

**FLORIDA INTERNATIONAL UNIVERSITY
2000-2010 Comprehensive Master Plan Update
State Project No. BR-813**

FINAL CAMPUS MASTER PLAN UPDATE

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FLORIDA INTERNATIONAL UNIVERSITY 2000-2010 CAMPUS MASTER PLAN UPDATE

♦ INTRODUCTION

The two principal campuses of Florida International University (FIU) lie within Miami-Dade County. The largest campus, University Park, occupies approximately 342 acres at the southeast quadrant of the intersection of the Homestead Extension of the Florida Turnpike (SR 821) and Tamiami Trail (US 41) in west central Miami-Dade County. Biscayne Bay Campus occupies approximately 195 acres on Biscayne Bay within the City of North Miami in northeast Miami-Dade County. A branch campus, Engineering Center, is located north of University Park at the northeast intersection of SW 107th Avenue and West Flagler Street.

The 2000-2010 Campus Master Plan Update for Florida International University is contained in two documents: a Supporting Inventory and Analysis document and a Final Campus Master Plan Goals, Objectives and Policies document. The Inventory and Analysis document contains background information including data and analysis establishing the basis for the goals, objectives and policies contained in the Final Campus Master Plan document. Provisions for the University Park, Engineering Center and Biscayne Bay Campus, are integrated within the applicable elements in both documents. All other properties owned or maintained by the University are excluded from this master plan. The Supporting Inventory and Analysis document contains maps related to the analysis of existing conditions, while the Final Campus Master Plan document contains maps required to depict planned future conditions.

The Goals, Objectives and Policies which follow are the primary mechanism for the implementation of the Campus Master Plan through the ten year (2000-2010) planning horizon. Requirements for Capital Improvements Implementation are contained in the Capital Improvements Element. Procedures for monitoring, evaluation and amendment of the campus master plan are contained in the various plan elements.

Goals, Objectives and Policies are presented for the following plan elements:

- 1.0 Academic Mission of the University
- 2.0 Academic Program Element
- 3.0 Urban Design Element
- 4.0 Future Land Use Element
- 5.0 Academic Facilities Element
- 6.0 Support Facilities Element
- 7.0 Housing Element
- 8.0 Recreation and Open Space Element
- 9.0 General Infrastructure Element
- 10.0 Utilities Element
- 11.0 Transportation Element
- 12.0 Intergovernmental Coordination Element

- 13.0 Conservation Element
- 14.0 Capital Improvements Elements
- 15.0 Architectural Design Guidelines Element
- 16.0 Landscape Design Guidelines Element
- 17.0 Facilities Maintenance Element
- 18.0 Coastal Management Element

The process of preparing the campus master plan consisted of the following four steps.

1. *An Inventory and Analysis* of existing conditions and trends which evaluated present and likely future deficiencies and development constraints and opportunities.
2. *Evaluation and Appraisal Report* which posed fundamental choices concerning the 10 year "futures" of both campuses.
3. *Conceptual Development Plans*, including numerous refinements, representing a consensus for the pattern, quality and logistics for development of the campuses as they should exist in 2000-2010.
4. *A Draft Campus Master Plan* describing in detail various elements of the plan including Goals, Objectives and Policies and the technical analyses on which they are based.

The process of preparing the campus master plan reflected and responded to an unprecedented level of input and interaction from various segments of the University Community. Multiple meetings and workshops were held at each stage of the planning process, culminating in the plans presentation to, and endorsement by, the University Council.

The draft final master plan began a lengthy process of external review. The draft plan was reviewed by Miami-Dade County, the City of North Miami, the Town of Sweetwater, the regional planning council and water management district, the State Land Management Advisory Council and a number of state agencies prior to adoption. The plan was subjected to review by the general public and two duly noticed public hearings were conducted to solicit public input on the draft plan. This plan reflects those comments and is the result of this internal and external review process.

SW 8TH STREET (GOLDEN PANTHER TRAIL)

LEGEND

BLDG #	BUILDING NAME
01	CHARLES E. PERRY PRIMERA CASA BUILDING
02	DEUXIEME MAISON
03	ERNEST R. GRAHAM UNIVERSITY CENTER
03A	GRAHAM CENTER ADDITION
04	VERTES HAUS
04A	CENTRAL UTILITIES
05	GREEN LIBRARY
06	OWA EHAN
06A	WERTHEIM CONSERVATORY/BIO. GREENHOUSE
07	GOLDEN PANTHER ARENA/FITNESS CENTER
07A	FITNESS CENTER ADDITION
08	ENGINEERING & COMPUTER SCIENCE
09	CHEMISTRY & PHYSICS
09A	CHEMISTRY & PHYSICS ADDITION
10	COLLEGE OF HEALTH
11	RYDER BUSINESS BUILDING
12	HEALTH CARE & WELLNESS CENTER
12A	HEALTH CARE & WELLNESS CENTER EXPANSION
13	LABOR CENTER
14	SANFORD AND DOLORES ZIFF EDUCATION BUILDING
15	BASEBALL STADIUM
16	HERBERT AND NICOLE WERTHEIM PERFORMING ARTS CENTER
17	CHILDREN'S CREATIVE LEARNING CENTER
18	STUDENT HOUSING
19	PANTHER RESIDENCE HALL
19A	UNIVERSITY TOWER
19B	EVERGLADES HALL
19C-E	FUTURE HOUSING
20	ATHLETICS ACADEMIC FITNESS CENTER
21	HEALTH & LIFE SCIENCES
21A	HEALTH & LIFE SCIENCES - PHASE TWO
22	CAMPUS SUPPORT COMPLEX - SHOPS
23	CAMPUS SUPPORT COMPLEX - ADMINISTRATION
24	SCHOOL OF ARCHITECTURE
25	MANAGEMENT AND ADVANCED RESEARCH CENTER
26	CARLOS FINLAY ELEMENTARY SCHOOL
27	FIU COMMUNITY STADIUM
28	UNIVERSITY HOUSE
29	ART MUSEUM
30	GRADUATE SCHOOL OF BUSINESS
30A	GRADUATE SCHOOL OF BUSINESS - PHASE TWO
31	CENTRAL UTILITIES EXPANSION
32	COLLEGE OF LAW
33	RECREATION COMPLEX
33A	RECREATION COMPLEX - PHASE TWO
34	PUBLIC SAFETY
35	ARTS COMPLEX II
36	SOCIAL SCIENCES
37	TRAINING CENTER
38	SUPPORT
39	MOLECULAR BIOLOGY
40	WOMEN'S SOFTBALL/TENNIS CENTER
41	HURRICANE CENTER (NOAA)
41A	INTERNATIONAL HURRICANE CENTER
42	UP INFORMATION CENTER
43	RECREATION FIELDS
44	SURFACE PARKING
45-A	FUTURE DEVELOPMENT - A
45-B	FUTURE DEVELOPMENT - B
45-C	FUTURE DEVELOPMENT - C
45-D	FUTURE DEVELOPMENT - D
45-E	FUTURE DEVELOPMENT - E
46	COMPUTER SERVICES
47	MONUMENT
CO1	TOWER
CO5	DUPLICATING CENTER
CO5A	DUPLICATING CENTER ADDITION
G1-G5	GREEK HOUSING
P1-P6	PARKING GARAGE
W01	SCULPTURE BUILDING
W01C	CERAMICS BUILDING
W02-9	EXISTING SUPPORT

EXISTING BUILDINGS



BUILDINGS IN PLANNING AND CONSTRUCTION



FUTURE DEVELOPMENT



TAMIAMI PARK

TAMIAMI PARK

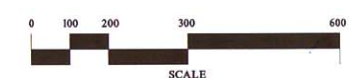
MIAMI - DADE COUNTY
FAIR & EXPOSITION



FLORIDA INTERNATIONAL UNIVERSITY

2000-2010 MASTER PLAN UPDATE

- UNIVERSITY PARK -



OCTOBER 2003

FLORIDA TURNPIKE

SW 117TH AVE.

SW 107TH AVE. - (FIU AVENUE)



LEGEND

- 01 ENGINEERING CENTER
- 02 MAINTENANCE
- 03 PHASE 1 DEVELOPMENT
- 04 PHASE TWO DEVELOPMENT
- 05 PHASE THREE DEVELOPMENT
- 43 RECREATION FIELDS
- 44 SURFACE PARKING

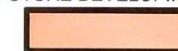
EXISTING BUILDINGS



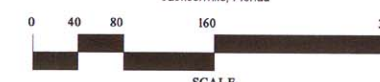
BUILDINGS IN PLANNING AND CONSTRUCTION



FUTURE DEVELOPMENT



FLORIDA INTERNATIONAL UNIVERSITY 2000-2010 MASTER PLAN UPDATE - ENGINEERING CENTER -



OCTOBER 2003

RS&H

Architectural, Engineering, Planning
and Environmental Services
Jacksonville, Florida

CITY OF NORTH
MIAMI

To Biscayne Blvd.
Via NE 151 Street

OLETA STATE PARK

OLETA STATE PARK

BAY VISTA BOULEVARD

BISCAYNE BAY

LEGEND

- 01 HOSPITALITY MANAGEMENT
- 01A AQUATIC CENTER
- 02 ACADEMIC ONE
- 03 WOLFE UNIVERSITY CENTER
- 03A WOLFE UNIVERSITY CENTER EXPANSION
- 04 ACADEMIC TWO
- 05 LIBRARY
- 06 STUDENT HEALTH CENTER
- 06A STUDENT HEALTH CENTER ADDITION
- 07 CONFERENCE CENTER
- 12 ACADEMIC FOUR
- 13 MARINE BIOLOGY (ACADEMIC THREE)
- 14 HOTEL
- 15 HOUSING
- 16 INFORMATION CENTER
- 20 PDC - HRS ADMINISTRATION
- 21 WELLNESS CENTER
- 22 CENTRAL RECEIVING
- 23 PUBLIC SAFETY
- 24 PHYSICAL PLANT
- 25 GROUNDS
- 27 ECOLOGY LAB
- 29A FUTURE DEVELOPMENT - A
- 29B FUTURE DEVELOPMENT - B
- 43 RECREATION FIELDS
- 44 SURFACE PARKING
- H1 BAY VISTA HOUSING

EXISTING BUILDINGS



BUILDINGS IN PLANNING
AND CONSTRUCTION



FUTURE DEVELOPMENT



FLORIDA INTERNATIONAL UNIVERSITY

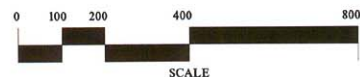
2000-2010 MASTER PLAN UPDATE
- BISCAYNE BAY CAMPUS -

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Architectural, Engineering, Planning
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Jacksonville, Florida



NORTH



OCTOBER 2003

1.0 ACADEMIC MISSION OF THE UNIVERSITY ELEMENT

“Florida International University (FIU) is an urban, multi campus, research university serving Southeast Florida, the state, the nation and the international community. It fulfils its mission by imparting knowledge through excellent teaching, promoting public service, discovering new knowledge, solving problems through research, and fostering creativity”.

As a member of the State University System (SUS) of Florida, FIU is a research university offering a diverse selection of undergraduate, graduate and professional programs. Through its 16 colleges and schools, FIU offers 191 baccalaureate, masters and doctoral degree programs and conducts basic and applied research. The University currently has more than 32,000 students; 1,100 full-time faculty; and 90,000 alumni, making it the largest public university in South Florida.

FIU’s Institutional Values Statement commits to:

- Freedom of thought and expression.
- Excellence in teaching and in the pursuit, generation, dissemination and application of knowledge.
- Respect for the dignity of the individual.
- Respect for the environment.
- Diversity.
- Strategic, operational and service excellence.

FIU’s Operational Philosophy:

Strategic operational and service excellence is an institutional imperative at FIU. The University seeks to employ concepts and strategies that foster systematic institution-wide continuous improvement in providing services and in achieving constituent satisfaction. FIU’s guides for management excellence are:

- Quality: generating outcomes and services that exceed constituent expectations.
- Competitiveness: performing in a way that allows the University to achieve a comparative advantage in our endeavors
- Accountability: monitoring and assessing the results of policies, programs and processes to ensure that results are achieved in an efficient, effective manner
- Innovation: exploring and implementing new ideas in our administrative, research and academic endeavors
- Collegiality: formulating decisions, policies and management practices through a consultative process engaging the University community
- Diversity: creating a University environment that is responsive to diversity in all of its forms
- Operational Excellence: implementing improved information and management systems to optimize use of our resources.

FIU's Strategic Themes:

Strategic themes are areas of activity (academic programs, research and service) that offer opportunities for development and the potential to achieve strategic advantages in higher education. Given rapid globalization in the 21st century, FIU's strategic themes necessarily involve engagement at both the local and global level. Six themes guide the University's development: International, Environment, Florida and Local Economic Development, Health, Arts, Culture and Diversity and Learning Opportunities.

Overall, the University's vision embraces six institutional goals:

1. To educate undergraduate students to:
 - Become critical thinkers empowered to learn and to integrate their understanding in a variety of areas of knowledge, creativity and accomplishment.
 - Possess the intellectual and personal competencies needed to excel in their fields throughout the world.
 - Understand their culture and the cultures of others and appreciate the complexities and diversity of our global society.
 - Understand and commit to their civic responsibilities.
2. To educate graduate and professional students to:
 - Demonstrate an ability to synthesize knowledge and practice in ways that produce new insights.
 - Add to the existing body of knowledge in a discipline area.
 - Understand the obligation of the holders of advanced degrees to apply their knowledge and critical intellectual abilities in an ethical manner to issues important to society.
3. To generate research results and creative contributions that achieve national and international recognition and to have at least five academic programs ranked among the top twenty-five in the United States while fostering quality in all of our programs.
4. To be a leading university in engagement by developing and implementing effective programs that addresses educational, economic, social, cultural and environmental needs through lifelong learning opportunities, research, service and creative endeavors.
5. To be a leader in developing information technology alliances and in the effective application of selected information technology to the teaching learning process, research activities, institutional administration and global engagement.
6. To enhance the financial infrastructure of the University by achieving funding equity within the university system, increasing the proportion of external contracts and grants funding and expanding significantly the University endowment.

ACADEMIC MISSION OF THE UNIVERSITY ELEMENT

Goal 1: Florida International University (FIU) is an urban, multi campus, research university serving Southeast Florida, the state, the nation and the international community. It fulfills its mission by imparting knowledge through excellent teaching, promoting public service, discovering new knowledge, solving problems through research, and fostering creativity”.

Objective 1.1 **Modifications of College/School Missions:**
The missions of individual colleges and schools shall be reviewed annually and modified in accordance with the Division of Academic Affairs planning, implementation and evaluation annual cycle.

Policy 1.1.1 FIU shall review and prioritize proposals for new academic programs in accordance with Comprehensive University Presence (CUP) procedures and subsequent modifications of its mission statement.

Policy 1.1.2 Priorities shall be established among prospective new programs based on the following criteria:

- Local, regional, national and international need
- Potential enrollment
- Maturity of the program being modified

Policy 1.1.3 Future revisions to the Academic Mission of FIU shall reflect substantial growth in research activity.

Policy 1.1.4 The campus master plan shall be amended, as needed, to reflect any revisions or modifications to the missions of individual colleges and schools.

Objective 1.2 **Modification to University Mission:**
The University Mission shall be modified every five (5) years and reviewed and approved as part of the Florida Board of Education, Division of Colleges and Universities Five Year Master Plan process.

Policy 1.2.1 The Office of the President shall develop mission statement revisions in accordance with the internal in coordination with the Executive Committee, the Strategic Planning Advisory Committee, Administrative Council, and the University Council.

Policy 1.2.2 The campus master plan shall be amended, as needed to reflect any revisions or modifications to the University's mission statement.

Objective 1.3

Master Plan Updates:

The University shall participate in the periodic updating of the adopted campus master plan in accordance Florida Board of Education, Division of Colleges and Universities requirements.

Policy 1.3.1 FIU shall submit to the Florida Board of Education, Division of Colleges and Universities within 4 years from the date of plan adoption and every 5 years thereafter, an evaluation and appraisal report which:

1. 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;
2. Identifies obstacles or problems, which resulted in under achievement of goals, objectives and policies;
3. 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;
4. Addresses local government and public participation in the process;
5. 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;
6. Identifies proposed and anticipated amendments necessary to address identified problems and opportunities; and
7. Identifies a means of ensuring continuous monitoring and evaluation of the plan during the remainder of the overall planning period.

Policy 1.3.2 FIU shall submit to the Florida Board of Education, Division of Colleges and Universities, within 5 years from the date of plan adoption and every 5 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 planning period.

2.0 ACADEMIC PROGRAM ELEMENT

Florida International University provides a vast and rapidly expanding array of educational opportunities for the over 32,686 students enrolled in the Fall 2001 academic degree programs. The majority of these students take classes at University Park, though a large percentage of students take classes at more than one campus due to the availability of course offerings.

In addition to the students found on-campus, there are a number of students who are enrolled in off-campus degree programs, either out of the country or on an independent basis. These students are currently a small percentage of the total University headcount. However, as technology continues to expand, more students are expected to enroll in these types of programs.

The University is made up of sixteen colleges and schools. Colleges include; College of Arts and Sciences, College of Business Administration, College of Education, College of Engineering, College of Health and Urban Affairs, College of Law, Honors College and Graduate Studies. Schools include; School of Accounting, School of Architecture, School of Computer Sciences, School of Music, School of Health, School of Nursing, School of Policy and Management, School of Social Work, School of Hospitality Management and School of Journalism and Mass Communication. The Honors College is a program and offers no major and the School of Law is a new program and has no history of enrollment. Many courses in the Colleges of Arts and Sciences, Business Administration, Education and Health and Urban Affairs are duplicated at each campus. The Schools of Hospitality Management, and Journalism and Communications conduct the majority of their concentration courses at the Biscayne Bay Campus.

Within the University structure, there are 310 baccalaureate, master's, and doctoral majors and 191 academic degree programs. Majors are fields of study with areas of concentration, tracks or sequences. Authorized degree programs may have more than one major in a degree program.

In accordance with the University mission, FIU has committed itself to providing a quality education to the South Florida area by offering programs at locations both on and off campus. University OutReach advances the mission of Florida International University by delivering quality lifelong learning programs that fulfill the educational needs of local, state, regional, national, and international learners. Through innovative and effective instructional approaches, the Division offers academic credit, distance learning, and professional development and personal enrichment programs in partnership with FIU's academic units that maximize access and value. University OutReach's customer-driven professional team incorporates leading edge technologies in an optimal learning environment.

2.0 ACADEMIC PROGRAM ELEMENT

GOAL 1: FIU shall develop and maintain academic programs reflecting and implementing the Missions of the University and individual schools and colleges.

Objective 1.1 Enrollment and Program Growth and Distributions:
FIU shall plan for and support student enrollments of 27,947 FTE and 54,430 headcount by the end of the 2010-11.

Policy 1.1.1 Incremental enrollment projections shall be as shown on Table 2.1 and Table 2.2:

Table 2.1 Projections for Future Student FTE Enrollment

	2001-02	2002-03	2003-04	2004-05	2005-06	2009-10	2010-11
UNIVERSITY PARK							
Undergraduate	12,570	13,530	14,011	14,659	15,182	17,602	18,090
Graduate/Law	2,190	2,520	2,733	2,989	3,268	4,325	4,712
BISCAYNE BAY CAMPUS							
Undergraduate	2,959	2,986	3,021	3,045	3,075	3,085	3,290
Graduate	484	484	484	484	484	643	650
BROWARD CAMPUSES							
Undergraduate	77	77	77	77	100	170	180
Graduate	141	190	240	278	288	300	305
OTHER (1)							
Undergraduate	294	298	302	306	310	445	460
Graduate	147	154	162	170	179	257	260
TOTAL							
Undergraduate		16,891	17,411	18,087	18,667	21,302	22,020
Graduate		3,348	3,619	3,921	4,219	5,525	5,927
GRAND TOTAL	18,999	20,239	21,030	22,008	22,886	26,827	27,947

Source: Facilities Enrollment Plan, 9/2002

(1) Includes Advising Center, Affiliated, Certified Programs, National Student Exchange and University College.

Table 2.2 Anticipated Student Headcount by Campus (2) Based on FTE Projections

	2002-2003	2003-2004	2004-2005	2005-2006	2009-2010	2010-2011
UNIVERSITY PARK	28,300	29,520	31,120	32,530	38,660	40,210
BISCAYNE BAY CAMPUS	7,950	8,030	8,080	8,150	8,540	9,020
BROWARD CAMPUSES	640	760	850	930	1,130	1,170
OTHER (1)	2,530	2,590	2,660	2,730	3,930	4,030
TOTAL	39,420	40,900	42,710	44,340	52,260	54,430
UNDUPLICATED HEADCOUNT	33,700	34,700	36,200	37,400	42,800	44,400

(1) Includes Advising Center, Affiliated, Certified Programs, National Student Exchange and University College.

(2) These figures include the projected duplicate count for those students enrolled at more than one campus.

Objective 1.2

Planned and Proposed Academic Programs:

FIU shall establish, locate and support academic programs necessary to support the academic mission at projected levels of enrollment at the University Park and Biscayne Bay Campus through 2010-11.

Policy 1.2.1 FIU shall provide and locate academic programs of the following colleges at the University Park through 2010-11.

Arts and Sciences
Business Administration
Education
Engineering
Health & Urban Affairs

Policy 1.2.2 FIU shall provide and locate academic programs of the following colleges at Biscayne Bay Campus through 2010-11.

Arts and Sciences
Business Administration
Education
Hospitality Management
Journalism and Mass Communication

Policy 1.2.3 FIU shall provide the specific academic programs within each college as contained in Table 2.1 Current and Planned Academic Programs.

