintenance, Facilities and Safety will support facilities to provide the University community with a safe environment beneficial for teaching, research, and service.

OBJECTIVE 1.1: To establish the acceptable use and capacity of each building.

POLICY 1.1.1: The use and capacity of each building shall be determined by the Vice President for Administration and Finance and his staff. The Space Planning Analysis and Assessment team (SPAA) shall maintain documentation on the use and capacity of all facilities in the UCF Space Report.

POLICY 1.1.2: The Vice President in charge of a facility desiring to change the use and or capacity of that facility shall meet with the Vice President of Administration and Finance and his staff to determine that the use is acceptable to the University.

OBJECTIVE 1.2: To establish the desired level of performance for building components.

POLICY 1.2.1: The exterior walls, windows, and doors of campus buildings shall be expected to last the life of the building with maintenance as scheduled in Objective 1.3. Roofs shall be expected to last twenty (20) years under normal weather conditions, with maintenance as scheduled in Objective 1.3 of this Element.

POLICY 1.2.2: The interior walls, floors, stairs, doors, windows, and frames of campus buildings shall be expected to last the life of the building, with maintenance as scheduled in Objective 1.3.

POLICY 1.2.3: The structural, plumbing, and electrical systems of campus buildings shall be expected to last the life of the building, with maintenance as scheduled in Objective 1.3. HVAC systems are expected to last fifteen (15) years, and elevators shall be expected to last twenty (20) years, with maintenance as scheduled in Objective 1.3.

POLICY 1.2.4: The exterior walls of buildings shall be brick or masonry, with a sealer and primer applied to a stucco finish. Exterior doors and window frames shall be metal.

POLICY 1.2.5: HVAC ducts shall not be internally lined with fiberglass or fibrous materials.

POLICY 1.2.6: Roofs shall be sloped and shall be single ply membrane, modified Bitumen or standing seam or other approved systems. Re-roofing

projects shall consider spray-on polymer coatings with a twenty (20) year warranty.

OBJECTIVE 1.3: To establish a preventative maintenance schedule for campus facilities.

POLICY 1.3.1: Facilities Operations and Sustainability and Energy Management shall be responsible for the operation and maintenance of the buildings, and the utilities for the E&G and Housing areas of campus in accordance with the UCF Design, Construction, and Renovation Standards. Facilities Operations shall provide oversight for the operation and maintenance of auxiliary buildings as required.

POLICY 1.3.2: Auxiliary units shall be responsible for the operation, maintenance, and cleaning of auxiliary buildings on campus in accordance with the UCF Design, Construction, and Renovation Standards. These units shall include, but are not limited to, Student Development and Enrollment Services, Business Services, and Athletics.

POLICY 1.3.3: Leased trailers on campus shall be the responsibility of the Vice Provost for Academic Affairs.

POLICY 1.3.4: The University shall assure that the UCF Design, Construction, and Renovation Standards are met when renovating, remodeling or constructing buildings on campus. The, UCF Design, Construction, and Renovation Standards, the Florida Building Code and the UCF Maintenance Standards shall be followed.

POLICY 1.3.5: Exterior walls, windows, doors, and exposed metal structures shall receive routine maintenance every eight (8) years. Roofs shall receive routine maintenance every year.

POLICY 1.3.6: Interior walls shall be repainted, carpet shall be replaced, and suspended acoustical ceilings shall be replaced on an as-needed basis, as funding becomes available.

POLICY 1.3.7: Systems: HVAC systems shall receive monthly maintenance. Lab hoods and exhaust fans shall be maintained every six (6) months. Lab showers and eyewashes shall be tested quarterly. Backflow preventers shall be tested yearly. Electrical systems shall receive maintenance every five (5) years.

POLICY 1.3.8: Elevators shall receive a basic inspection monthly. Mandated changes shall be accomplished, as funding becomes available. A renovation shall be completed once in the life of the elevator.

OBJECTIVE 1.4: To establish priorities for maintenance and improvement projects.

POLICY 1.4.1: Facilities and Safety, Facilities Quality Assurance and Quality Control, or Facilities Operations shall identify maintenance and improvement projects on an ongoing basis. A master list of prioritized Critical Deferred Maintenance projects shall be maintained and, as funding becomes available, strategies will be devised to make corrections. The Facilities Quality Assurance and Quality Control Office shall inspect all buildings and materials labs yearly and shall input maintenance and preventative work orders in the Computerized Maintenance System for follow up action.