Policy 1.2.4 2002-2006 Priorities for new academic programs as documented in Florida Board of Education, Division of Colleges and Universities New Programs Which May Be Considered" are included in Table 2.3:

Table 2.3 2002-2006 Priorities for Academic Programs

PROGRAM	DEGREE
ARCHITECTURE	
Landscape Architecture	B
Graphic Design	M
Industrial Design	M
Interior Architecture	M
Interior Design	M
Urban and Regional Planning	M
ARTS AND SCIENCES	
Computer Programming Technology	B
Informatics	B
Music	B
Physics	B
Meteorology / Atmospheric	B
Software Systems Engineering	B
Speech Communication	B
African New World Studies	B
Legal Studies	B
Liberal Studies	M
Biochemistry	M
Informatics	M
Museum Studies	M
Performing Arts Production	M
Humanities	M
Software Systems Engineering	M
Theatre	M
French	M
Philosophy	M
Environmental Studies	D
Biochemistry	D
English	D
Informatics	D
Mathematics	D
Music	D
Health Psychology	D
Legal Psychology	D
Religious Studies	D
Cognitive Science	D
Forensic Science	D
Art History	D
BUSINESS	
Human Resource Management	M
Marketing	M
EDUCATION	
Early Childhood Education	B
Higher Education Administration	M
School Counseling	D
School Psychology	D
Educational Research	D
Health, Physical Education, Recreation	D

Table 2.3 2002-2006 Priorities for Academic Programs (continued)

PROGRAM	DEGREE
ENGINEERING	
Biomedical Engineering	B
Environmental Engineering	B
Construction Engineering	B
Materials Science and Engineering	M
Technology Management	M
Telecommunications and Networking	M
Industrial and Systems Engineering	M
Construction Engineering	M
Enterprise Engineering	M
Media Engineering	M
Biomedical Engineering	D
Industrial and Systems Engineering	D
Materials Science and Engineering	D
Telecommunications and Networking	D
Computer Engineering	D
Engineering	D
HEALTH AND URBAN AFFAIRS	
Physician Assistant	M
Nursing	D
Public Health	D

Policy 1.2.5 Funding shall be distributed based on a pro rata basis to existing academic programs based on existing and projected enrollments

Policy 1.2.6 Priorities for new academic programs shall be based on the following criteria;

Local, regional, national and international need
Potential enrollment
Maturity of program being modified

Policy 1.2.7 Unforeseen potential academic program elements and grant opportunities shall be reviewed and acted upon through the Division of Sponsored Research and Training Procedures applying such criteria as:

Compliance with State and Federal regulations
Appropriateness to Academic Program and Mission
Capacity of physical and administrative infrastructure

Policy 1.2.8 The campus master plan shall be amended as needed to include any unforeseen program elements.

3.0 URBAN DESIGN ELEMENT

Historically both University Park and Biscayne Bay Campus of Florida International University have developed in a sprawling "suburban" fashion, with loose aggregations of monolithic "modern" concrete structures. With growing awareness of declining land resources, potential environmental degradation and inefficient circulation patterns, there is a need for a new paradigm to guide campus development. This Comprehensive Master Plan Update reflects the University's commitment to the original Urban Design of each campus and to the refinement and extension of the base concepts earlier efforts have created. FIU proposes mechanisms to assure funding is made available to continue the University's extensive landscape treatments, maintaining consistency of site furnishings and design forms. FIU also proposes enhancements to its urban design character by the creation of "memorable" spaces, identifiable entrances, establishing focal elements within the internal campus and improved way finding; all which contribute greatly in the continuation of the urban design context already established on campus.

All campuses are well insulated from off-campus land use influences. University Park and Engineering Center are surrounded by the "barrier" edge conditions of major highways and "buffer" edge conditions of open spaces, while Munisport (landfill) and Biscayne Bay isolate Biscayne Bay Campus from context area land uses.

The response at University Park is to encourage a more compact, "urban" pattern within the academic core. A new sense of geometric order is introduced with renewed emphasis on axial patterns and spatial sequences of malls and quadrangles. In addition, the expanded campus loop road will accommodate a densification of the academic campus core. The majority of surface parking lots will eventually be replaced with proposed academic facilities. Planned parking garages outside of the loop road will ensure proposed academic expansion is contained within an urban campus core (see Figure 3.1).

Engineering Center, although visually separated from University Park, will maintain its connectivity to the main campus through a consistency in design fabric in the form of enhanced pedestrian corridors, street furniture, signage and in its participation with the Sweetwater community. The City of Sweetwater is receptive to working with FIU to enhance the site within its community; in the form of sidewalks, unique lighting and transit linkages (see Figure 3.2). This consistency is to be considered whenever upgrades or expansion occurs. Other issues such as building to space relationships, pedestrian movement, activity nodes, parking and landscaping are to be considered on this site and will be addressed in the appropriate element.

At Biscayne Bay Campus the challenge is to preserve open space and views while consolidating a compact academic core, linked effectively to residential enclaves, Kovens Center and proposed future housing south of the academic core (see Figure 3.3).

3.0 URBAN DESIGN ELEMENT

GOAL 1: Florida International University shall create high quality, memorable campus environments suited to education and a sense of collegiality, comprising a compact formal development pattern within a rich outdoor tropical environment.

Objective 1.1 **Symbolic Campus Open Spaces:**
Develop, protect and enhance the campuses of Florida International University as a sequence of symbolic campus open spaces.

Policy 1.1.1 **UNIVERSITY PARK:**

All future development within the loop road shall place buildings and landscape features so as to preserve and reinforce the open space network of malls, quadrangles, courtyards and visual corridors including:

East-West Axis: The “Avenue of the Professions” all connecting the Golden Panther Arena, Green Library, Graham Center and University Park Apartments. Orient and configure Law School in a manner to promote extension of axis to through Law School to Golden Panther Arena.

East West Axis: Extending from the west facade of Owa Ehan to the Education Building west through the School of Architecture, to the proposed Graduate School of Business along Loop Road. An axis through the Graduate School of Business to a terminus of axis with a central focal element within proposed housing component.

East West Axis: C Visual corridor from SW 107th Avenue entrance to housing quadrangle, through housing quadrangle and extending west to proposed Speciality Housing and proposed Recreation Center. Locate Speciality Housing and the new Recreation Center to accommodate extension of pedestrian corridor.

Entrance: Visual corridor from S W 8th Street through mall to Ryder Business Administration. Close SW 112th Avenue loop south of Ryder Business Building to create a pedestrian mall.

North-South Axis: “Avenue of the Arts” pedestrian corridor that connects Graham Center to Wertheim Performing Arts Center. Locate Arts Complex 2 and Executive Center to accommodate pedestrian axis.

North-South Axis: Orient and configure proposed Law School to promote a pedestrian corridor extended south from proposed housing

complex.

Diagonal Axis: Pedestrian corridor and sequence of spaces extending from the housing quadrangle to the central campus quadrangle to the northeast campus signature corner. Design proposed boulevard from Loop Road for access to potential National Library, to accommodate an extension of pedestrian axis to a prominent urban space at northeast corner of campus.

Diagonal Axis: Secondary pedestrian corridor extending from Continuous Recreation Space to central focal element of proposed Housing through Graduate School of Business to proposed campus green south of Ryder Business Building Orient and configure proposed Housing and Graduate School of Business to promote this axis.

Diagonal Axis: Secondary pedestrian corridor from the Wertheim Performing Arts Center to the proposed Housing/Social Science Complex. Modify the proposed Arts Museum facility and orient the proposed Housing/Social Sciences Complex to promote this axis.

North South Axis: Secondary pedestrian corridor extending from the north parking lots to Owa Ehan and Vierdes Haus.

Policy 1.1.2 Engineering Center

Create a new main entrance from West Flagler Street to create a much desired identifiable entry to this site. This design element will include signage, landscaping and lighting to reflect that of University Park.

Policy 1.1.3 Preserve a landscaped open buffer from West Flagler Street into the site, with a landscaped median into surface parking lots.

Policy 1.1.4 Create an enhanced boundary of the site along SW 107th Avenue with vegetation, signage and lighting. This affords a better opportunity for an embellished campus "edge" to the community.

Policy 1.1.5 The use of signage, hardscape and lighting will be used along SW 107th Avenue to create pedestrian and vehicular linkages from TEC site to University Park. This is essential to the identification of the site as an integral part of FIU.

Policy 1.1.6 BISCAYNE BAY CAMPUS

Future academic and support facilities shall be clustered to preserve and "frame" major open spaces to the north and south of Academic One and Two and the Wolfe Student Center and to the east of

Kovens Conference Center.

Policy 1.1.7 Preserve Biscayne Bay views and open spaces by locating buildings in a manner not to disrupt major corridors to the bay from the internal campus.

Policy 1.1.8 Define open spaces by formal building arrangements characterized by compatible scale and connected architectural features including covered walkways and colonades. .

Policy 1.1.9 Conserve campus open spaces by minimizing at grade parking lots and constructing additional parking in parking structures.

Policy 1.1.10 UNIVERSITY WIDE

Foster and encourage the continuity of design associations as an unifying element in architectural and landscape architectural elements for future campus development. Promote the continuation of established themes on campus such as arched colonnades, accents of keystone, limestone, sandstone and pastel color finishes and consistent site furnishings and landscape patterns,

Objective 1.2

Future Open Spaces:

Develop and enhance future open spaces to coincide with the development of future academic and support facilities.

Policy 1.2.1 UNIVERSITY-WIDE

Design review procedures shall ensure that all future buildings are sited to avoid encroachments upon designated open spaces, axes and view corridors.

Policy 1.2.2 Funding for new and enhanced open spaces shall be secured by:

- Allocating proportional costs to future building programs and budgets.
- Establishing funding line items for open space enhancements.

Policy 1.2.3 UNIVERSITY PARK:

Develop a quality open space within a proposed quadrangle between proposed Housing and the Graduate School Of Business complex.

Policy 1.2.4 BISCAYNE BAY CAMPUS:

Create prominent formal quadrangles with special amenities, north of Academic One to serve as a campus core arrival, and south of Academic Two to serve as terminus for pedestrian axis from Kovens Center.

Policy 1.2.5 Improve and enhance remaining plazas associated with Academic One and Academic Two and Wolfe Student Center with improved pavements, site furnishings signage and landscaping.

Policy 1.2.6 Realign walkways and enhance the bayside with landscaping, lighting, signage and site furnishings; to create an inviting setting along Biscayne Bay to foster higher use of this space for recreation and bay viewing.

Objective 1.3 Service and Loading:
Organize and place service and loading functions to avoid pedestrian conflicts and minimize visibility from the campus open space system.

UNIVERSITY WIDE

Policy 1.3.1 To the extent feasible service and loading areas shall be clustered to minimize service drives and geographic dispersion of service functions.

Policy 1.3.2 Service functions shall be placed in areas screened from major open spaces, with minimum crossing of open spaces by service drives.

Policy 1.3.3 Service and loading areas shall be provided with visual and acoustical screening including structural or landscape enclosures.

Objective 1.4 Host Community Interface:
Ensure University edge conditions are compatible or screened from host community boundaries with respect to building placement, orientation, mass and scale and ground level character.

Policy 1.4.1 UNIVERSITY PARK:
On the north and east campus edges which directly abut the community, locate future buildings no closer than 100 feet from the campus edge and provide a continuous landscape buffer.

Policy 1.4.2 UNIVERSITY PARK:
Orient a prominent structure with outward orientation and an associated urban space to serve as a grand entrance facility to the community.

Policy 1.4.3 BISCAYNE BAY CAMPUS:
The existing natural character of the site will be retained by the continued internal development of the campus core while maintaining a significant perimeter buffer.

- Policy 1.4.4 UNIVERSITY WIDE:
FIU shall establish an urban design liaison with planning staff of Miami-Dade County, City of Sweetwater and City of North Miami and other entities within the context area to provide the mutual review of urban design implications of future developments near the campus/community interface.

Objective 1.5 Functional Linkages:
Maintain and enhance functional linkages between major campus activity centers.

- Policy 1.5.1 UNIVERSITY-WIDE
Encourage the development of an alternative internal campus transit system.
- Policy 1.5.2 Create effective continuous pedestrian and visual linkages with strong axial orientations. Enhance these linkages with shade trees and hardscape features.
- Policy 1.5.3 Create clusters of academic and support functions with building clusters characterized by compactness, compatibility of use and linkage features including continuous pedestrian corridors and covered walkways.
- Policy 1.5.4 Distribute on-campus housing and related student services to "activate" all campus quadrants.
- Policy 1.5.5 Create covered walkways where feasible to link facilities. Funding will be allocated from building construction money for the creation of covered walkways.
- Policy 1.5.6 UNIVERSITY PARK:
Distribute campus parking outside the academic core and differing campus quadrants, to minimize pedestrian-vehicular conflicts, walking distances and promote a pedestrian oriented campus.
- Policy 1.5.7 Create sidewalks along the loop road.
- Policy 1.5.8 BISCAYNE BAY CAMPUS
Reconfigure parking lot for greater ease of travel and organization of spaces.
- Policy 1.5.9 Embellish existing entry drive with enhanced landscaping, signage and lighting to promote better way-finding and a sense of arrival to the campus.

Policy 1.5.10 Provide an improved entry drive.

Policy 1.5.11 Construct enhanced drop-off in front of Academic Two to enhance sense of arrival. Improve and enhance with landscape, signage, furnishings and lighting to provide a quality formalized urban space.

Policy 1.5.12 Accentuate and promote a visual and pedestrian link from the campus core to the Kovens Center.

**Objective 1.6 Energy Efficiency:
Provide campus buildings and facilities which are energy efficient.**

Policy 1.6.1 Establish the following design criteria as part of the architectural design and siting criteria for all future buildings.

UNIVERSITY WIDE:

- High efficiency lighting fixtures and control systems.
- Minimum use of glass on west exposures and use of shading devices particularly on east and south facing windows.
- Placement of landscaping to provide maximum solar protection and direct optimum cooling breezes.
- Apply upgraded standards for building thermal insulation and high efficiency air conditioning systems.

**Objective 1.7 Compliance:
Monitor conformance of future developments with the urban design guidelines referenced herein.**

Policy 1.7.1 UNIVERSITY-WIDE
A President-appointed design review committee shall review future development compliance with urban design criteria, integrated with the review of architectural and landscape design characteristics.

**Objective 1.8 Implementation:
Development of the campus spatial environment shall be consistent with the development of future buildings and landscape improvements.**

Policy 1.8.1 UNIVERSITY PARK:

Timing and priorities for development of the spatial environment of University Park shall reflect the timing and priorities for future buildings as described in Table 14.2 and the timing and priorities for future landscape and open space development.

Policy 1.8.2 BISCAYNE BAY CAMPUS

Timing and priorities for development of the spatial environment of Biscayne Bay Campus shall reflect the timing and priorities for future buildings as described in Table 14.3 and the timing and priorities for future landscape and open space development.

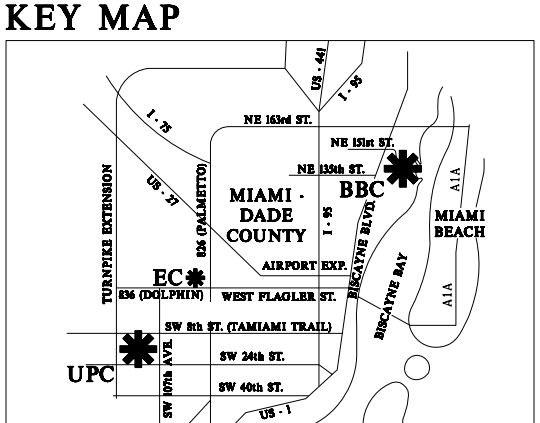
Policy 1.8.3 UNIVERSITY-WIDE

“Landscaping improvements” shall be defined as the creation of secure, environmentally sound campus settings of rich visual quality, that seamlessly integrates new development sites with mature campus landscapes, enhance and define open spaces, reinforce primary campus axes and entryways and establish a sense of campus character.

URBAN DESIGN

CONFIGURATION

- LEGEND:
- CAMPUS ENTRANCES
- ROUNDAOBOUT
- BUFFER ZONE
- FOCAL AREA
- PRIMARY PEDESTRIAN LINKAGE



FINAL MASTER PLAN

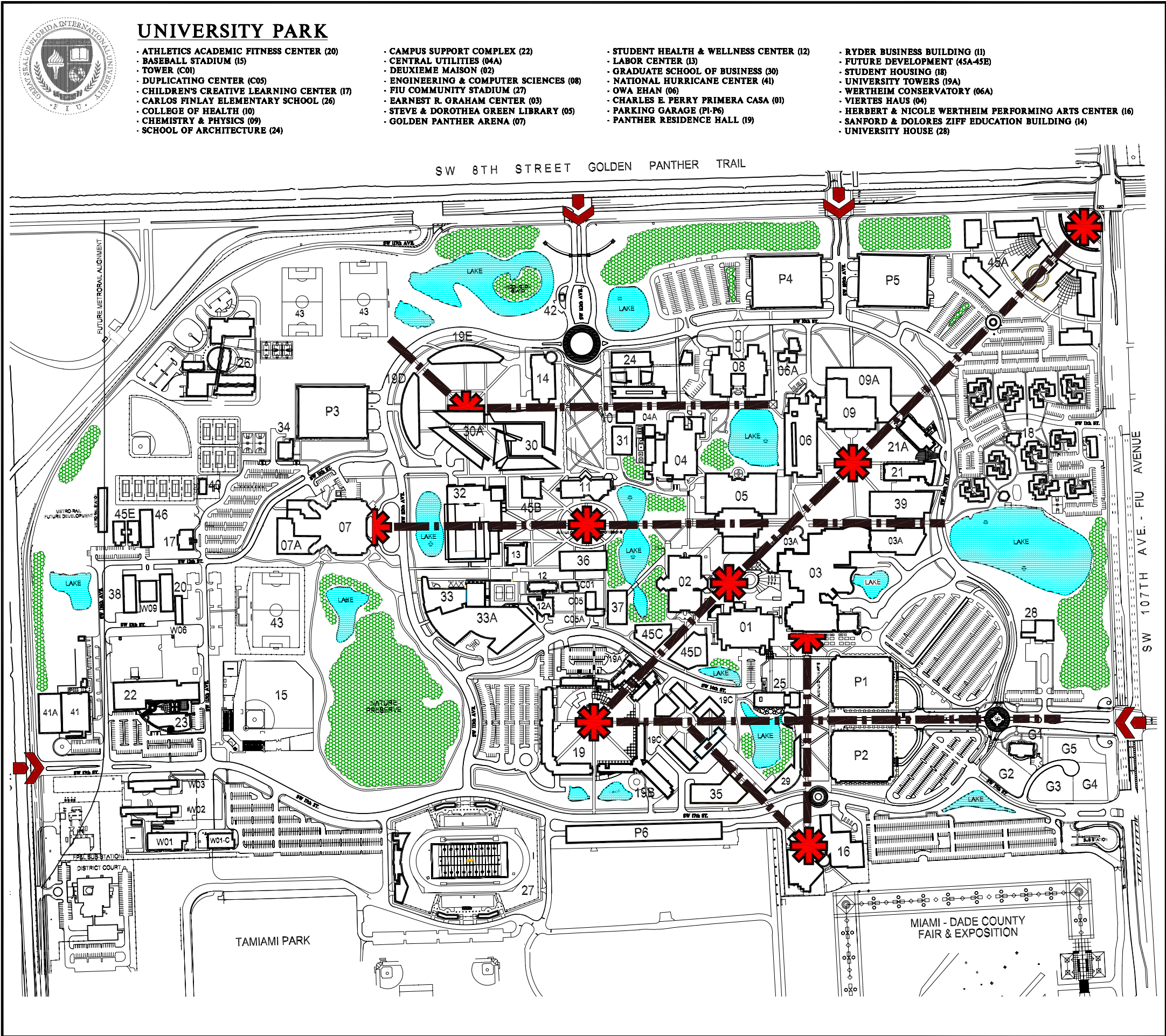
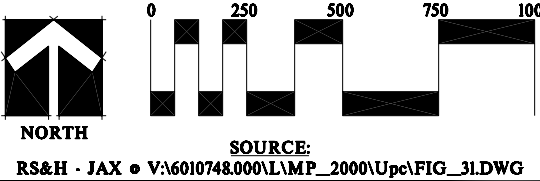
FLORIDA

INTERNATIONAL

UNIVERSITY

MIAMI, FLORIDA

DATE: OCTOBER 2003





ENGINEERING CENTER

- ENGINEERING & APPLIED SCIENCES (01)
- OPERATIONS / UTILITIES (02)
- PLANNED OR UNDER CONST. (03)
- FUTURE DEVELOPMENT (04)
- FUTURE DEVELOPMENT (05)

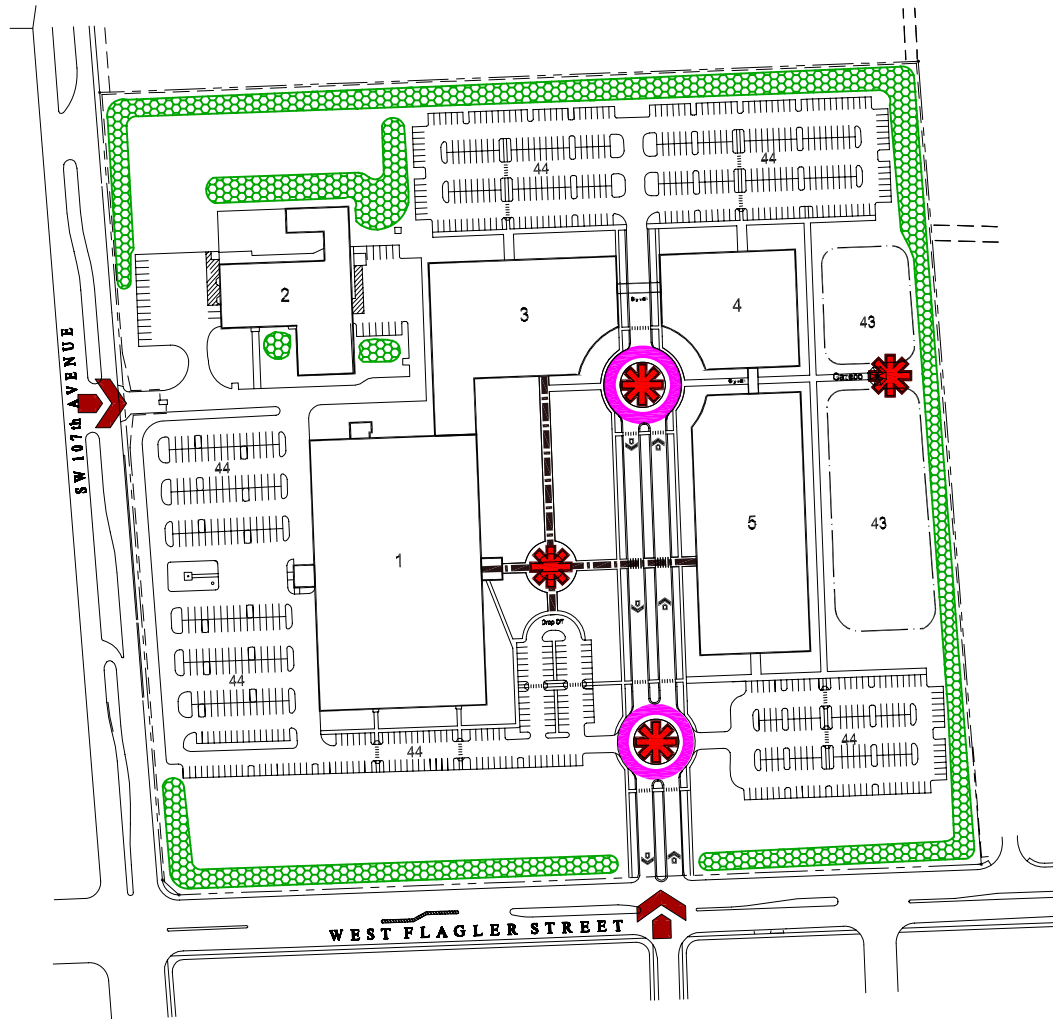


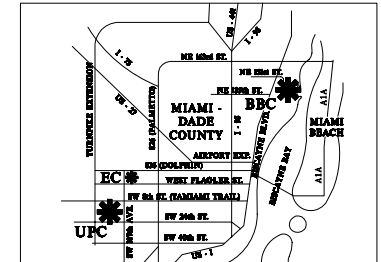
FIGURE NUMBER 3.2

URBAN DESIGN CONFIGURATION

LEGEND:

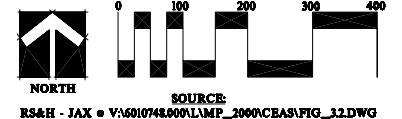
- CAMPUS ENTRANCES
- ROUNDABOUT
- BUFFER ZONE
- FOCAL AREA
- PRIMARY PEDESTRIAN LINKAGE

KEY MAP



FINAL MASTER PLAN FLORIDA INTERNATIONAL UNIVERSITY MIAMI, FLORIDA

DATE: OCTOBER 2003





BISCAYNE BAY CAMPUS

- ACADEMIC ONE (02)
- ACADEMIC TWO (04)
- AQUATIC CENTER (01A)
- BAY VISTA HOUSING (H1)
- HOTEL (04)
- HOSPITALITY MANAGEMENT (01)

- CONFERENCE CENTER (07)
- LIBRARY (05)
- ACADEMIC THREE - MARINE BLDG. (03)
- ACADEMIC FOUR (02)
- HOUSING (03)
- INFORMATION CENTER (06)

- ECOLOGY LAB (27)
- FUTURE DEVELOPMENT - A (29A)
- FUTURE DEVELOPMENT - B (29B)
- RECREATION FIELDS (43)
- FOC: HRS ADMINISTRATION (28)
- SUPPORT: CENTRAL RECEIVING (22)

- SUPPORT: PUBLIC SAFETY (23)
- SUPPORT: PHYSICAL PLANT (24)
- SUPPORT: GROUNDWORKS (25)
- STUDENT HEALTH CENTER (06-06A)
- WELLNESS CENTER (21)
- WOLFE UNIVERSITY CENTER (03-03A)

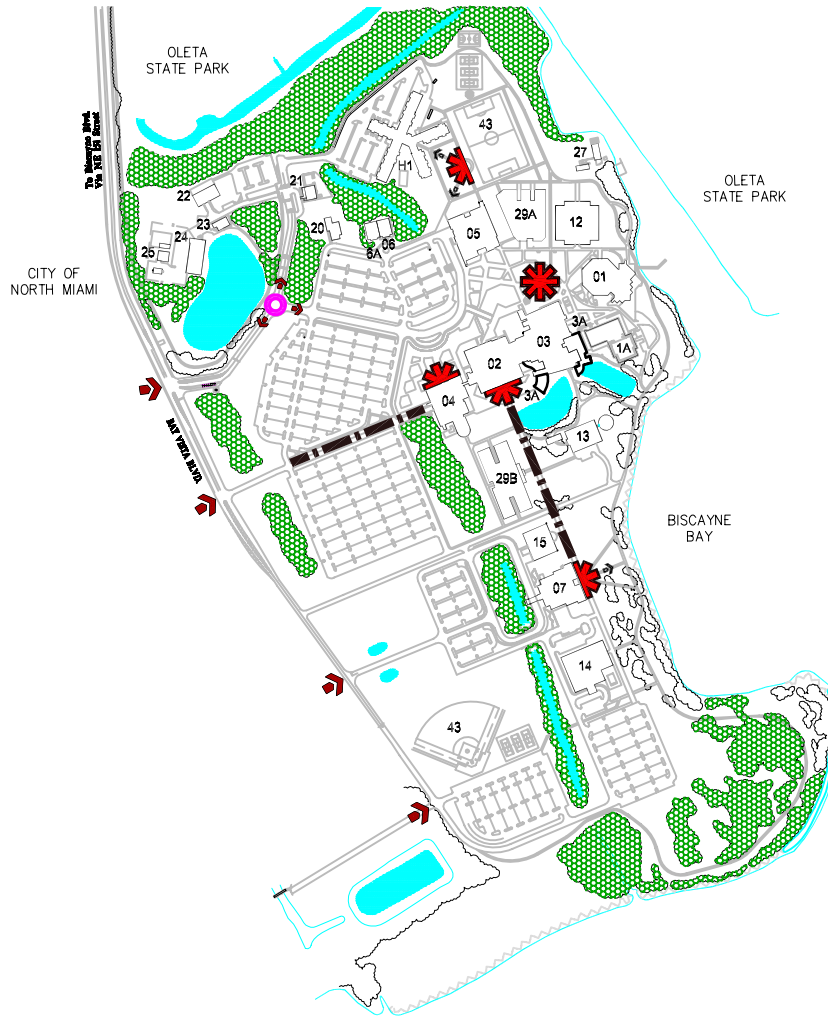


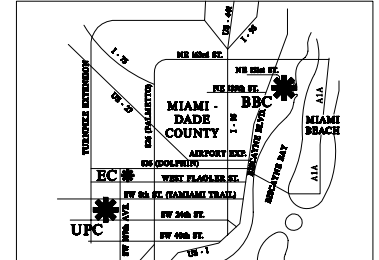
FIGURE NUMBER 33

URBAN DESIGN CONFIGURATION

LEGEND:

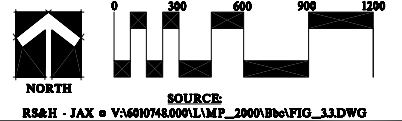
- CAMPUS ENTRANCE
- ROUNDABOUT
- BUFFER ZONE
- FOCAL AREA
- PRIMARY PEDESTRIAN LINKAGE

KEY MAP



FINAL MASTER PLAN FLORIDA INTERNATIONAL UNIVERSITY MIAMI, FLORIDA

DATE: OCTOBER 2003



4.0 LAND USE ELEMENT

Florida International University faces no greater challenge than to accommodate its future expansion needs while facing dwindling land resources, preserving important environmental resources and managing complex development influences exerted by Florida's largest urban metropolitan area. At University Park the challenge is to move toward a more compact, efficient urban scale of development. One example of this can be accomplished by relaxing height restrictions for new construction as well as exploring structural improvements to existing buildings for additional floors. Moreover, by using the best and highest use of land, academic facilities will dominate the campus core, with surface parking re-located to the periphery, reducing vehicular and pedestrian conflicts, thus, creating a safer, more fluid environment for its users (see Figure 4.1).

Engineering Center will remain a viable location for expansion opportunities for specific academic in engineering and applied sciences, and technology development programs. To effectively develop this site, a more efficient access and circulation pattern is addressed. The relocation of the main entrance and better parking facilities will create a more user-friendly atmosphere for those faculty and students utilizing its facilities. Expansion opportunities to the north and east will accommodate new facilities as well as potential recreational fields, to augment those at University Park (see Figure 4.2).

Development at Biscayne Bay Campus must place renewed emphasis on embracing the unique value of the bayfront while consolidating a highly fragmented development pattern. This can be accomplished by linking a new compact academic core with areas of new growing areas of development, such as the Kovens Center. Additional recreational facilities are enhanced in relation to the housing in the northern portion and enhanced in the central portions of campus by existing fields and open spaces. A new Recreation Center will be located adjacent to the existing housing north of The Library. The placement of the Recreation Center allows for access and service from the existing parking lot (see Figure 4.3).

Vegetative buffers and landscape enhancements will be created along Bay Vista Boulevard to decrease the visual impact of surface parking to the campus. Enclosure and edge definition of the existing green space (currently bordered by The Library, Hospitality Management and Academic One) can be accommodated by the siting of the additional classroom facilities to the northern edge of the green.

4.0 LAND USE ELEMENT

GOAL 1: Manage land use on the campuses of Florida International University in a manner which facilitates the academic mission, conserves land for future needs, protects valuable natural resources, and coordinates with land use policies of the host communities.

Objective 1.1 Protection of Natural Resources:
Ensure that future campus development conserves valuable marine, wetlands, surface waters and upland natural resources consistent with Federal, State and Miami-Dade County regulations.

Policy 1.1.1 Prepare and, thereafter, maintain a computerized information file documenting key development limitations including but not limited to jurisdictional wetlands, and habitats of threatened or endangered species.

Policy 1.1.2 Establish an internal "land management review process" to ensure compliance of future campus development activities with environmental and regulatory constraints. Prior to development commitments, building siting or deviations from the land use plan, the following procedures shall be followed:

- Any future development will be assessed for potential impact to any identified natural or historic resource.
- The University will coordinate with DERM when potential impacts on wetlands are anticipated.
- Where potential impacts on historical or archaeological resources are anticipated consult with the State Historic Preservation Officer and appropriate local resources to identify mitigation measures, as appropriate.
- Prior to siting unanticipated new academic and support uses on campus, calculate land requirements for buildings and parking and document that sufficient land resources remain to accommodate academic facility and support requirements through 2009-10.
- Discourage development of any additional facility not directly related to the academic mission of the University, except for planned joint use facilities with the Miami-Dade County Fair and Exposition and Tamiami Park.

- Policy 1.1.3 Include in Capital Improvements Projects (CIP) submissions a statement documenting the internal review for each development project and compliance with applicable regulatory requirements.

**Objective 1.2 Protection of Historic and Archaeological Resources:
Ensure that future campus development projects identified within historic and archeological resources are consistent with federal, state and local requirements.**

- Policy 1.2.1 Provide for the protection of the sole documented historic resource, the Tamiami Airport Control Tower (building C01), by prohibiting its demolition through a development restriction and by enhancing, rehabilitating or restoring the structure in accordance with Florida's Historic Preservation Policy.
- Policy 1.2.2 In coordination with state and local historic preservation officials, maintain an information file which identifies and evaluates portions of the University Park and Biscayne Bay Campus which may contain historic or archaeological resources which appear to qualify for the National Register of Historic Places. Include documentation of State regulations governing development in areas where such resources may be present.
- Policy 1.2.3 FIU shall consult and coordinate 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 1.2.4 The University shall consider the effect of any undertaking on any historic property that is included, or eligible for inclusion, on the National Register of Historic Places. The University shall afford the State Division of Historical Resources a reasonable opportunity to comment on such an undertaking.
- Policy 1.2.5 Prior to a historic property being demolished or substantially altered in a way that adversely affects its character, form integrity or archaeological or historical value, the University shall consult with the Department of State's Division of Historical Resources to avoid or mitigate any adverse impacts, or to undertake any appropriate archaeological salvage excavation or recovery action.

**Objective 1.3 Expansion of University Park:
Provide for the long term growth of University Park enrollment by anticipating and planning for the expansion of the campus after 2010.**

Policy 1.3.1 FIU will continue to pursue an agreement with Miami-Dade County for the following:

- Joint use and development of student recreational and sports activities.
- Preparation of feasibility and phasing studies of relocating Tamiami Park.
- Preparation of a Master Plan for Tamiami Park relocation/University Park expansion.

Policy 1.3.2 FIU will pursue additional offsite land acquisition for recreational use.

**Objective 1.4 Land Use Compatibility with the Host Communities:
Provide development coordination with Miami-Dade County, the City of Sweetwater, the City of North Miami and other entities within the context area to eliminate or minimize present land use conflicts and avoid future land use compatibility problems.**

Policy 1.4.1 Monitor land use planning activity, development regulations, and proposed developments for the University context areas by Miami-Dade County, Sweetwater, the City of North Miami and other entities within the context area for the University Park and Biscayne Bay Campus, respectively.

Policy 1.4.2 Evaluate off-campus land use impacts of all University development activity and document findings as part of the land management review process.

**Objective 1.5 Land Use Compatibilities On Campus:
Develop University Park, TEC Site and Biscayne Bay Campus to ensure compatibility of academic, support and service functions.**

Policy 1.5.1 UNIVERSITY PARK:
As depicted in future land use map, Figure 4.1, implement the following land use patterns:

- Concentrate future academic and directly related support functions inside the loop road to reinforce the planned sequence of major and minor axes, quadrangles and malls.

- Continue to construction campus housing adjacent to existing housing in the southern portion of campus along the loop road. Additional housing will be located in conjunction with the Graduate School of Business complex.
- Distribute future surface parking in the northeast parcel to accommodate future development.
- Construct future parking structures outside of the loop road.
- Provide major support, service and recreational activities outside and to the west of the loop road.
- Develop the southern campus edge with joint use activities with the Miami-Dade County Fair and Exposition and Tamiami Park.

Policy 1.5.2 Engineering Center

As depicted in future land use map, Figure 4.2, implement the following land use patterns:

- Provide adequate open space along SW 107th Avenue and West Flagler Street for the creation of a vegetative buffer.
- Concentrate new facility construction in an academic core to reinforce a pedestrian corridor and opportunities for minor axes, quadrangles and malls.
- Identify future expansion areas to the east and northeast.

Policy 1.5.3 BISCAYNE BAY CAMPUS:

As depicted on the Future Land Use Map, Figure 4.3, implement the following land use patterns.

- Maintain and protect key open space quadrangles; to the north of Academic One/Wolfe University Center, to the south of Academic One/Wolfe University Center and to the east of the Kovens Conference Center.
- Land south of the Kovens Center will be designated for future development as a hotel and support facilities. Additional development for recreational activities can occur.
- Academic Four will be located within the academic quadrangle.
- Additional housing will be located south of the academic core

and north of the Kovens Center.

- Maintain a linear park along Biscayne Bay, with unobstructed bay views. Enhance with vegetation.
- Provide all parking to the west of the academic core to eliminate pedestrian vehicular conflicts.
- Locate all "stand-alone" support and services uses to the northwest corner of campus.

Policy 1.5.3 As part of the "land management review process" address unanticipated development requirements with the following siting criteria.

- Confirm that all proposed developments within the academic core are directly related to the academic programs of the University and/or otherwise necessitate a central location. Seek alternative sites outside the academic core for facilities that do not meet this criteria.
- Confirm that all proposed developments outside the academic core meet land use plan guidelines and are directly supportive of the mission of the University. Seek alternative off-campus sites for facilities that do not meet this criteria.
- Review and assess all proposed developments to confirm that they are consistent with stormwater management, resource conservation, and traffic level of service criteria.

Policy 1.5.4 Develop campus land uses to the following maximum densities and intensities applying building height limits and gross Floor Area Ratio (total building area divided by total (gross) land area) standards, as follows.

	Max. F.A.R.*/ (Impervious Surface Ratio)	Max. Bldg. Height
Academic Core	1.5	8 stories **
Support	1.0	3 stories
Residential	1.0	5 stories
Residential Honors Complex		
Residential (60%)	1.0	5 Stories
Academic (40%)	1.5	8 Stories
Recreation		
Active	(0.75)	2 stories
Passive	(0.20)	2 stories
Utilities	(0.2)	1 story
Parking*	(0.95)	5 stories
Land Bank		
(Future Development)***	(1.5)	(1.5)
Research	1.0	5 stories
Conservation	0.0/(0.20)****	1 story
Ancillary	1.0	3 stories

* Floor Area Ratios apply only to habitable academic, support, residential and research uses. Parking structures are excluded from F.A.R. calculations. Floor area ratios are applicable to total development within a particular land use category and not to individual building sites.

** Academic facilities will maintain a maximum building height of 8 floors with the exception of the library which is planned for 15 floor tower.

*** The Future Development category is established to reserve valuable development sites for future academic space. With the exception of recreation and open space improvements and surface parking, the development of permanent structures may not occur within lands designated as Land Bank (Future Development) areas without an amendment to the adopted master plan. Such amendment shall identify the specific land use and establish specific densities or intensities of use.

**** No construction is anticipated in these areas except for minimal structures and improvements needed to ensure safe access and essential support functions.

Policy 1.5.5 As part of the "land management review process" ensure adequate provision of stormwater management, open space, safe and convenient on-campus traffic flow and needed vehicle.

- Policy 1.5.6 As part of the "land management review process", ensure that the coordination of land use and development decisions with the schedule of capital improvements (Table 14.1 and 14.2) established in the campus plan is maintained. Revisions to land use and development policies and decisions will be accompanied by a review and analysis of required capital improvements, along with a revision to the schedule of capital improvements (Tables 14.1 and 14.2 and related sub-element schedules), as necessary, prior to administrative approval and submission of State University System Florida Board of Education, Division of Colleges and Universities facility funding requests.

**Objective 1.6 Coordination with Topographical and Soil Conditions:
Ensure that future development on University Park and Biscayne Bay Campus is consistent with the limitations imposed by topographic and soil conditions.**

- Policy 1.6.1 Maintain a database of existing topographic and soil conditions, updated with as-built and survey data developed for future construction projects.
- Policy 1.6.2 Apply topographic, soil and hydrologic data in the siting and design of all future construction projects and review consistency with such factors as part of the "land management review process."
- Policy 1.6.3 FIU shall require that appropriate methods of controlling soil erosion and sedimentation to help minimize the destruction of soil resources be used during site development and 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 land is exposed to rainfall;
 - Use of temporary ground cover on cleared areas if construction is not imminent; and
 - Maintaining vegetative cover on areas of high soil erosion (e.g., banks of streams, steep or long slopes, conveyances, etc.).

**Objective 1.7 Coordination with Off-Campus Facilities and Services:
Maintain coordination with off-campus utility and service providers to ensure adequacy of services and facilities.**

Policy 1.7.1 As part of the "land management review process" notify all off-campus utility and service providers with all annual revisions of the Ten Year Capital Improvement Schedule, as adopted in the Capital Improvements Element and request written confirmation of each providers ability to provide adequate service.

Policy 1.7.2 FIU shall continue to participate with Miami-Dade County, the City of Sweetwater and the City of North Miami in the reciprocal review of plans and development proposals, consistent with policies supporting Intergovernmental Coordination Element.

**Objective 1.8 Coordination of On-Campus Utility Requirements:
Ensure the adequate provision of long range infrastructure
improvements consistent with planned campus development.**

Policy 1.8.1 As part of the "land management review process" review and evaluate all construction projects to ensure adequate provisions for long range infrastructure needs by documenting:

- Maintenance and protection of planned utility corridors, easements and points of connection, and
- Provision of adequate utility capacities to accommodate future development and facility expansion.

Policy 1.8.2 Maintain an up-to-date file of campus utility systems, updated with as-built survey data from future construction projects.

Policy 1.8.3 Specify in future Five Year Capital Improvement Plans infrastructure improvements and associated costs necessary to support long-range facility needs, with special note of "critical path" projects.

Policy 1.8.4 Encourage and assist the Office of Capital Programs in modifying applicable State University System ~~Board of Regents~~ and State Legislative funding procedures to ensure efficient and timely construction and expansion of utility improvements.

Policy 1.8.5 Install instrumentation to record actual utility levels of service to permit optimum utilization of available resources.

Policy 1.8.6 **BISCAYNE BAY CAMPUS**
Surveys will be conducted of all infrastructure, especially chilled water, to ascertain if it remains adequate for future development. Emphasis of development should be directed toward the southeast quadrant of campus, requiring a satellite utility plant. This development should be planned after Academic Four has been constructed.

Objective 1.9 Off Campus Constraints/Context Area Conflicts:
Ensure that off-campus constraints on campus development and off-campus impacts of campus development are anticipated and minimized.