POLICY 1.4.2: In the first quarter of every year, fifteen (15) buildings shall be inspected by Facilities Operations, Environmental Health and Safety, Facilities Planning and Construction, and Student Disability Services for possible deficiencies.

POLICY 1.4.3: Facilities Operations shall maintain buildings using a computerized system that shall address preventive maintenance items by issuing work orders on a scheduled basis. This system shall identify scheduled service, maintenance and inspection of mechanical systems, life safety systems, and building components. Building cleaning maintenance shall be based on task assignments for daily, semester, or annual project work.

POLICY 1.4.4: Facilities Operations, in conjunction with Housing and Residence Life shall identify and prioritize major repair and renovation projects for the residence halls on campus. Corrections shall be made as funding becomes available.

POLICY 1.4.5: Immediate threats to the health, safety, and welfare of faculty staff, and students as identified by the State Fire Marshal, the Department of Environmental Health and Safety, Facilities Operations, Facilities Planning and Construction, or Facilities Quality Assurance and Quality Control shall receive immediate attention.

POLICY 1.4.6: Buildings scheduled for major interior renovations shall not receive minor interior improvements within twelve (12) months prior to the renovation, unless they are health and safety welfare concerns.

OBJECTIVE 1.5: To establish a schedule for eliminating deficiencies relating to current standards.

POLICY 1.5.1: At least 90 percent of E&G facility-related life safety code violations shall be corrected within 90 days of being identified, as funding becomes available.

POLICY 1.5.2: A minimum of two (2) buildings every year for the next 20 years shall be re-roofed, as funds become available.

POLICY 1.5.3: Fire code violations shall be corrected within one (1) year of being identified, as funding becomes available.

POLICY 1.5.4: Building code violations shall be corrected within one (1) year of being identified, as funding becomes available.

POLICY 1.5.5: All asbestos abatement shall be completed as funding becomes available.

POLICY 1.5.6: All lead-based paint in buildings to be renovated shall be identified and removed as funding becomes available.

Maintenance of University Facilities

Facilities Operations maintains the University's facilities in order to support the academic mission of the University. By establishing proactive routine**s**, preventive and planned facility maintenance programs, Facilities Operations will extend the useful life of all buildings and prevent premature capital outlay for replacement. On an annual basis, each building on campus is surveyed to evaluate its "Building System Condition." This ongoing assessment is critical in providing a cost-effective operation by deterring the accumulation of deferred maintenance on campus. Routine data gathered includes: building name, number, age, exterior and interior materials, roof and structural systems, as well as, the condition of the building envelope, HVAC, elevator, electrical, and plumbing systems. Recently the University has contracted with an outside consultant (ISES Corporation) to develop detailed condition assessment reports on all major buildings. These facilities condition assessment reports have become an invaluable tool when renovating existing buildings.

As new construction is funded, Facilities Operations assists in establishing the University's needs regarding planning and construction of future facilities. This allows the University to be in a positive position when meeting future challenges and handling opportunities effectively. The role of Facilities Operations is to focus on the new buildings' systems to insure they are consistent with the University's Design, Construction, and Renovation Standards. All University buildings must have proven engineering designs with standard building systems components, so that they can be integrated into the existing campus maintenance programs.

As building deficiencies are identified, Facilities Operations works in collaboration with Facilities Planning and Construction and Environmental Health and Safety to address building issues. Subject to the availability of funding, issues regarding SREF, life safety codes, ADA compliance, hazardous materials (including asbestos, lead-based paints and other environmental or hazardous materials), roof management, and energy efficiency are prioritized and addressed.

Operations and Work Flow

In January 2013, the Facilities Operations Maintenance unit completely redesigned its workflow process and transitioned from a trade, and shop-oriented formation to a zone based structure. The new zone structure is designed to place a team of individuals who possess all the necessary skill sets in a particular geographic zone of the main campus that they are responsible for maintaining. This redesign allows the employees to report to work in the zone to which they are assigned and enables them to remain within their respective work zones throughout their assigned shifts. All materials and equipment needed to perform their necessary tasks are found within their zone. There are a total of four zones or teams within the academic core of the main campus. Two of the teams cover the majority of the western and northern portions of the campus, with shop space located in the Teaching Academy and Communications buildings respectively. The

remaining two teams are located near the Main Utility Plant and these serve the southern sector of the campus.