Policy 1.9.1 FIU shall, in coordination with Miami-Dade County, City of Sweetwater, City of North Miami, Florida Department of Transportation, other entities within the context area and applicable utility providers, monitor traffic and utility volumes and levels of service. By interlocal agreement with each entity, FIU shall request to be notified of any planned or proposed improvement which may materially affect traffic or utility level of service in the context area. FIU shall request to review and comment upon any off-campus development, which may create conflicts with campus development, prior to the issuance of development approvals or permits.

Objective 1.10 Administration Procedures to Amend Master Plan:
Ensure that future master plan amendments undergo appropriate intergovernmental and public review appropriate to the degree of proposed plan modification.

Policy 1.10.1 All proposed "major" plan modifications which meet the criteria contained in subsections (a), (b) or (c) of s.240.155 (9), Florida Statutes must be reviewed and approved in accordance with subsection (6)-(8) of 240.155 Florida Statutes.

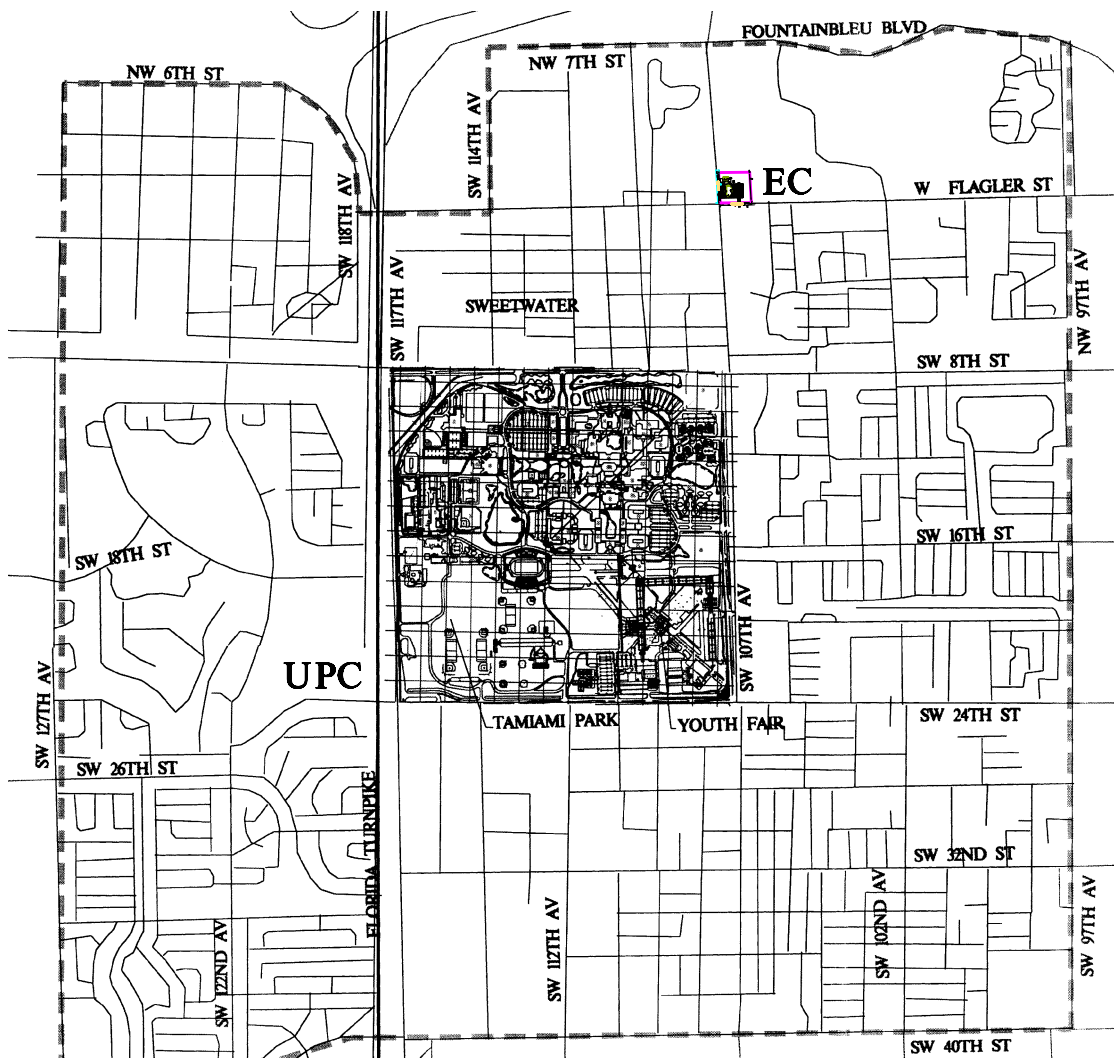
Policy 1.10.2 Pursuant to Administrative Rule 6C-21.103(3), F.A.C., plan amendments which alone, or in conjunction with other plan amendments, do not exceed the thresholds established in s.240.155(9), F.S., shall be consolidated into a single annual submission and submitted to the Board of Education, Division of Colleges and Universities for review and approval. Prior to and as a part of minor plan modification requests the following review procedures shall be followed.


- Florida International University shall apply criteria for site location suitability.
- Florida International University shall assess the impact of proposed plan modifications on surface waters, wetlands, upland natural resources and historic resources.
- Florida International University shall determine impacts upon utilities, campus pedestrian and vehicular circulation patterns and confirm the ability to meet land needs for planned academic

and support structures.

- Florida International University shall prepare a "Minor Plan Modification Report" as part of the "Land Management Review Process" for internal administrative review and for review and approval by the Board of Education, Division of Colleges and Universities.

Policy 1.10.3 Proposed amendments to the adopted campus master plan which do not exceed the thresholds established in s.240.155(9), F.S., and which have the effect of changing land use designations or classifications, or impacting off-campus facilities, services, or natural resources, shall be submitted to the host and affected local governments for a courtesy review.

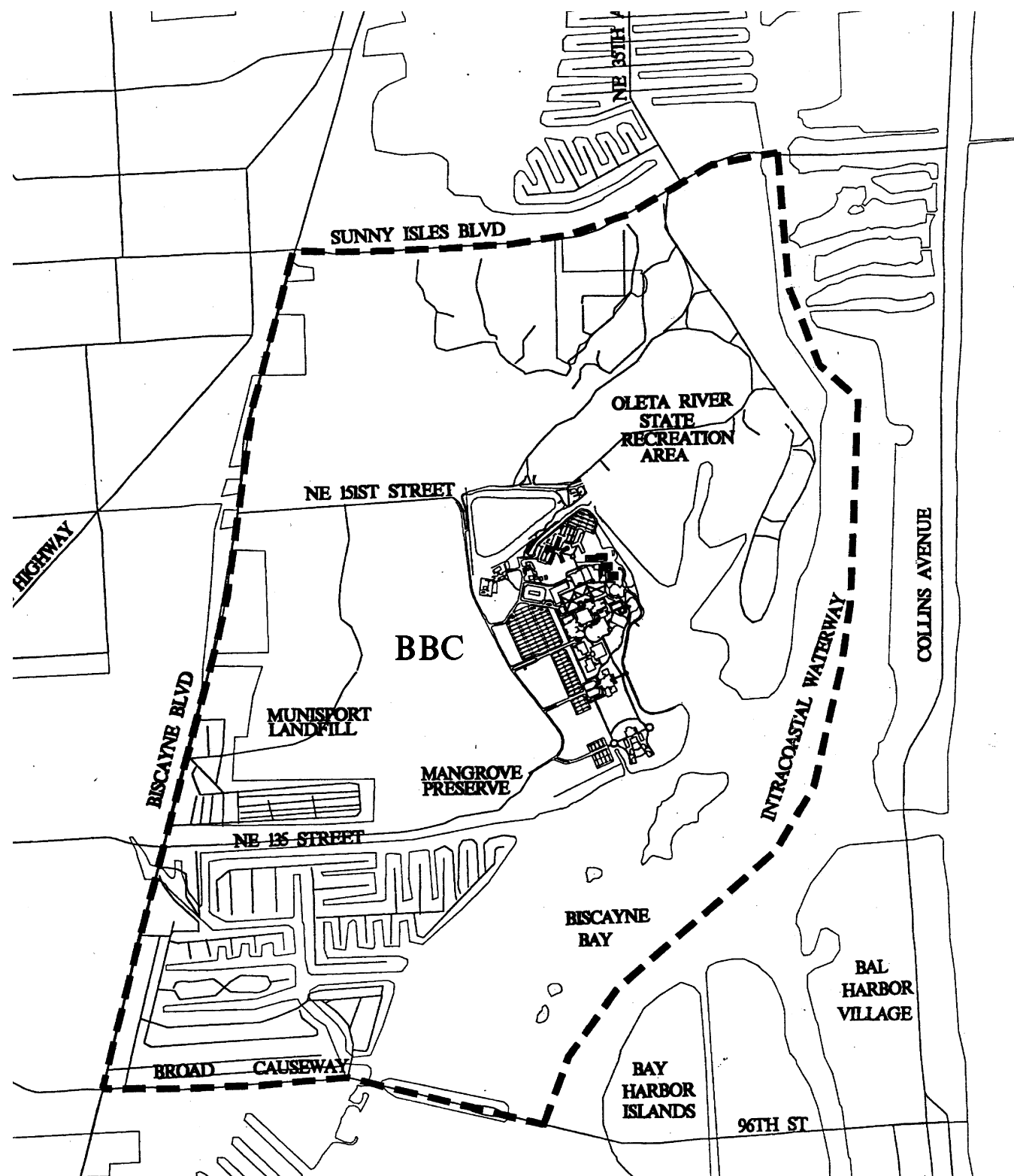




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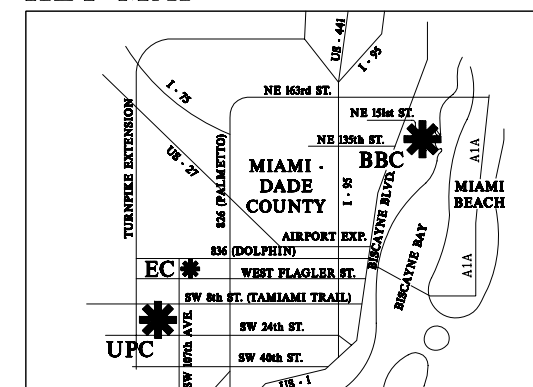


CONTEXT AREA MAP

LEGEND:

-  **CONTEXT BOUNDARIES**
-  **UNIVERSITY PARK CAMPUS**
-  **ENGINEERING CENTER**
-  **BISCAYNE BAY CAMPUS**

KEY MAP

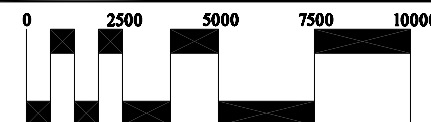


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UNIVERSITY PARK

- ATHLETICS ACADEMIC FITNESS CENTER (20)
- BASEBALL STADIUM (15)
- TOWER (C01)
- DUPLICATING CENTER (C05)
- CHILDREN'S CREATIVE LEARNING CENTER (17)
- CARLOS FINLAY ELEMENTARY SCHOOL (26)
- COLLEGE OF HEALTH (10)
- CHEMISTRY & PHYSICS (09)
- SCHOOL OF ARCHITECTURE (24)

- CAMPUS SUPPORT COMPLEX (22)
- CENTRAL UTILITIES (04A)
- DEUXIEME MAISON (02)
- ENGINEERING & COMPUTER SCIENCES (08)
- FIU COMMUNITY STADIUM (27)
- EARNEST R. GRAHAM CENTER (03)
- STEVE & DOROTHEA GREEN LIBRARY (05)
- GOLDEN PANTHER ARENA (07)

- STUDENT HEALTH & WELLNESS CENTER (12)
- LABOR CENTER (13)
- GRADUATE SCHOOL OF BUSINESS (30)
- NATIONAL HURRICANE CENTER (41)
- OWA EHAN (06)
- CHARLES E. PERRY PRIMERA CASA (01)
- PARKING GARAGE (P1-P6)
- PANTHER RESIDENCE HALL (19)

- RYDER BUSINESS BUILDING (11)
- FUTURE DEVELOPMENT (45A-45E)
- STUDENT HOUSING (18)
- UNIVERSITY TOWERS (19A)
- WERTHEIM CONSERVATORY (06A)
- VERTES HAUS (04)
- HERBERT & NICOLE WERTHEIM PERFORMING ARTS CENTER (16)
- SANFORD & DOLORES ZIFF EDUCATION BUILDING (14)
- UNIVERSITY HOUSE (28)

SW 8TH STREET GOLDEN PANTHER TRAIL

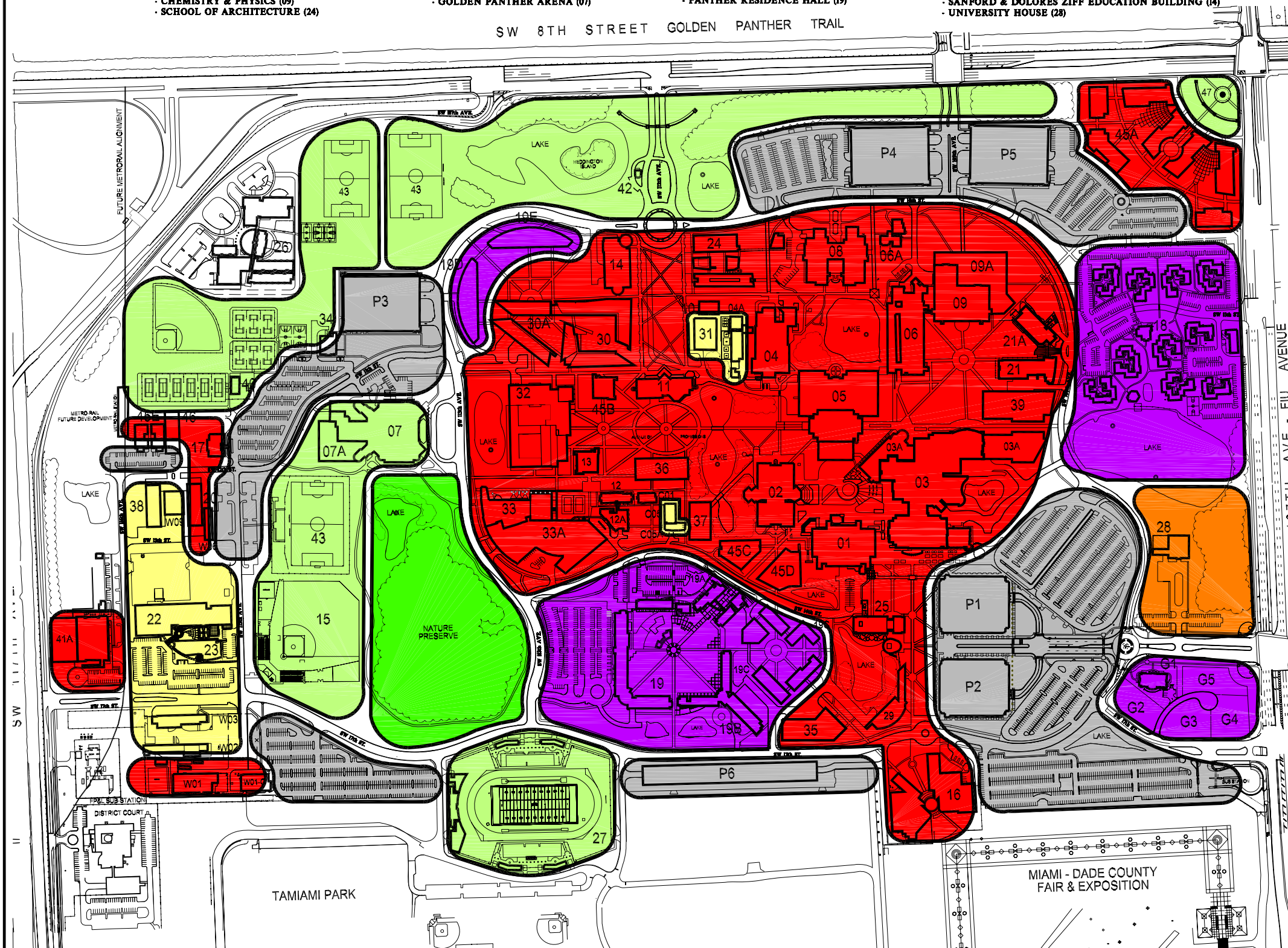


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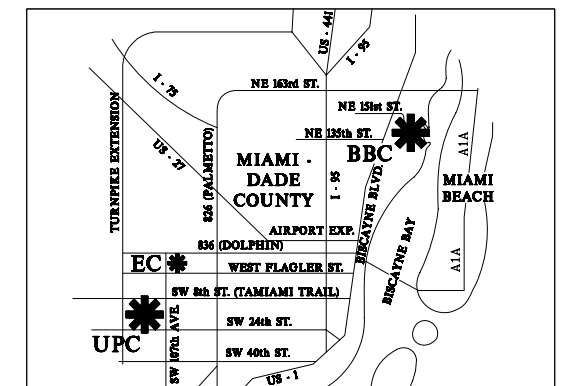
4.3

LAND USE MAP

LEGEND:

- ACADEMIC
- SUPPORT
- RESIDENTIAL
- RECREATION - OPEN SPACE
- COMMUNITY INTERFACE
- PARKING
- CONSERVATION

KEY MAP

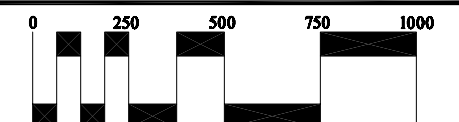


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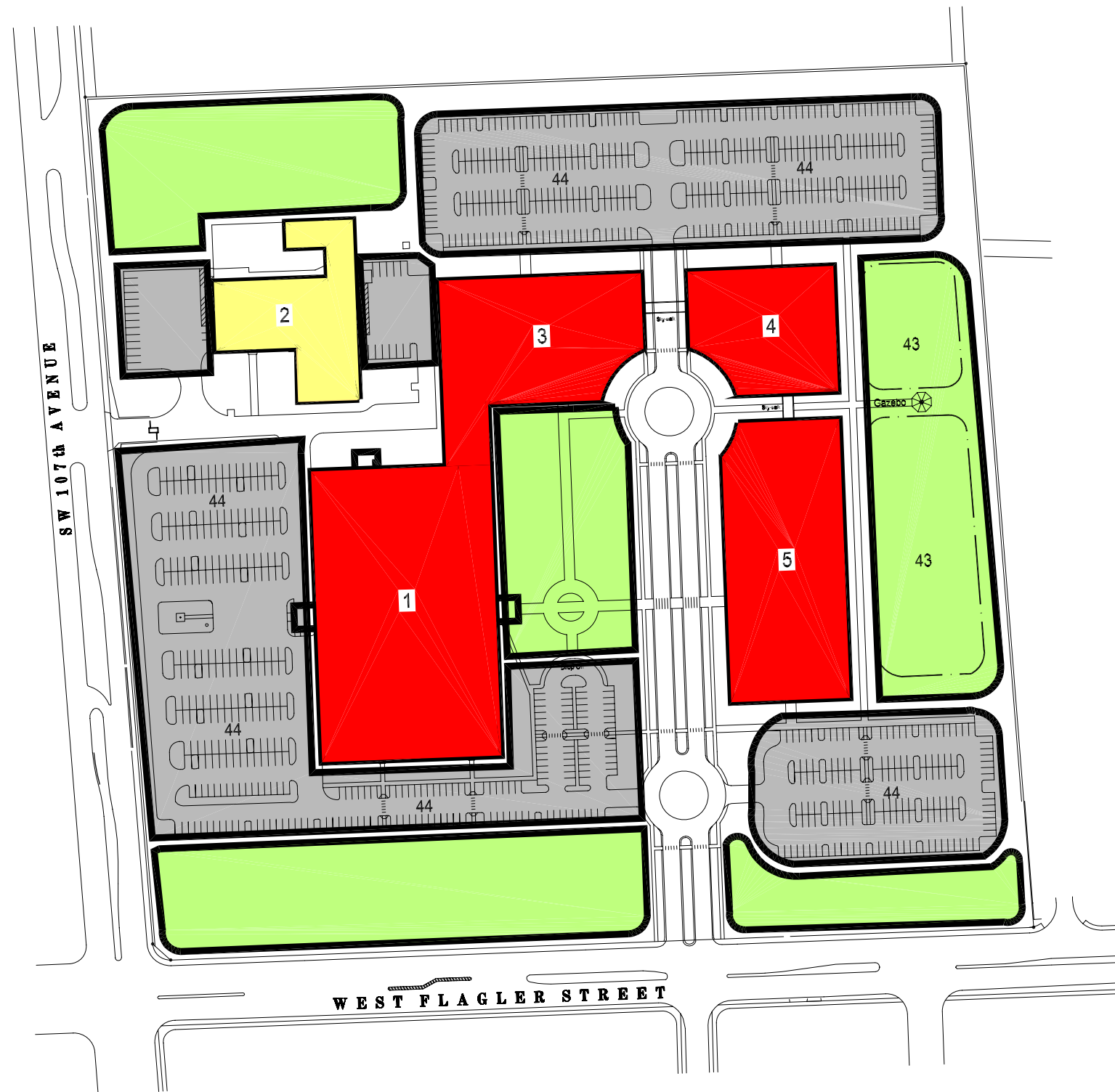


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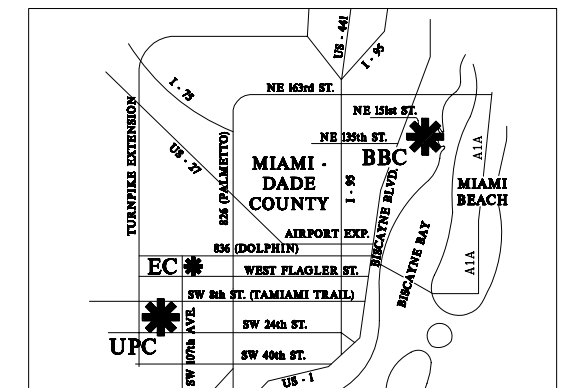


LAND USE MAP

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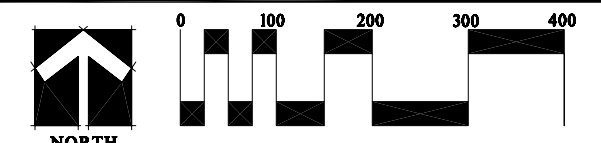
-  **ACADEMIC**
-  **SUPPORT**
-  **RESIDENTIAL**
-  **RECREATION - OPEN SPACE**
-  **COMMUNITY INTERFACE**
-  **PARKING**
-  **CONSERVATION**

KEY MAP



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NORTH

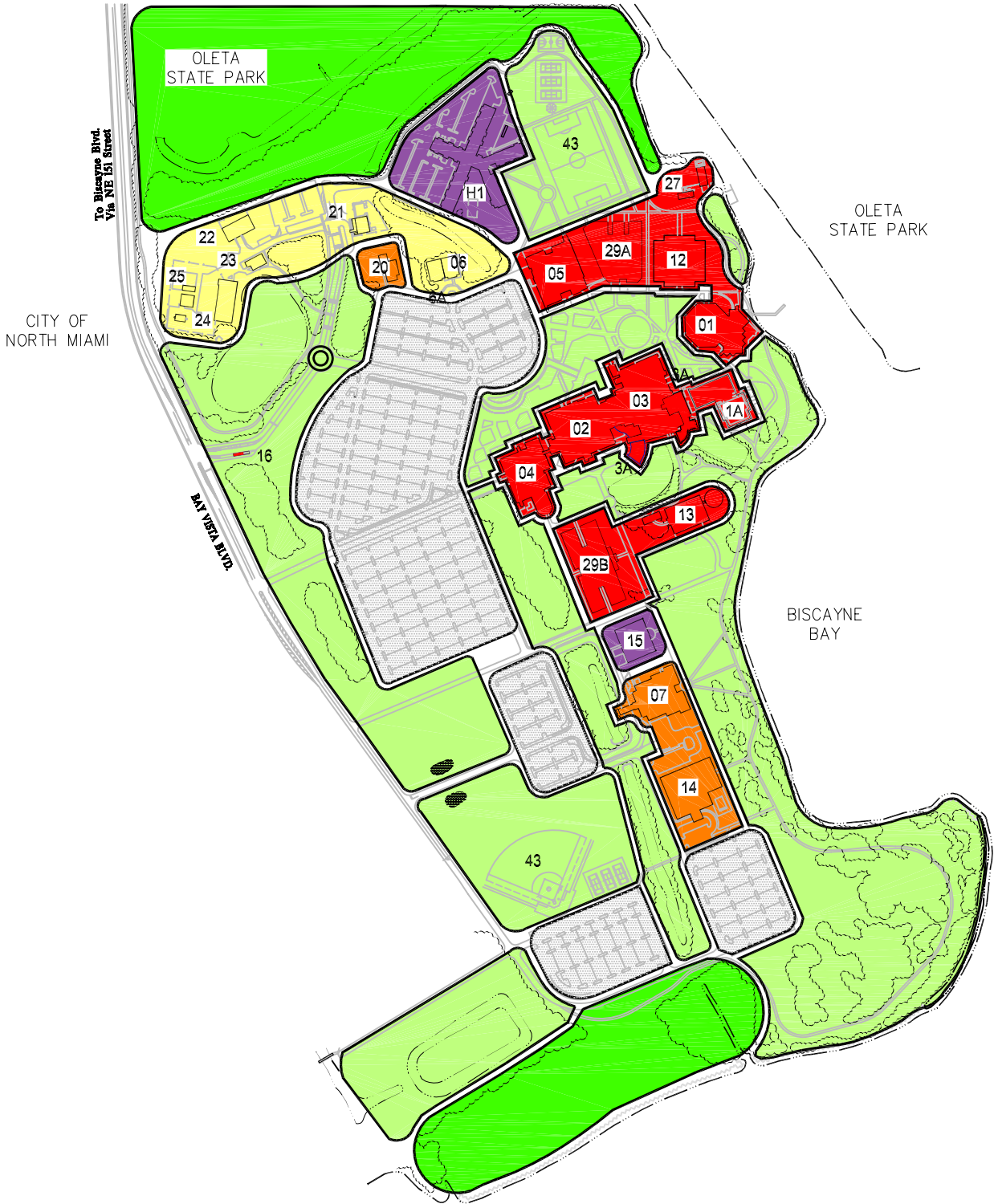
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BISCAYNE BAY CAMPUS

- ACADEMIC ONE (02)
 - ACADEMIC TWO (04)
 - AQUATIC CENTER (01A)
 - BAY VISTA HOUSING (H1)
 - HOTEL (14)
 - HOSPITALITY MANAGEMENT (01)
- CONFERENCE CENTER (07)
 - LIBRARY (05)
 - ACADEMIC THREE - MARINE BIO. (13)
 - ACADEMIC FOUR (12)
 - HOUSING (15)
 - INFORMATION CENTER (16)
- ECOLOGY LAB (27)
 - FUTURE DEVELOPMENT - A (29A)
 - FUTURE DEVELOPMENT - B (29B)
 - RECREATION FIELDS (43)
 - PDC : HRS ADMINISTRATION (20)
 - SUPPORT : CENTRAL RECEIVING (22)
- SUPPORT : PUBLIC SAFETY (23)
 - SUPPORT : PHYSICAL PLANT (24)
 - SUPPORT : GROUNDS (25)
 - STUDENT HEALTH CENTER (06-06A)
 - WELLNESS CENTER (21)
 - WOLFE UNIVERSITY CENTER (03-03A)

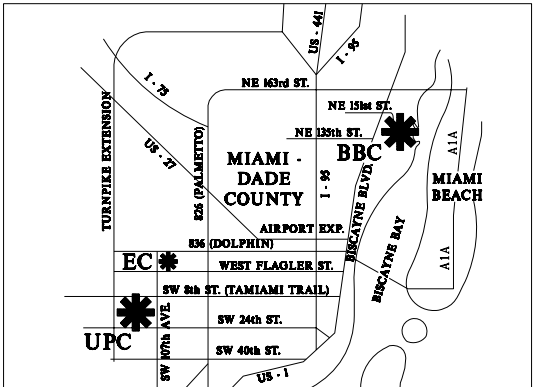


LAND USE
MAP

LEGEND:

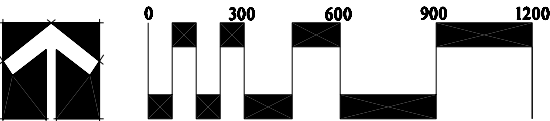
- ACADEMIC
- SUPPORT
- RESIDENTIAL
- RECREATION - OPEN SPACE
- COMMUNITY INTERFACE
- PARKING
- CONSERVATION

KEY MAP



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5.0 ACADEMIC FACILITIES ELEMENT

Projected enrollment growth for the planning period of 2000-2010 will facilitate the need for unprecedented growth in academic facilities if projected needs are to be met. At University Park, Engineering Center and Biscayne Bay Campus the total footprint of academic facilities must triple from the present facility inventory, based on the application of mandated space standards. Because of the tendency for "lag time" in the building planning, funding and design cycles, this process must be tightened and accelerated in order to "catch up" to present needs while also preparing to meet the needs which will exist in ten years.

To ensure optimum academic and spatial efficiency and to conserve precious and declining reserves of buildable land, guidelines call for the creation of more compact "academic cores" at both campuses, as well as the designation of future development areas for future, unanticipated academic facilities (see Figure 5.1: University Park, Figure 5.2: Engineering Center and Figure 5.3: Biscayne Bay Campus for the location of academic facilities).

ACADEMIC FACILITIES ELEMENT

GOAL 1: Provide academic facilities adequate to support the academic mission, meet needs of projected student enrollment and eliminate facility deficits by the end of the planning period.

Objective 1.1 Timing and Phasing:
Phase future academic facility development in the following increments by location:

	UNIVERSITY PARK/ ENGINEERING CENTER	BISCAYNE BAY CAMPUS
2000-2005	859,549 GSF	148,414 GSF
2006-2010	289,122 GSF	N/A
GRAND TOTAL	1,148,671 GSF	148,414 GSF

Policy 1.1.1 Apply space use standards in chapter 6A-2 in determining future academic building programs and in planning the adaptive reuse of existing facilities to ensure optimum utilization of academic facilities.

Policy 1.1.2 Define building and facility use priorities strictly on the basis of academic need. Specific priorities for development of future facilities, including academic facilities, are as follows, as per Table 14.2 and 14.3.

Year 2000-2005

UNIVERSITY PARK/ENGINEERING CENTER	BISCAYNE BAY CAMPUS
Health and Life Sciences-Phase I & II Graduate School of Business-Phase I College of Law Social Sciences (International Studies) Molecular Biology Classroom/Office (TEC-Engineering II) Arts Complex – Phase II Computer Services International Hurricane Center Training Complex	Marine Biology Interdisciplinary Compound (Academic Four) Classroom/Office

Year 2006-2010

UNIVERSITY PARK/ENGINEERING CENTER	BISCAYNE BAY CAMPUS
Graduate School of Business – Phase II Graduate School of Business – Phase III Graduate School of Business – Phase IV College of Law – Phase II College of Law – Phase III College of Law – Phase IV Classroom/Office (Chemistry & Physics Expansion) Classroom/Office	Future Development (undetermined)

Additional academic facility priorities shall be established strictly on the basis of academic need.

Policy 1.1.3 Eliminate facility deficits by modifying facility programming and funding request procedures as follows:

- Submit facility requests 3-4 years prior to projected need, rather than current need, to accommodate lag time in facility planning, funding, design and construction.
- Prepare detailed facility and use programs to coincide with facility requests and real space needs, rather than receipt of funding.

Policy 1.1.4 Unanticipated academic facility development opportunities which are determined to be consistent with the academic mission and current/planned programs shall be accommodated in:

- Planned but unassigned future academic buildings,
- Academic facilities in unassigned "future development" areas,

- as depicted in the Future Land Use Plan, or Off-Campus.

The Campus Master Plan will be amended as necessary to incorporate any new and unforeseen academic facilities.

Policy 1.1.5 Apply building design and construction criteria to encourage energy efficiency including cost containment guidelines, active and passive solar design features and life cycle (capital and operating) cost analysis.

Policy 1.1.6 Apply building design and construction criteria that supports the research one status of the University, addressing fully all the special needs associated with research and scientific buildings.

Policy 1.1.7 BISCAYNE BAY CAMPUS
Expansion of the existing physical plant will be considered to service the projected growth and will consider increasing capacity for adequate chilled water for original quadrant expansion.

Objective 1.2 Locations:
Locate future academic facilities to cluster related programs within a compact "academic core".

Policy 1.2.1 Implement the pattern of academic facility clusters, quadrangles and malls as depicted in the Future Land Use Map.



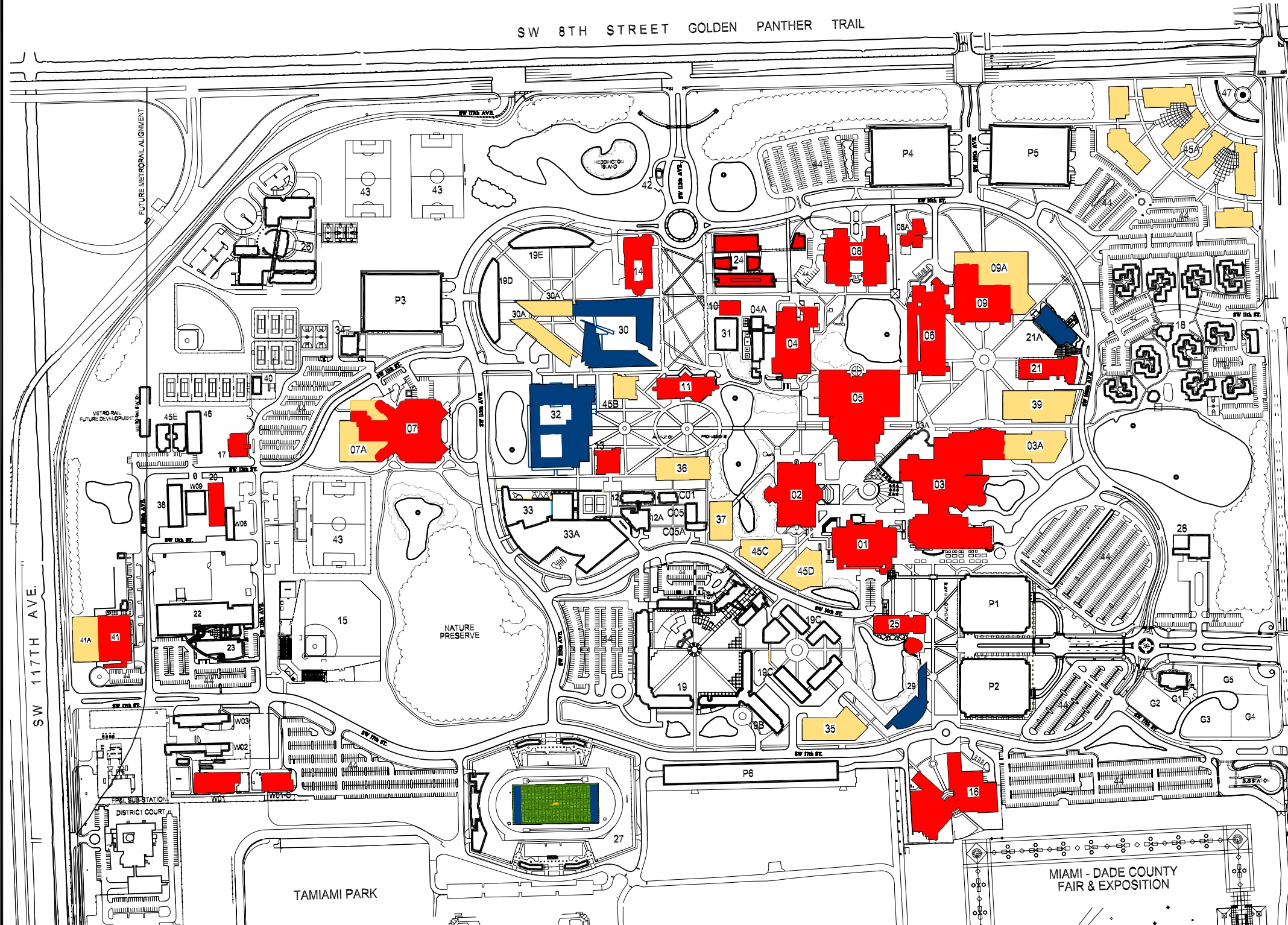
UNIVERSITY PARK

- ATHLETICS ACADEMIC FITNESS CENTER (20)
- BASEBALL STADIUM (15)
- TOWER (C01)
- DUPLICATING CENTER (C05)
- CHILDREN'S CREATIVE LEARNING CENTER (17)
- CARLOS FINLAY ELEMENTARY SCHOOL (26)
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- SCHOOL OF ARCHITECTURE (24)

- CAMPUS SUPPORT COMPLEX (22)
- CENTRAL UTILITIES (04A)
- DEUXIEME MAISON (02)
- ENGINEERING & COMPUTER SCIENCES (08)
- FIU COMMUNITY STADIUM (27)
- EARNEST R. GRAHAM CENTER (03)
- STEVE & DOROTHEA GREEN LIBRARY (05)
- GOLDEN PANTHER ARENA (07)

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- PARKING GARAGE (P1-P6)
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- FUTURE DEVELOPMENT (45A-45E)
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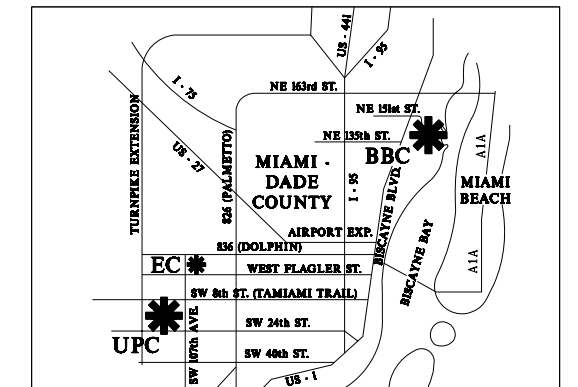


ACADEMIC FACILITIES

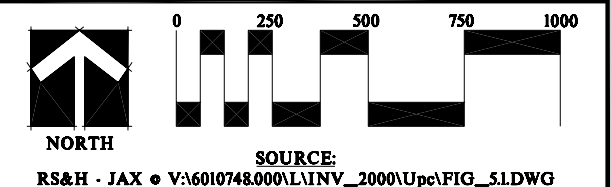
LEGEND:

- EXISTING ACADEMIC
- PLANNED OR UNDER CONST.
- FUTURE

KEY MAP



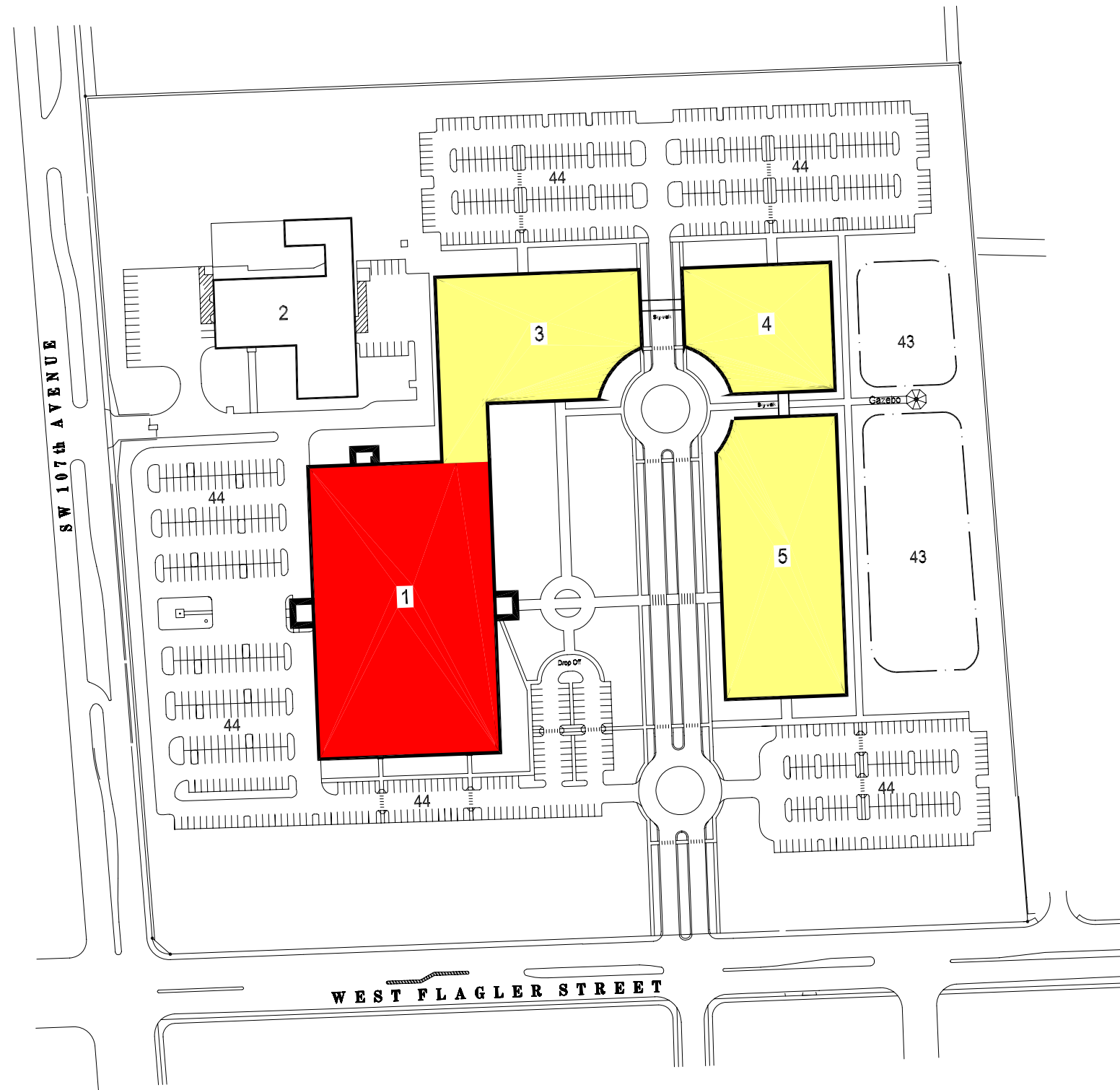
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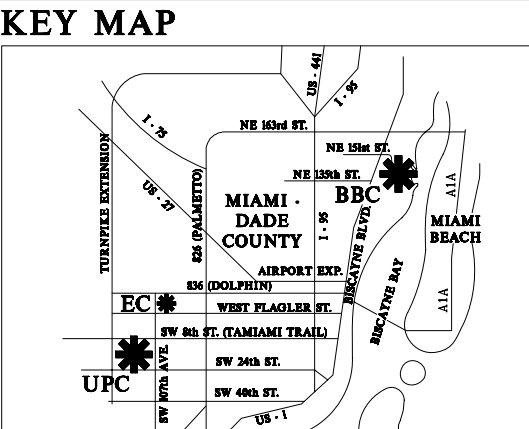
ENGINEERING CENTER