This report consists of a review and assessment of the University of Central Florida's 2010-2020 Campus Master Plan. It briefly lists which Goals, Objectives, and Policies have been successfully reached. It identifies the need for new or modified Goals, Objectives, or Policies needed to correct unanticipated and unforeseen problems and opportunities that have occurred since adoption of the Campus Master plan. It identifies proposed and anticipated plan amendments necessary to address identified problems and opportunities. This report will be incorporated into the Final 2015-2025 Campus Master Plan Update.
Following is a review of the Goals, Objectives, and Policies of the 2010-2020 Campus Master Plan organized by Element. Emphasis will be on determining whether Goals, Objectives, and Policies have been completed, are ongoing, are unmet, or have not been implemented.

Some of the elements, denoted by an asterisk (*), are not subject to review under Florida Statute 1013.30, and are not listed under the Board of Governor's Regulations for Campus Master Plans, Chapters 21.108-21.212; however, UCF will continue to include them in the 2015-2025 Master Plan Update.

***Element 2.1: Academic Mission** *(optional element)*
The status of all Goals, Objectives, and Policies is "ongoing". The individual colleges have kept abreast of their missions and goals. Great strides have been made and maintained in the areas of international focus and outreach. New partnerships are currently being pursued to bring international students to campus. UCF remains a leading partnership University and continues to be inclusive and diverse.

***Element 2.2: Academic Program** *(optional element)*
The status of this Element's Goal is "ongoing" and continues to be implemented. UCF has become and remains one of the nation's leading research Universities. The National Academy of Inventors (NAI) and the Intellectual Property Owner's Association (IPO) have ranked UCF among the top 25 Universities in the world for the number of patents awarded in 2012. The status of Objectives and Policies is "ongoing" and additional programs continue to be implemented in accordance with the individual college missions and goals. No new colleges have been implemented or are being considered for the near future. However, following are a few program changes made by three of the colleges: Two new programs have been added to the College of Arts and Humanities, a Bachelor of Architecture and a Bachelor of Latin American Studies. The College of Health and Public Affairs has eliminated the Bachelor of Radiologic Sciences degree and replaced the Bachelor of Cardiopulmonary Sciences with a Bachelor of Athletic Training. The College of Optics and Photonics has added a Bachelor of Photonic Science and Engineering.

***Element 2.3: Urban Design** *(optional element)*
The status of the Goals, Objectives, and Policies is "implemented" and "ongoing". The University continues to locate buildings, enhance circulation paths, and frame open

spaces in a way conducive to a clear and cohesive environment. Parking facilities continue to be developed to meet current and future needs,and emphasis remains on locating these structures outside the 1200 ft. radius of the campus academic core. One such example is the Libra Garage completed toward the end of 2013 which rests outside the 1200 foot radius as well as south of the Gemini Boulevard loop. Another parking garage under consideration may also reside outside the 1200 foot radius. Two possible sites being considered for this structure are between the existing Garages C and D or South of Garage C. Both these sites currently contain surface parking which would be replaced by the parking garage, thus significantly increasing parking capacity. This structure will accommodate parking spaces currently located in the academic core, thus opening up the land for future academic facilities. The following academic facilities are being considered for this location on the northeast quadrant of campus: Interdisciplinary Research I, Interdisciplinary Research II, Simulation and Training Building, Civil and Environmental Engineering, Global UCF, and Classroom III.

Landscaping, street furnishings, and pavement texture continue to be implemented in ways that help delineate paths and reinforce linkages to and from the academic core. This is a continuous and ongoing effort.

The University continues to discourage service vehicles on campus, as shown by the recent separation of repair and maintenance crews into specific geographic zones servicing different regions of campus. This helped to localize and contain the different units, thus limiting their interference with campus circulation and open space.

Objectives and Policies that will included in the next Element update is to include promoting a campus urban design that is a secure environment, discouraging crime and promoting well-being.

Element 2.4: Future Land Use

The University is trying to correct an existing land use compatibility problem. Namely, the current placement of surface parking within the 1200 foot radius circle making up the academic core. Plans for relocation of these surface parking areas to structures outside the core would allow for the correct placement of academic facilities within this area zoned for academics and research.