- ENGINEERING & APPLIED SCIENCES (01)
- OPERATIONS / UTILITIES (02)
- PLANNED OR UNDER CONST. (03)
- FUTURE DEVELOPMENT (04)
- FUTURE DEVELOPMENT (05)

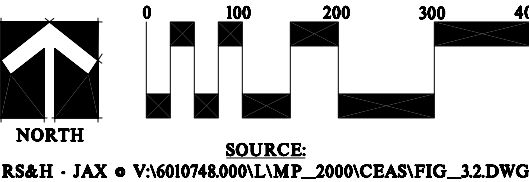


ACADEMIC FACILITIES

- LEGEND:
- EXISTING ACADEMIC
 - PLANNED OR UNDER CONST.
 - FUTURE



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BISCAYNE BAY CAMPUS

- ACADEMIC ONE (02)
- ACADEMIC TWO (04)
- AQUATIC CENTER (01A)
- BAY VISTA HOUSING (01)
- HOTEL (04)
- HOSPITALITY MANAGEMENT (01)

- CONFERENCE CENTER (07)
- LIBRARY (05)
- ACADEMIC THREE - MARINE BLDG. (13)
- ACADEMIC FOUR (12)
- HOUSING (05)
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- RECREATION FIELDS (43)
- FDC / HRG ADMINISTRATION (20)
- SUPPORT / CENTRAL RECEIVING (22)

- SUPPORT / PUBLIC SAFETY (23)
- SUPPORT / PHYSICAL PLANT (24)
- SUPPORT / GROUNDS (25)
- STUDENT HEALTH CENTER (06-06A)
- WELLNESS CENTER (03)
- WOLFE UNIVERSITY CENTER (03-03A)

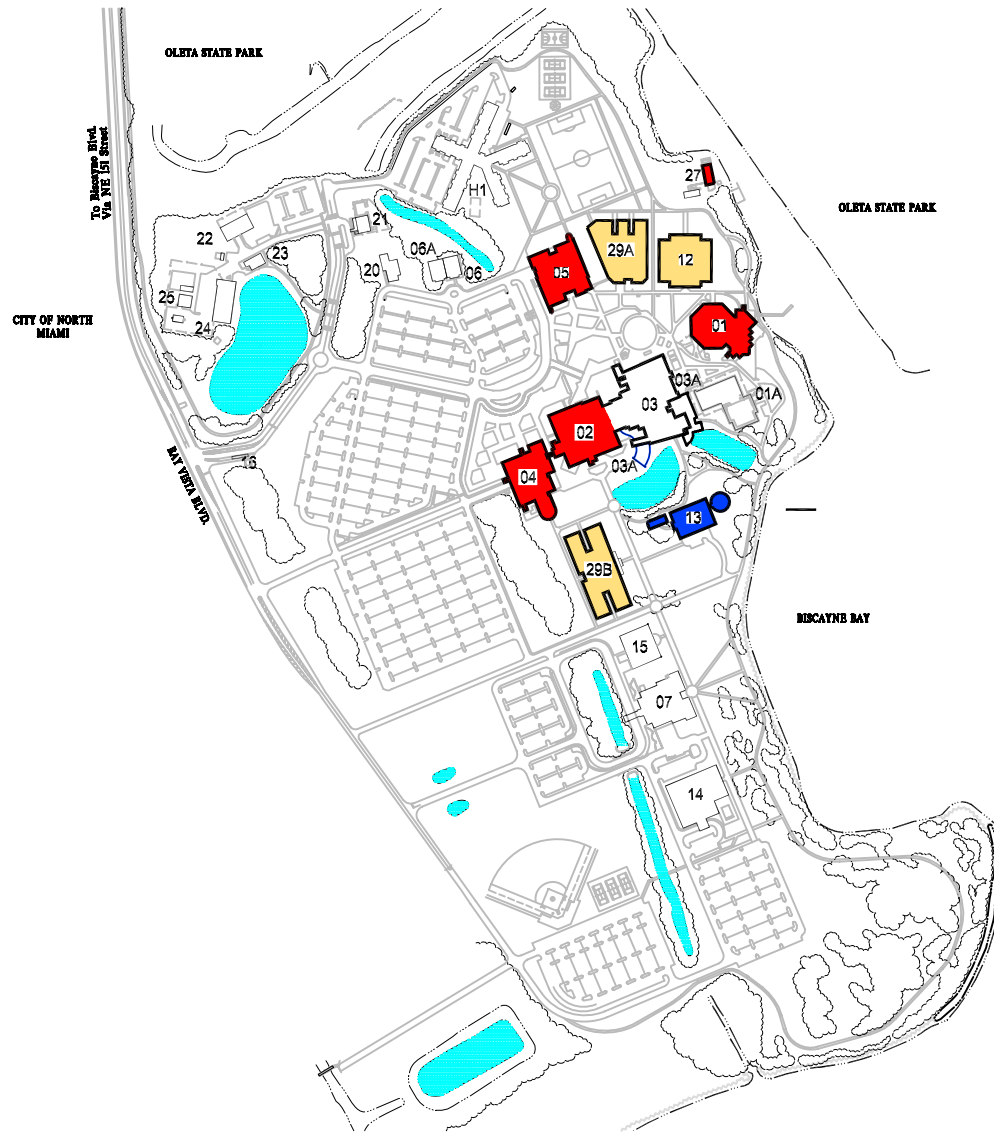


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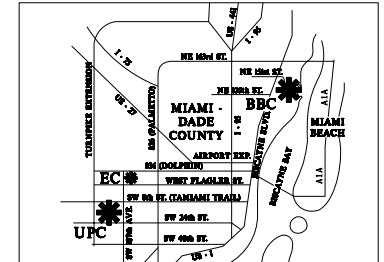
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ACADEMIC FACILITIES

LEGEND:

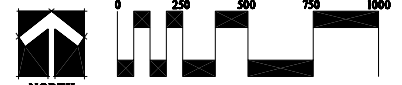
- EXISTING ACADEMIC
- PLANNED OR UNDER CONST.
- FUTURE

KEY MAP



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SOURCE:
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6.0 SUPPORT FACILITIES ELEMENT

The extreme growth in projected enrollment and the addition of more than 5,000,000 square feet of academic and non-academic space has increased the need of additional support facilities. The majority of these projected needs are found in office space, much of which is accounted for within academic facilities. Funding mechanisms instituted at the SUS level will continue to plan an integral role in the fulfillment of FIU's goals, objectives and policies as related to the continued adequate provision of on-campus support facilities (see Figure 6.1: University Park, Figure 6.2: Engineering Center and Figure 6.3: Biscayne Bay Campus for the location of support facilities).

In addition to physical support space need, Florida International University (FIU) must become more aware of its limited land availability athletics and recreation at University Park. Athletic programs and future needs must be carefully evaluated and the possibility of joint use facilities must continue to be studied with Miami/Dade County. FIU will continue its practice of careful and constant planning as it continuously re-evaluates the support facility needs of the University at University Park, Engineering Center and Biscayne Bay Campus.

6.0 SUPPORT FACILITIES ELEMENT

GOAL 1: Provide support facilities necessary to correct present deficits and meet the needs of projected student enrollments through the planning period.

Objective 1.1 Facility Needs and Locations:

Develop future support facilities including recreation, intercollegiate athletics, administrative maintenance and related support services phased, timed and located to correct prioritized deficiencies and meet projected needs.

- Policy 1.1.1 Provide faculty offices, lounges, and administrative space distributed proportionate to and included within the programs for new academic buildings at both University Park, Engineering Center and Biscayne Bay Campus.
- Policy 1.1.2 UNIVERSITY PARK:
Provide for the replacement of recreation facilities displaced by development activity on-campus including additional tennis courts at the northwest corner. Coordinate with Miami-Dade County Parks Department for the joint use development of recreation facilities at Tamiami Park to meet future recreation needs, including sports fields, softball, tennis and basketball.
- Policy 1.1.3 UNIVERSITY PARK:
Ensure the maintenance of existing facilities used for intercollegiate athletics including sports fields and the Golden Panther Arena.
- Policy 1.1.4 UNIVERSITY PARK:
Create a gathering area (fountain or other landscape feature) at the eastern terminus of the Avenue of the Professions at the President's House.
- Policy 1.1.5 UNIVERSITY PARK:
Concentrate maintenance and facility operations functions on the western campus edge and provide for the expansion of the planned University maintenance and operations complex. Provide food service facilities to serve employees in this area.
- Policy 1.1.6 Engineering Center
Provide for potential recreational facilities to replace those facilities and fields displaced by new construction at University Park.
- Policy 1.1.7 BISCAYNE BAY CAMPUS:
Provide an additional substation to respond to future facility needs in the southern portion of campus.

Policy 1.1.8 **BISCAYNE BAY CAMPUS:**
Develop support and maintenance functions in the northwest quadrant of the campus except for the duplicating center, to be located at the University Center.

Policy 1.1.9 Expansion of the existing physical plant will be considered to service the projected growth and will consider increasing capacity for adequate chilled water for original quadrant expansion.

Objective 1.2 Phasing:
Develop support facilities to reflect prioritized needs and opportunities.

Policy 1.2.1 Develop support facilities in the following planning periods.

	UNIVERSITY PARK/ENGINEERING CENTER	BISCAYNE BAY CAMPUS
2000-2006	1,507,723 GSF	76,775 GSF
2007-2010	1,162,045 GSF	(799,347 GSF) ¹
GRAND TOTAL		

(799,347) ¹ Indicates future development not yet defined

Policy 1.2.3 Anticipated support facility development opportunities which are determined to be consistent with the academic mission and current/planned programs shall be accommodated in:

- Planned but unassigned future support buildings
- Support facilities in unassigned "land bank" or "Future Development" areas, or support areas as depicted in the Future land Use Plan, or
- Office-Campus

The Campus Master Plan will be amended as necessary to incorporate any new and unforeseen support facilities.

Objective 1.3 Funding:
Secure funding necessary to develop support facilities projected to be needed through the planning period.

Policy 1.3.1 Supplement normal CIP funding requests with resources which may be available from joint use facility operations (facility leasing), user fees and activity pursue joint development agreements with Miami-Dade County Parks and Recreation Department, and the Miami-Dade County Fair and Exposition.



UNIVERSITY PARK

- ATHLETICS ACADEMIC FITNESS CENTER (20)
- BASEBALL STADIUM (15)
- TOWER (C8)
- DUPPLICATING CENTER (C85)
- CHILDREN'S CREATIVE LEARNING CENTER (07)
- CARLOS FINLAY ELEMENTARY SCHOOL (26)
- COLLEGE OF HEALTH (10)
- CHEMISTRY & PHYSICS (09)
- SCHOOL OF ARCHITECTURE (24)

- CAMPUS SUPPORT COMPLEX (22)
- CENTRAL UTILITIES (04A)
- DEUXIEME MAISON (02)
- ENGINEERING & COMPUTER SCIENCES (08)
- FIU COMMUNITY STADIUM (27)
- BARNEY F. GRAHAM CENTER (03)
- STEVE & DOROTHEA GREEN LIBRARY (05)
- GOLDEN PANTHER ARENA (07)

- STUDENT HEALTH & WELLNESS CENTER (12)
- LABOR CENTER (13)
- GRADUATE SCHOOL OF BUSINESS (30)
- NATIONAL HURRICANE CENTER (41)
- OWA BEAN (06)
- CHARLES E. PERRY PRIMERA CASA (00)
- PARKING GARAGE (P1-P6)
- PANTHER RESIDENCE HALL (09)

- RYDER BUSINESS BUILDING (11)
- FUTURE DEVELOPMENT (45A-45B)
- STUDENT HOUSING (05)
- UNIVERSITY TOWERS (09A)
- WERTHEIM CONSERVATORY (06A)
- VERTICES HAUS (04)
- HERBERT & NICOLE WERTHEIM PERFORMING ARTS CENTER (06)
- SANFORD & DOLORES ZIFF EDUCATION BUILDING (14)
- UNIVERSITY HOUSE (28)

SW 8TH STREET GOLDEN PANTHER TRAIL

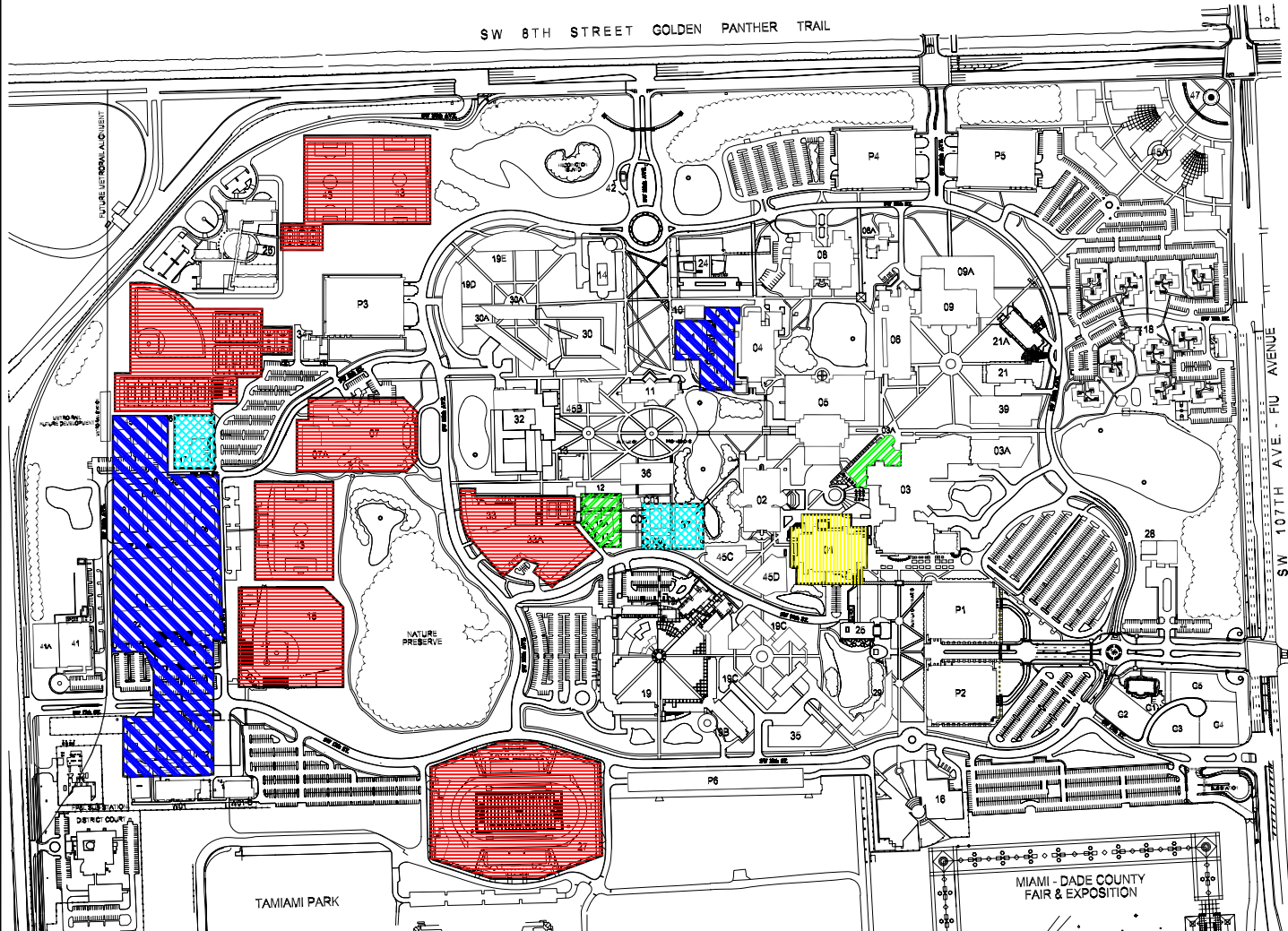


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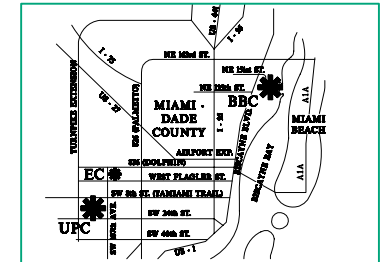
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SUPPORT FACILITIES

LEGEND:

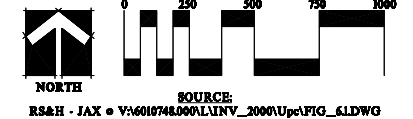
- ADMINISTRATIVE OFFICES
- PHYSICAL PLANT
- ATHLETIC FACILITIES
- STUDENT SUPPORT
- GENERAL AUXILIARY

KEY MAP



FINAL MASTER PLAN FLORIDA INTERNATIONAL UNIVERSITY MIAMI, FLORIDA

DATE: OCTOBER 2003





ENGINEERING CENTER

- ENGINEERING & APPLIED SCIENCES (00)
- OPERATIONS / UTILITIES (02)
- PLANNED OR UNDER CONST. (03)
- FUTURE DEVELOPMENT (04)
- FUTURE DEVELOPMENT (05)

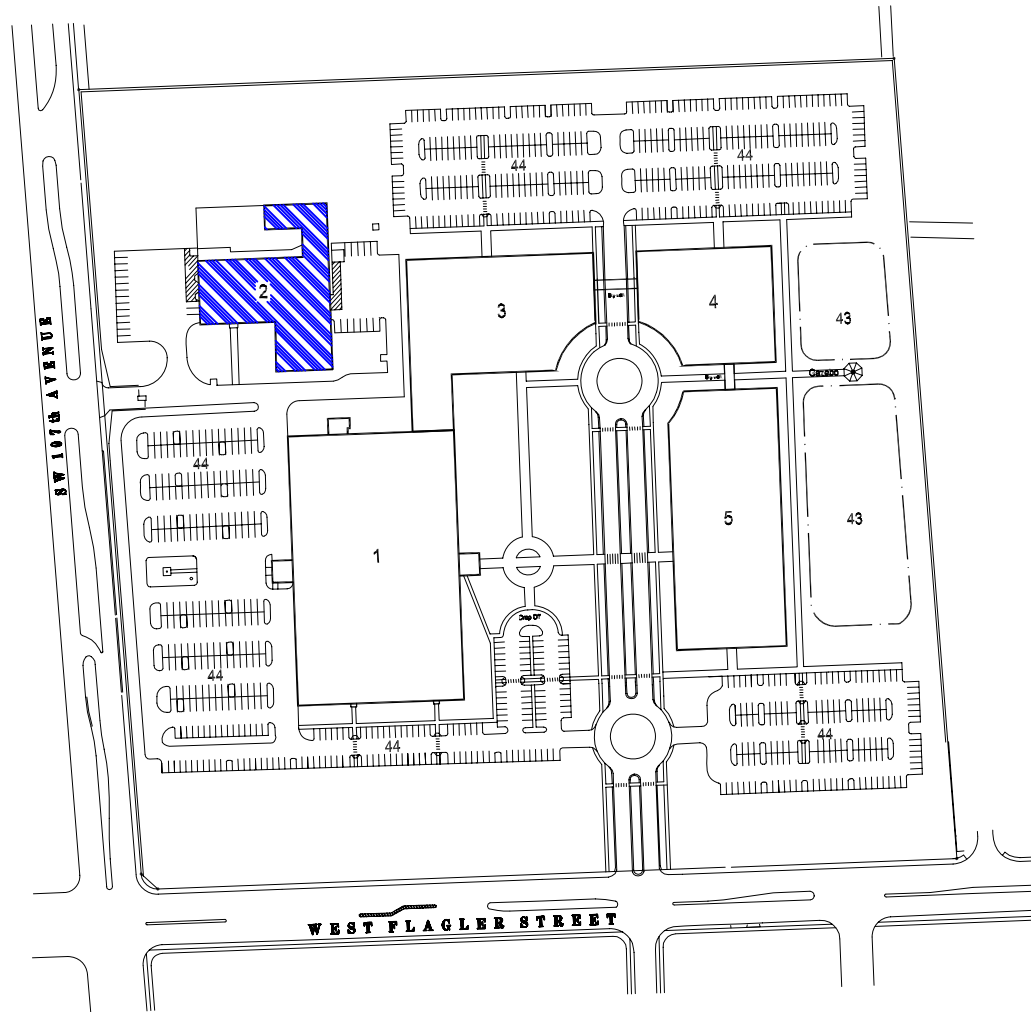







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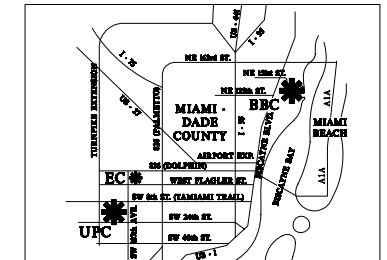
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SUPPORT FACILITIES

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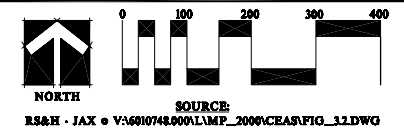
-  ADMINISTRATIVE OFFICES
-  PHYSICAL PLANT
-  ATHLETIC FACILITIES
-  STUDENT SUPPORT
-  GENERAL AUXILIARY

KEY MAP



FINAL MASTER PLAN FLORIDA INTERNATIONAL UNIVERSITY MIAMI, FLORIDA

DATE: OCTOBER 2003





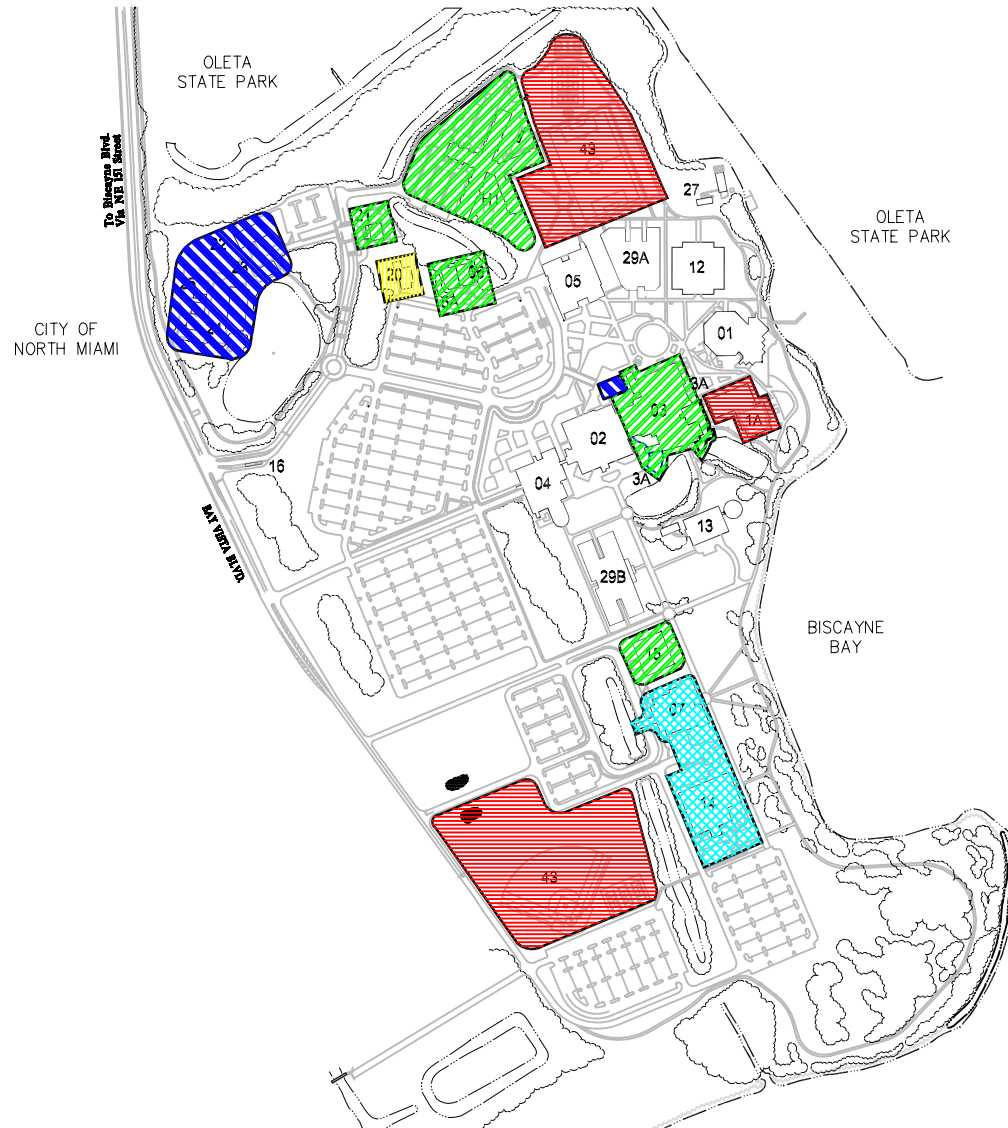
BISCAYNE BAY CAMPUS

- ACADEMIC ONE (02)
- ACADEMIC TWO (04)
- AQUATIC CENTER (01A)
- BAY VISTA HOUSING (H1)
- HOTEL (04)
- HOSPITALITY MANAGEMENT (00)

- CONFERENCE CENTER (07)
- LIBRARY (05)
- ACADEMIC THREE - MARINE BLDG (13)
- ACADEMIC FOUR (12)
- HOUSING (15)
- INFORMATION CENTER (06)

- ECOLOGY LAB (27)
- FUTURE DEVELOPMENT - A (23A)
- FUTURE DEVELOPMENT - B (29B)
- RECREATION FIELDS (43)
- FDC / RES ADMINISTRATION (20)
- SUPPORT / CENTRAL RECEIVING (22)

- SUPPORT / PUBLIC SAFETY (23)
- SUPPORT / PHYSICAL PLANT (24)
- SUPPORT / GROUND (25)
- STUDENT HEALTH CENTER (06-06A)
- WELLNESS CENTER (21)
- WOLFE UNIVERSITY CENTER (03-03A)

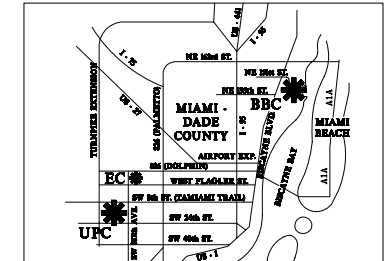


SUPPORT FACILITIES

LEGEND:

- ADMINISTRATIVE OFFICES
- PHYSICAL PLANT
- ATHLETIC FACILITIES
- STUDENT SUPPORT
- GENERAL AUXILIARY

KEY MAP

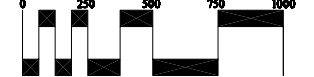


FINAL MASTER PLAN FLORIDA INTERNATIONAL UNIVERSITY MIAMI, FLORIDA

DATE: OCTOBER 2003



NORTH



SOURCE:

RS&H - JAX © V:\6010748\000\LAUN_2000\Bb\AFIG_43.DWG

7.0 HOUSING ELEMENT

As FIU matures in its stature as a leading educational institution, attracting higher proportions of non-local and international students, the need for appropriate affordable on-campus student housing will grow. As student enrollment numbers continue to increase and the nature of student housing changes, FIU must provide suitable housing on campus. Consequently, the plan aims to provide on-campus housing for 20 percent of its students by the end of the 2000-2010 planning period (refer to 4.0 Future Land Use's Figure 4.1 and 4.2 for the location of housing facilities).

In addition to the need to increase the quantity of on-campus housing FIU will strive to provide alternatives to traditional dormitories to reflect the housing preferences of undergraduate students, graduate students and honors students, as well as married students and members of fraternities and sororities.

7.0 HOUSING ELEMENT

GOAL 1: Florida International University shall assist all students in securing adequate, affordable on- and off-campus housing through the planning period.

Objective 1.1 On-Campus Housing:
Provide housing on-campus to meet the needs of not less than ten percent of the student population by the end of the planning period.

Policy 1.1.1 UNIVERSITY-WIDE

Provide a variety of dormitory and apartment types to reflect user preferences and particular student classifications (undergraduate, graduate, married, honors, etc.)

Policy 1.1.2 Within each housing cluster provide support services and facilities to include.

- Parking totaling not less than 50 percent of the number of beds
- Dining facilities
- Recreation/open space commons

Policy 1.1.3 Provide handicapped accessible units, in compliance with Americans with Disabilities Act for no less than five percent of on-campus housing.

Policy 1.1.4 UNIVERSITY PARK

Provide a total of 4,400 on-campus housing beds by the end of the planning period distributed generally as follows:

UNIVERSITY PARK	1999-00	Planned (2010)
TOTAL	1,500	4400

Policy 1.1.5 Locate housing as follows:

- Undergraduate student housing in the southwest housing quadrangle and Lakeview housing cluster in dormitory suites
- Provide undergraduate student housing within the Graduate School of Business complex in the northwest quadrangle.
- Married student housing in a retrofit of the existing northeast housing complex.
- Greek housing in the existing southeast housing complex.

Policy 1.1.6 Prioritize funding and phase housing development as follows.

Housing Project	No. Beds	Year
Lakeview Housing**	800 beds	2006
Undergraduate Housing	400	2008
Undergraduate Housing (GSB)	600	2010
Retrofit Existing Housing*		1995-2003-04*

* To respond to demand for married and Greek housing

** Includes Dining Facilities to seat 500, (full service.)

Policy 1.1.7 BISCAYNE BAY CAMPUS

Provide a total of 734 on-campus housing beds by the end of the planning period distributed generally as follows.

BISCAYNE BAY CAMPUS	EXISTING	Planned (2010)
TOTAL	294	440

Policy 1.1.8 Locate housing as follows:

- Undergraduate and graduate student housing (440 additional beds) north of the Kovens Conference Center.

Policy 1.1.9 Prioritize funding and phase housing development as follows.

Housing Project	No. Beds	Year
New Housing	440	2010

Policy 1.1.10 The University shall evaluate the demand and financial feasibility of a privately developed hotel to serve Biscayne Bay Campus Kovens Center. Until such time as such feasibility is determined, the land designated south of the Kovens Center may be developed for outdoor recreational activities.

Objective 1.2 Monitor and evaluate housing deficiencies and ensure the timely elimination of substandard student housing and the infrastructure (electrical, mechanical, plumbing, etc.) and aesthetic improvement of existing student housing.

Policy 1.2.1 UNIVERSITY-WIDE
Provide handicapped accessible units, in compliance with Americans with Disabilities Act for no less than five percent of on-campus housing.

Policy 1.2.2 Annually monitor the condition, deficiencies and repair needs of existing housing at both campuses consistent with the policies and procedures established by the Facilities Maintenance Element.

Policy 1.2.3 BISCAYNE BAY CAMPUS
Housing management will monitor housing demands and develop a business plan to support housing needs in a timely fashion.

**Objective 1.3 Off-Campus Housing:
Assist off-campus students in locating suitable, affordable housing.**

Policy 1.2.1 UNIVERSITY-WIDE
Monitor the anticipated adequacy and affordability of off-campus housing to serve the needs of students residing off-campus through a bi-annual survey of off-campus students

Policy 1.2.2 Establish with the Miami-Dade Planning Department and the City of North Miami, an FIU Housing Coordinating Committee for the purpose of:

- Monitoring the supply, cost and suitability of off-campus housing
- Establishing a registry of off-campus housing providers
- Monitoring factors pertaining to safety, transit utilization, pedestrian access, traffic pattern, rent levels, etc.
- Consider development of a "roommate finder" service.



UNIVERSITY PARK

- ATHLETICS ACADEMIC FITNESS CENTER (26)
- BASEBALL STADIUM (19)
- TOWER (20)
- DUPLICATING CENTER (205)
- CHILDREN'S CREATIVE LEARNING CENTER (17)
- CARLOS FINLAY ELEMENTARY SCHOOL (26)
- COLLEGE OF HEALTH (10)
- CHEMISTRY & PHYSICS (60)
- SCHOOL OF ARCHITECTURE (24)

- CAMPUS SUPPORT COMPLEX (22)
- CENTRAL UTILITIES (64A)
- DUSUENNE MADON (62)
- ENGINEERING & COMPUTER SCIENCES (61)
- FIU COMMUNITY STADIUM (27)
- EARNEST R. GRAHAM CENTER (63)
- STEVE & DOROTHEA GREEN LIBRARY (35)
- GOLDEN PANTHER ARENA (67)

- STUDENT HEALTH & WELLNESS CENTER (12)
- LABOR CENTER (13)
- GRADUATE SCHOOL OF BUSINESS (36)
- NATIONAL HURRICANE CENTER (41)
- OWA ERHAN (34)
- CHARLES E. PERRY PRIMERIA CASA (65)
- PARKING GARAGE (71-76)
- PANTHER RESIDENCE HALL (39)

- RYDER BUSINESS BUILDING (11)
- FUTURE DEVELOPMENT (45A-45E)
- STUDENT HOUSING (38)
- UNIVERSITY TOWERS (35A)
- WERTHEIM CONSERVATORY (64A)
- VIERTES HAUS (34)
- HERBERT & NICOLE WERTHEIM PERFORMING ARTS CENTER (66)
- SAMFOER & DOLORES ZIFF EDUCATION BUILDING (44)
- UNIVERSITY HOUSE (23)

SW 8TH STREET GOLDEN PANTHER TRAIL

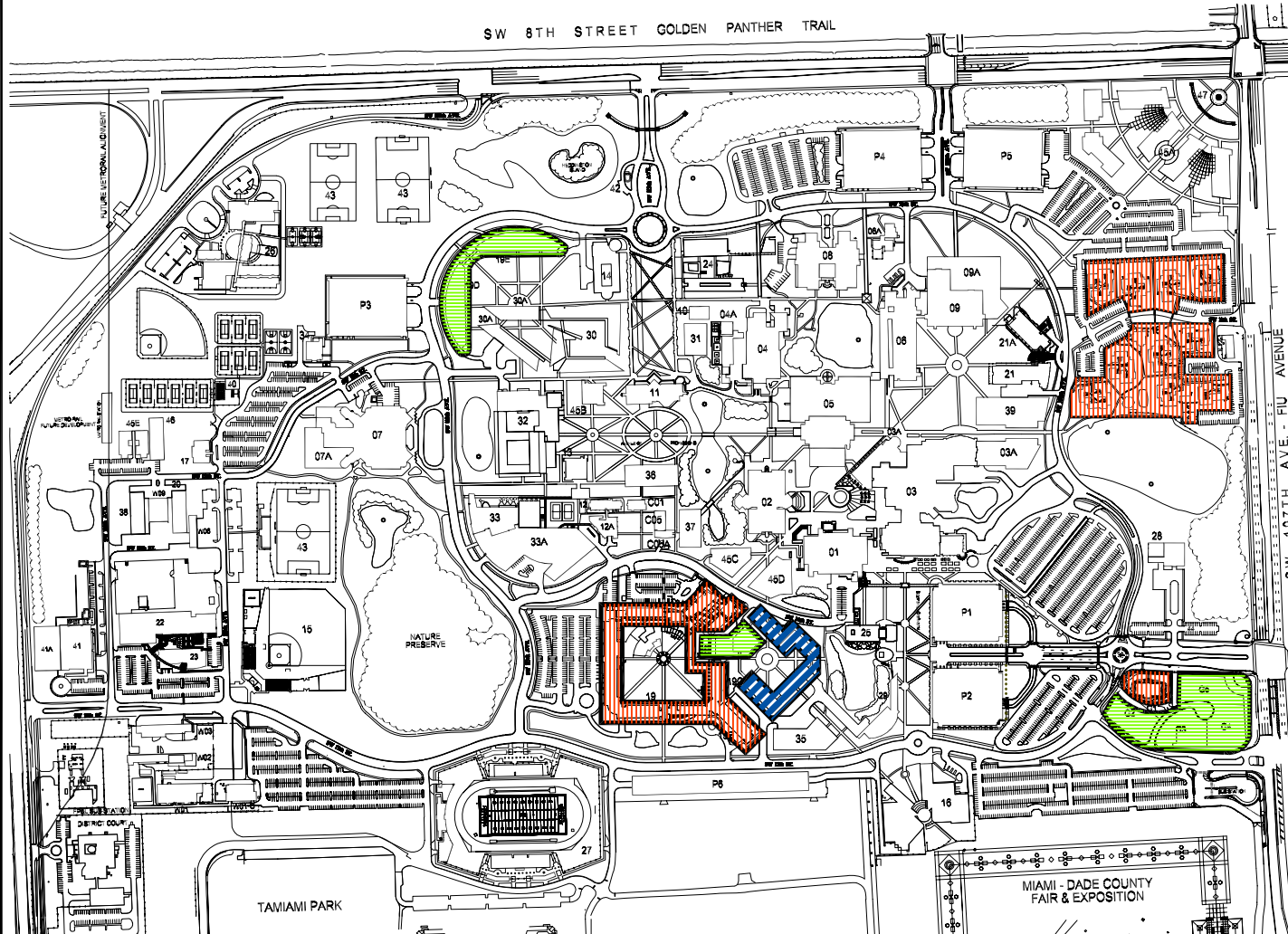


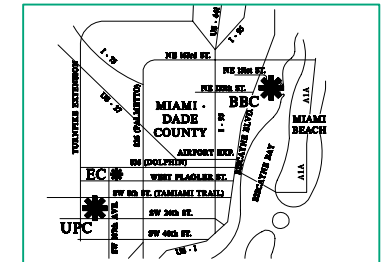
FIGURE NUMBER 7.1

HOUSING FACILITIES

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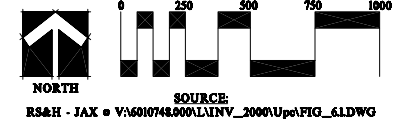
- EXISTING
- PLANNED OR UNDER CONSTRUCTION
- FUTURE

KEY MAP



FINAL MASTER PLAN FLORIDA INTERNATIONAL UNIVERSITY MIAMI, FLORIDA

DATE: OCTOBER 2003





- ACADEMIC ONE (02)
- ACADEMIC TWO (04)
- AQUATIC CENTER (01A)
- BAY VISTA HOUSING (H1)
- HOTEL (14)
- HOSPITALITY MANAGEMENT (00)

- CONFERENCE CENTER (07)
- LIBRARY (05)
- ACADEMIC THREE - MARINE HQ. (13)
- ACADEMIC FOUR (12)
- HOUSING (15)
- INFORMATION CENTER (06)

- ECOLOGY LAB (27)
- FUTURE DEVELOPMENT - A (29A)
- FUTURE DEVELOPMENT - B (29B)
- RECREATION FIELDS (43)
- FDC / HES ADMINISTRATION (20)
- SUPPORT / CENTRAL RECEIVING (22)




- SUPPORT | PUBLIC SAFETY (23)
- SUPPORT | PHYSICAL PLANT (24)
- SUPPORT | GROUNDS (25)
- STUDENT HEALTH CENTER (06-06A)
- WELLNESS CENTER (21)
- WOLFE UNIVERSITY CENTER (03-03A)



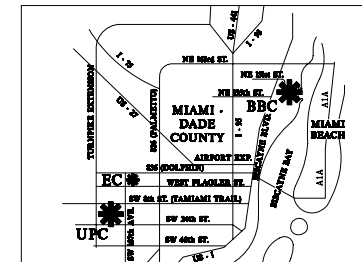
7.2

HOUSING FACILITIES

LEGEND:

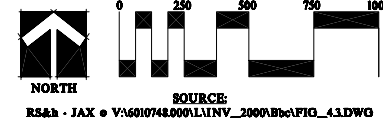
-  **EXISTING**
-  **PLANNED OR UNDER CONSTRUCTION**
-  **FUTURE**

KEY MAP



**FINAL MASTER PLAN
FLORIDA
INTERNATIONAL
UNIVERSITY
MIAMI, FLORIDA**

DATE: OCTOBER 2003



8.0 RECREATION AND OPEN SPACE ELEMENT

Developing new facilities and fields, as well as enhancing existing recreation facilities and open space remains an important aspect of campus design. As student enrollment increases, not only is there an increased demand to ensure adequate housing but to provide enough recreation fields and open space. Whether for intercollegiate or intramural activities, students need these amenities to remain connected to the University (see Figure 8.1: University Park, Figure 8.2: Engineering Center and Figure 8.3: Biscayne Bay Campus the location of recreational facilities and open space).

The 2000-2010 Master Plan Update identifies the need for additional on-campus recreation facilities and the development and preservation of open space to support the projected growth in student enrollment. Due to the increased pressure at University Park to use its available land for academic facilities, recreational activities are limited to the western edge of campus, which is experiencing yet further constraints due to the construction of additional support facilities. This has forced the University to limit its long-range growth in on-campus recreation and look for off-campus joint use facilities. Negotiations with Miami-Dade County for possible purchase or control of management of Tamiami Park should remain as a constant tool to use for additional recreational facilities. FIU will continue to work with the PARD regarding recreation and open space needs for both the University and Miami-Dade County.

Due to the developable lands to the north and east of the academic facility at Engineering Center, these areas could be utilized as overflow recreational facilities and fields to support those displaced by new construction at University Park.

Biscayne Bay Campus, unlike University Park, has an abundance of land availability to accommodate a growing student population and athletic programs to support the existing facilities. As additional housing is completed, the need for more recreational fields and facilities will be adequately provided for.

Open spaces on each campus have been developed so that they become an integral part of the overall urban design campus plan. Development that would encroach on these open spaces is discouraged in order that the natural resources of each campus are protected. Architectural and landscape design guidelines will ensure that appropriate open spaces, plazas and gathering spaces are provided with all new construction.

8.0 RECREATION AND OPEN SPACE ELEMENT

GOAL 1: **Protect, enhance and develop adequate recreation facilities and open space amenities necessary to serve projected student enrollments.**

Objective 1.1 **Recreation Facilities:**
Coordinate public and private resources as necessary to ensure the timely and efficient provision of recreation facilities to meet projected needs.

Policy 1.1.1 UNIVERSITY-WIDE:
FIU will continue to assess the needs of the student for on-campus recreational fields. Recreational fields displaced by new construction will be replaced at an alternative site.

Policy 1.1.2 UNIVERSITY PARK:
Phase and time development of open space improvements consistent with 14.0 Capital Improvement.

Policy 1.1.3 FIU shall relocate the existing recreational field and associated lighting system displaced by construction of Parking Garage 3 to the northwest portion of campus adjacent to the pond.

Policy 1.1.4 FIU shall create additional stadium seating by relocating the existing stadium track to the soccer field. Discussions for the modification of the stadium and its use will include input from PARD and Miami-Dade County Public Schools.

Policy 1.1.5 FIU will create jogging trails throughout campus for fitness programs and general use.

Policy 1.1.6 Engineering Center
Provide recreational facilities and open space as needed to replace fields lost from new construction at University Park or to augment their demand and consider unstructured open space for use as buffers, student gathering areas and facility transition space (see Figure 8.2).

Policy 1.1.7 BISCAYNE BAY CAMPUS:
Phase and time development of open space improvements, future athletic and recreational facilities consistent with 14.0 Capital Improvement Element.

Policy 1.1.8 Planned recreational spaces will be physically connected to the students by constructing facilities in close proximity to their housing.

Objective 1.2 **Open Space:**

Protect and/or enhance present open space resources.