The University maintains its commitment to the protection of its conservation lands and ecosystems.

All other goals, objectives, and policies are “ongoing”. There are no plans to significantly modify any of the zoned future land use components.

***Element 2.5: Academic Facilities** *(optional element)*

The status of the Goals, Objectives and Policies is “ongoing” and in the case of total additional net square feet for classrooms and laboratories, “unmet”. Two state of the art classroom and laboratory facilities were completed in the past five (5) year planning period, the Classroom I and II buildings and Physical Sciences building I and II. Overall, some 27,000 NASF of classroom and 20,000 NASF of laboratory space were added to the Main Campus. However, Policy 1.1.1 was unmet, since it sought to increase the University’s classroom inventory by 10,000 NASF per year; Policy 1.2.1 was unmet since it sought to increase the University’s teaching laboratory inventory by 20,000

NASF per year; and Policy 1.3.1 was also unmet since it sought to increase the University's research laboratory inventory by 25,000 NASF per year during the past five (5) years of the Master Plan update. Funding has been the primary factor for not achieving the benchmarks set forth in these policies. The effort to increase the net assignable square feet for these space classifications is ongoing; however, we may need to lower the benchmarks due to diminished funding.

***Element 2.6: Support Facilities** *(optional element)*
The status of the Goals, Objectives, and Policies is "ongoing". Support facilities and student service areas are being implemented to meet the needs of the projected future student enrollment as defined in the Academic Program Element and as directed by the Capital Improvements Element and the Urban Design Plan.

The following policies for locating support spaces continue to be followed:

- Support spaces continue to be accommodated in mixed-use buildings whenever possible.
- Administrative offices continue to be placed in and around the academic core, within the Gemini Road loop.
- Intercollegiate athletic facilities continue to be located in the northeastern part of campus adjacent to the CFE Arena.
- Intramural fields continue to be located toward the southern part of campus, accessible to student housing.
- Facilities and Safety buildings are located in the southern part of campus.

While athletic facilities do not completely meet the students current needs for recreation space, as described in detail in the Data and Analysis section of this Element, state and non-state sources of funding are being sought in the Capital Improvements Plan (CIP) to accommodate and enhance this need.

Element 2.7: Housing
The number of total beds on the Main Campus, including fraternity and sorority beds, is currently 6,457. This number was 6,195 during the last Campus Master Plan update; therefore, 732 beds have been added. Housing will continue to seek funding through the Capital Improvement Plan (CIP) to accommodate future enrollment.
UCF Housing continues to work with the host community in fulfilling the housing need. While the University does not own any off-campus housing, it refers students to University-affiliated housing when on-campus facilities have reached full capacity. The host community has provided very well for off-campus housing and there are many facilities available along the Alafaya Trail corridor, with construction currently underway for more off-campus private housing developments. In support of off-campus housing, the UCF Shuttle transportation system currently offers thirteen (13) regular routes between UCF and nineteen (19) local student residential communities.

Implementation of all other Goals, Objectives and Policies are "ongoing".

Element 2.8: Recreation and Open Space

The status of the Goals, Objectives, and Policies is "implemented" and "ongoing".

Present campus open spaces are protected and enhanced as delineated in the Future Land Use, Urban Design, Conservation, and Recreation and Open Space Elements of the UCF Campus Master Plan.

The University's Student Development and Enrollment Services (SDES), along with the Physical Education Departments, continue to assure that a variety of safe, efficient, and enjoyable recreation and athletic facilities are available to serve the students. However, current capacity does not meet existing and prospective student demand. A variety of public and private funding sources must continue to be actively pursued. Enhancements as well as additions to intramural fields and intercollegiate facilities are listed on the Capital Improvements List in an ongoing effort to satisfy the existing and future demand.

Element 2.9: General Infrastructure

The status of this Element's Goals, Objectives, and Policies is "ongoing". The University continues to evaluate current and future capacity for the existing infrastructure with regards to any new facilities or major renovations, as shown in the Capital Improvements List. Policies which take into consideration natural drainage systems and environmental attributes of the campus remain a priority. The University continues to work with St. Johns River Water Management District (SJRWMD) to monitor modifications and additions to the master permit for storm water management as a result of ongoing design and construction projects.

***Element 2.10: Utilities** *(optional element)*

The status of this element's Goals, Objectives, and Policies is "ongoing". The University continues to evaluate current and future capacity of existing chilled water, electric power, natural gas, and telecommunications systems to ensure that they meet future demand as the University grows and develops. Policies continue to address passive and active energy conservation strategies.

Element 2.11: Transportation

The status of this Element's Goals, Objectives, and Policies is "ongoing".

The University continues to improve transit service. Three (3) more routes were added to the ten (10) routes available at the time of the last update. The data from spring 2009 showed an average daily off-campus shuttle ridership of 10,311 students.

The Libra Drive widening project will ensure that all major roadways into the main campus are four (4) lanes in width.

Two (2) new parking garages are being planned to accommodate the surface spaces to be lost in the northeast quadrant of the academic core because new buildings being designed and constructed.

Multi-modal Transportation is to be encouraged to reduce the number vehicles utilizing the campus roadway network. Vehicle sharing, park-and-ride, pedestrian and bicycle facilities, and the UCF Shuttle all are parts of the multi-modal transportation plan.

Element 2.12: Intergovernmental Coordination

The status of this Element's Goals, Objectives, and Policies is "ongoing". However, the policies related to a Campus Development Agreement (CDA) are currently "unmet" due to the dissolution of the State Concurrency Trust Fund. There is no CDA at this time between the University and the host local government (Orange County). There is a memo of understanding in place between UCF and Orange County that encourages frequent communication and exchange of information on a project-by-project basis to help determine any concurrency impacts.

Element 2.13: Conservation
The status of the Goals, Objectives, and Policies is "implemented" and "ongoing". The University is committed to protecting ecosystems and environmental lands as it continues to accommodate the development and expansion of the campus' built environment. The University continues to coordinate with state and regional environmental agencies in the management of designated Conservation Areas. The Department of Landscape and Natural Resources continues to oversee the Conservation Element. The University's implementation of a comprehensive water conservation program is "ongoing".

Element 2.14: Capital Improvements
The status of the Goals, objectives, and policies is "implemented" and "ongoing". The University continues to seek funding from state and non-state sources in order to provide facilities that meet current and future needs. The University adheres to Board of Governors (BOG), standards in preparing a yearly Capital Improvement Plan. This plan requests planning, construction, and equipment funds from the State for all proposed capital projects within the next five (5) year time frame. PECO, CITF, Bond, Private, and Auxiliary funds are the primary state and non-state sources which continue to be pursued.

***Element 2.15: Architectural Design Guidelines** *(optional element)*
The status of the Goals, Objectives, and Policies is "implemented" and "ongoing". The University continues to pursue a level of consistency in campus design for current and future design endeavors. A harmonious wayfinding package of campus signage and graphics was developed last year and will start to be planned this year. New construction and major renovations adhere to the *UCF Design, Construction, and Renovation Standards,* furthering a move toward excellence and uniformity. Building siting and linkages continue to give consideration to campus safety and functional clarity.

***Element 2.16: Landscape Design Guidelines** *(optional element)*
Objective 1.1, to develop and implement a Campus Landscape Plan, is currently underway under the direction of the Department of Landscape and Natural Resources. Many of the Policies directly related to a campus landscape aesthetic and function will be revised to reflect the new UCF Landscape Plan. All other Objectives and Policies will be "ongoing" as long as they do not conflict with the Landscape master plan. As described in Policy 1.3.2, procedures will be established to ensure that coordination of the landscape, furnishings, and graphics on the campus are in accordance with the adopted Campus Landscape Plan guidelines; and the UCF Campus Master Plan shall be amended to include these procedures.

***Element 2.17: Facilities Maintenance** *(optional element)*

The status of the Goals, Objectives and Policies is "implemented" and "ongoing". Routine, scheduled maintenance of campus facilities is continuous and follows effective maintenance tracking systems. Priorities are established in accordance to the current standards. Funding is continuously sought and allocated to match priorities and needs. In the pursuit of meeting future challenges and streamlining operations, a restructuring of work flow took place in 2013. Facilities Maintenance went from a trade-or shop-oriented formation to a zone-based structure. Four (4) primary zones were created to serve the western, northern and southern sectors of the campus. This zone-based structure strategically places teams of individuals possessing all the necessary skill sets within their individual zones, allowing them to remain within their zones throughout their assigned shifts.