- Policy 1.2.1 **UNIVERSITY PARK:**
Any development within the nature preserve will be integrated within the existing wooded areas, with sensitively placed buildings, retaining wooded areas for existing species and to provide shelter and its natural characteristics.
- Policy 1.2.2 In lieu of any development occurring at the preserve, perimeter lighting will be installed as required for safety and security. FIU is currently working on a plan for utilizing the preserve for teaching and outdoor recreation.
- Policy 1.2.3 Protect existing landscaped open spaces from development and create new malls, quadrangles and open space.
- Policy 1.2.4 Coordinate with Miami-Dade County [Park and Recreation](#) Department for the utilization of open space to meet short-range recreation and open space needs and long range academic expansion.
- Policy 1.2.5 **Engineering Center**
Protect existing open space from SW 107th Avenue and West Flagler Street as a vegetative buffer.
- Policy 1.2.6 **Engineering Center**
Enhance existing open spaces between facilities as activity centers, gathering areas and pedestrian malls.
- Policy 1.2.7 **BISCAYNE BAY CAMPUS:**
Protect environmentally sensitive and Bayfront open spaces from development encroachment by strictly enforcing future placement of buildings, parking, infrastructure and other man-made improvements consistent with the land use plan which depicts and protects the environmentally sensitive and Bayfront open spaces from development.
- Policy 1.2.8 **BISCAYNE BAY CAMPUS:**
Enhance key symbolic campus open spaces to the north and south of Academic One and Two/Wolfe University Center and to the east of the Conference Center (see 16.0 Landscape Design Guidelines Element).
- Policy 1.2.9 **BISCAYNE BAY CAMPUS:**
Florida International University does not plan or anticipate designation or acquisition of additional on-campus open spaces or

natural reservations beyond those identified and designated in the 4.0 Land Use Element (Figures 4.1, 4.2) and 16.0 Landscape Design Guidelines Element (Figures 16.1, 16.2). Use of additional off-campus open space may be secured at Tamiami Park.

Policy 1.2.10 FIU shall select sites for infrastructure and academic and support facilities, which are designed to maximize the retention of campus open space.

Policy 1.2.11 FIU shall maintain densities and intensities for the development of the campus which maximize the retention of open space. These densities and intensities are established in 4.0 Land Use Element.



UNIVERSITY PARK

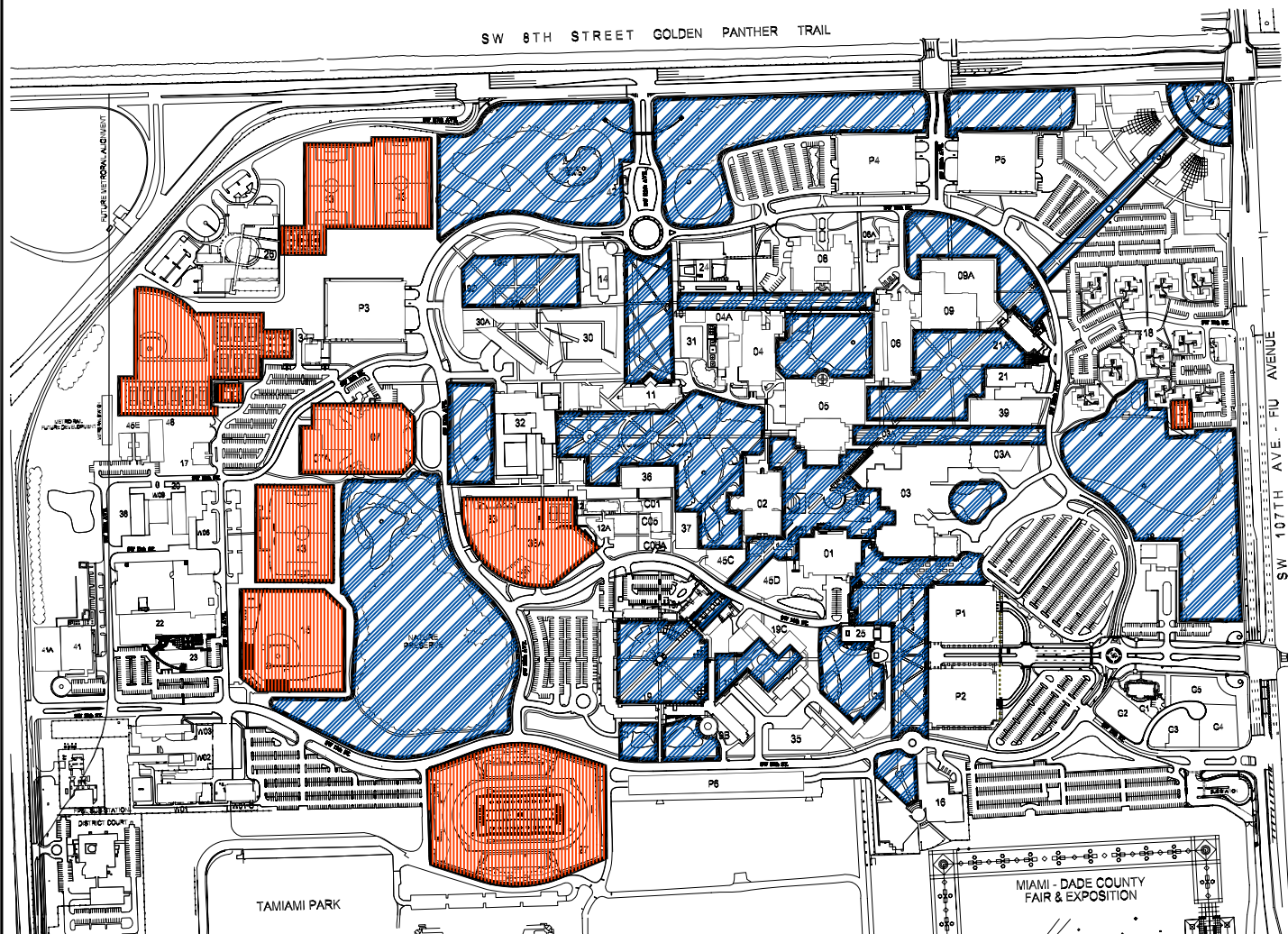
- ATHLETICS ACADEMIC FITNESS CENTER (20)
- BASEBALL STADIUM (19)
- TOWER (C0)
- DUPLICATION CENTER (C05)
- CHILDREN'S CREATIVE LEARNING CENTER (7)
- CARLOS FINLAY ELEMENTARY SCHOOL (26)
- COLLEGE OF HEALTH (6)
- CHEMISTRY & PHYSICS (69)
- SCHOOL OF ARCHITECTURE (24)

- CAMPUS SUPPORT COMPLEX (22)
- CENTRAL UTILITIES (04A)
- DEUXIEME MAISON (82)
- ENGINEERING & COMPUTER SCIENCES (66)
- FIU COMMUNITY STADIUM (27)
- EARNST R. GRAHAM CENTER (63)
- COLLEGE OF DOROTHY GREEN LIBRARY (65)
- GOLDEN PANTHER ARENA (97)

- STUDENT HEALTH & WELLNESS CENTER (12)
- LABOR CENTER (35)
- GRADUATE SCHOOL OF BUSINESS (36)
- NATIONAL HURRICANE CENTER (41)
- OWA BEAN (64)
- CHARLES E. PERRY FELDMER CASA (9)
- PARKING GARAGE (74-PG)
- PANTHER RESIDENCE HALL (39)

- RYDER BUSINESS BUILDING (10)
- FUTURE DEVELOPMENT (45A-45B)
- STUDENT HOUSING (18)
- UNIVERSITY TOWERS (39A)
- WERTHEIM CONSERVATORY (66A)
- VERTICES HALL (64)
- HERBERT & NICOLE WERTHEIM PERFORMING ARTS CENTER (6)
- SANTOF & DOLORES ZIFF EDUCATION BUILDING (4)
- UNIVERSITY HOUSE (28)

SW 8TH STREET GOLDEN PANTHER TRAIL



TAMIAMI PARK

MIAMI - DADE COUNTY
FAIR & EXPOSITION

FIGURE NUMBER

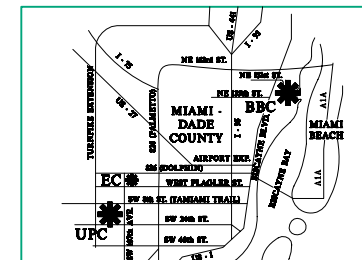
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RECREATION AND OPEN SPACE

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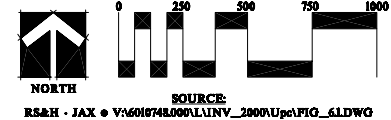
- RECREATION FACILITIES
- OPEN SPACE

KEY MAP



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MIAMI, FLORIDA

DATE: OCTOBER 2003





ENGINEERING CENTER

- ENGINEERING & APPLIED SCIENCES (01)
- OPERATIONS / UTILITIES (02)
- PLANNED OR UNDER CONST. (03)
- FUTURE DEVELOPMENT (04)
- FUTURE DEVELOPMENT (05)

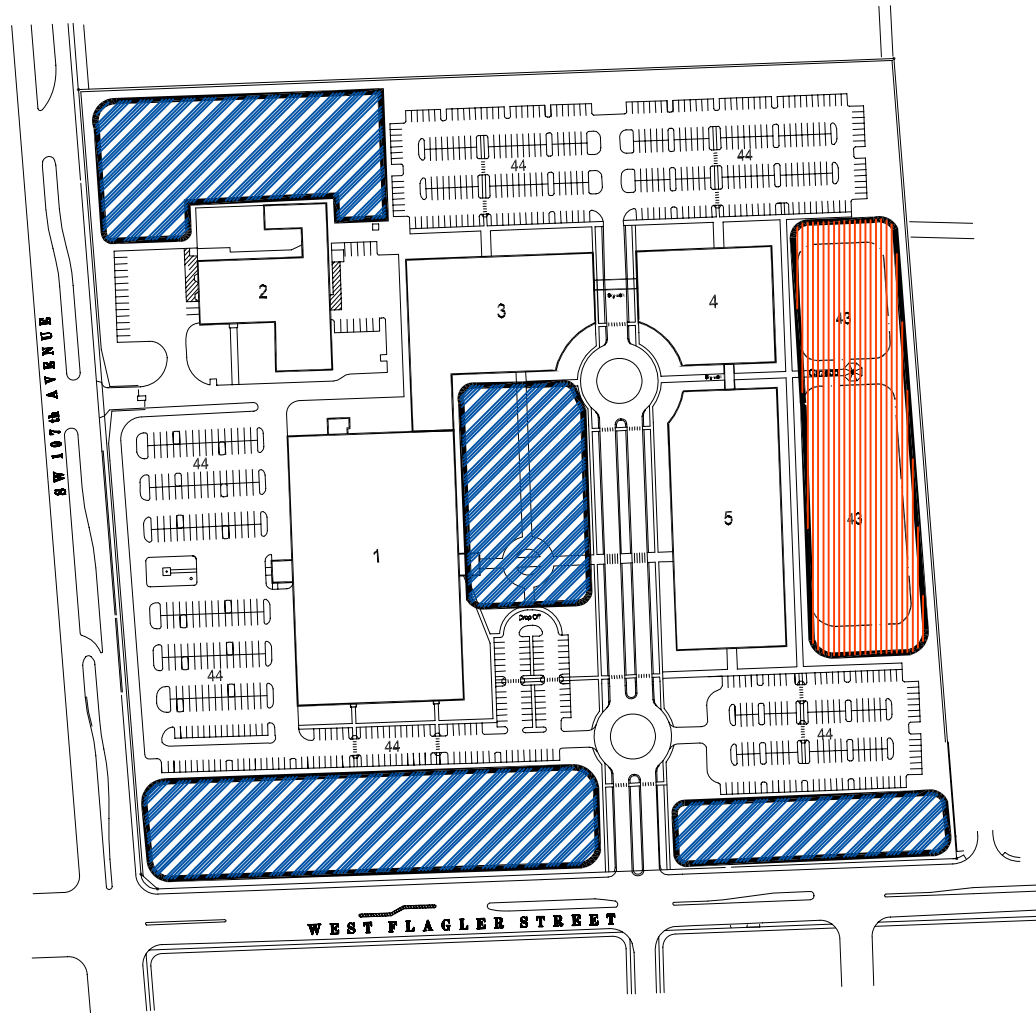




FIGURE NUMBER

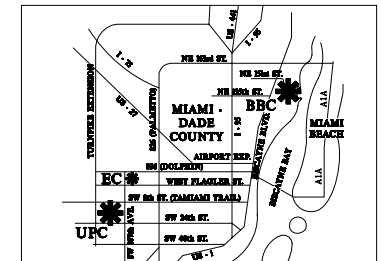
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RECREATION AND OPEN SPACE

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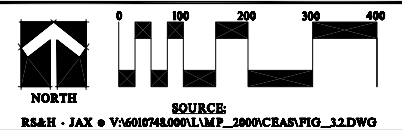
-  RECREATION FACILITIES
-  OPEN SPACE

KEY MAP



FINAL MASTER PLAN FLORIDA INTERNATIONAL UNIVERSITY MIAMI, FLORIDA

DATE: OCTOBER 2003





BISCAYNE BAY CAMPUS

- ACADEMIC ONE (02)
- ACADEMIC TWO (04)
- AQUATIC CENTER (01A)
- BAY VISTA HOUSING (H1)
- HOTEL (04)
- HOSPITALITY MANAGEMENT (01)

- CONFERENCE CENTER (07)
- LIBRARY (05)
- ACADEMIC THREE - MARINE Bldg. (03)
- ACADEMIC FOUR (02)
- HOUSING (05)
- INFORMATION CENTER (06)

- ECOLOGY LAB (07)
- FUTURE DEVELOPMENT - A (29A)
- FUTURE DEVELOPMENT - B (29B)
- RECREATION FIELDS (43)
- FDC / HRG ADMINISTRATION (20)
- SUPPORT / CENTRAL RECEIVING (22)

- SUPPORT / PUBLIC SAFETY (23)
- SUPPORT / PHYSICAL PLANT (24)
- SUPPORT / GROUNDS (25)
- STUDENT HEALTH CENTER (04-06A)
- WELLNESS CENTER (21)
- WOLFE UNIVERSITY CENTER (03-03A)



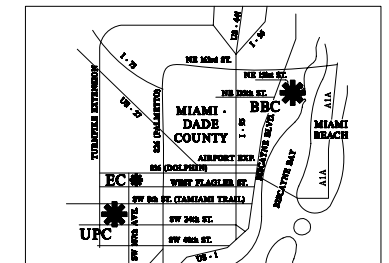
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RECREATION AND OPEN SPACE

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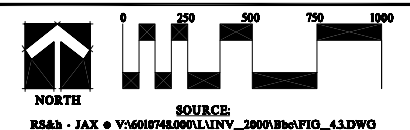
- RECREATION FACILITIES
- OPEN SPACE

KEY MAP



FINAL MASTER PLAN FLORIDA INTERNATIONAL UNIVERSITY MIAMI, FLORIDA

DATE: OCTOBER 2003



9.0 GENERAL INFRASTRUCTURE ELEMENT

The purpose of this element is to ensure adequate provision of public facilities and services required to meet the future needs of the University, including the following:

- a) Ensure provision of adequate Stormwater management capacity to protect the welfare of both the University's and host community's residents.
- b) Ensure provision of sufficient potable water to meet anticipated University needs and to reuse water for irrigation purposes.
- c) Ensure provision of adequate sanitary sewer and treatment capacity to meet anticipated University needs.
- d) Ensure provision of adequate solid waste handling and disposal capacity to meet anticipated University needs.

STORMWATER MANAGEMENT: The stormwater management plan for University Park is a combination of percolation, overland flow, exfiltration systems and positive drainage systems with outfalls to onsite lakes. There are no offsite discharge connections as all rainfall is contained onsite (see Figure 9.1: Existing Drainage System Map). Engineering Center drainage system is designed to handle all major stormwater rainfall events on site with exfiltration trenches, dry and wet retention areas, drainage swales, lakes, overland flow, and positive drainage pipe system (see Figure 9.2: Existing Drainage System Map). The stormwater management plan for Biscayne Bay Campus is a combination of percolation, overland flow, exfiltration systems and positive drainage systems with outfalls to onsite lakes. Currently, this stormwater drainage system has two out falls located on the north and east sides of the site. The north out fall system consists of a 42-inch culvert and the east out fall consists of an 8" x 12" culvert (see Figure 9.3: Existing Drainage System Map).

WATER: Potable water for University Park is provided by the [WASD](#) through two domestic water service lines located on SW 8th Street and SW 117th Avenue (see Figure 9.5: Existing Water Distribution System Map). Engineering Center is serviced from a water distribution system located on SW 107th Avenue (see Figure 9.6: Existing Water Distribution System Map). The water distribution system for Biscayne Bay Campus is located on NW 151st Street and NW 135th Street (see Figure 9.7: Existing Water Distribution System Map).

SEWER: University Park sanitary sewer system consists of gravity sewer lines, a series of sanitary lift stations, and two tie in connection points located at SW 8th Street and SW 117th Avenue. These two force mains are owned and maintained by [WASD](#) (see Figure 9.8: Existing Sanitary Sewer Map and Figure 9.9: Existing Sanitary Sewer System, for Engineering Center sanitary system). The Engineering Center sanitary sewer consists of gravity sewer lines, a lift station and one tie connection point located at West Flagler

Street. This sanitary sewer line is owned and maintained by WASD. Biscayne Bay Campus sanitary sewer system consists of gravity sewer lines and a master pump station. The City of North Miami is contracted with Norman Winson Water Treatment Plant to provide treatment and disposal for this campus (see Figure 9.10: Existing Sanitary Sewer Map). Facilities proposed as part of the Campus Master Plan, which adds flows to the sewer system, will be subject to the terms, covenants and conditions set forth in the settlement agreements entered into by Miami-Dade County with the State of Florida DEP as well as with the U.S. EPA and all current subsequent of future court orders, judgments and consent decrees.

SOLID WASTE: Solid waste and disposal is accomplished at University Park through a combination of utilizing University staff, private contractors and public entities is currently being collected and disposed of by contract services. The solid waste material is either recycled or sent to the landfill for disposal (see Figure 9.15: Solid Waste Collection and Disposal Map). Solid Waste collection and disposal is accomplished at Engineering Center through a combination of utilizing University staff, private contractors and public entities (see Figure 9.16: Existing Solid Waste Collection and Disposal Map). Solid Waste collection and disposal is accomplished at Biscayne Bay Campus through a combination of utilizing University staff, private contractors and public entities (see Figure 9.17: Existing Solid Waste Collection and Disposal Map).

9.0 GENERAL INFRASTRUCTURE ELEMENT

GOAL 1: Florida International University shall ensure that adequate solid waste disposal services are available and that these services are provided in an environmentally sound and economically efficient manner.

Objective 1.1 **Solid Waste Collection and Disposal:**
Florida International University shall ensure that adequate solid waste collection and disposal capacity is available within the University only in order to meet the demands generated by the University. At present, there is no solid waste collection and/or disposal facility improvements required to meet these demands.

Policy 1.1.1 Florida International University shall adopt the following levels of service standards:

Level of Service Standard:

1.85 pounds per full time equivalent (FTE) student per day.

Solid Waste Collection and Disposal Requirements:

2001-2002			
	FTE's	TONS/YEAR	TONS/DAY
UNIVERSITY PARK	14,760	4,920	13.5
BISCAYNE BAY CAMPUS	3,440	1,147	3.1
TOTAL	18,200	6,067	16.6
2004-2005			
UNIVERSITY PARK	17,230	5,743	15.7
BISCAYNE BAY CAMPUS	3,529	1,176	3.2
TOTAL	20,759	6,920	19.0
2009-2010			
UNIVERSITY PARK	23,638	7,879	21.6
BISCAYNE BAY CAMPUS	5,910	1,970	5.4
TOTAL	29,548	9,849	27.0

Policy 1.1.2 Florida International University Purchasing Services Department shall ensure that the bid solicitation and contractor selection process for campus wide solid waste collection services shall be completed.

Policy 1.1.3 Florida International University Purchasing Services Department shall

ensure that the bid solicitation and contractor selection process for campus wide compacting and recycling services shall be completed.

Policy 1.1.4 Florida International University Environmental Health and Safety Department shall ensure that any hazardous, biohazardous and radioactive waste, generated by the University shall be collected and disposed of by firms licensed and regulated in accordance with Chapter 17-730 Florida Administrative Code.

Policy 1.1.5 Florida International University Environmental Health and Safety Department will determine whether the present policy of soliciting bids for the disposal of hazardous wastes on an as-needed basis should be replaced by utilizing a single licensed contractor on an annual or multi year basis.

Policy 1.1.6 On-campus waste disposal systems shall be located and constructed to avoid impairment to them or contamination from them during flooding.

Objective 1.2 Solid Waste Recycling:
Florida International University shall increase the amount of solid waste recycled above the estimated 5% of total material generated (see 13.0 Conservation Element).

Policy 1.2.1 Florida International University will determine the University's eligibility for participation in the State of Florida Department of Environmental Protection, Solid Waste Management Trust Fund Program.

Policy 1.2.2 Recycling containers shall be located at numerous convenient locations across the University Park, Engineering Center and Biscayne Bay Campus.

Policy 1.2.3 FIU shall promote recycling through periodic educational emphases for the student body, faculty, and staff.

GOAL 2: Florida International University shall provide a stormwater management system, which protects real property and ensures maintenance of ground water quality.

Objective 2.1 Adequacy of Campus Drainage:
Florida International University shall coordinate future development in accordance with a master campus drainage plan in order to meet drainage systems requirements in an efficient manner and protect University property.

- Policy 2.1.1 FIU shall design and construct or improve stormwater management facilities as identified in Figures 9.1, 9.4 and 9.7. The timing and phasing requirements for these improvements are established in the 14.0 Capital Improvements Element.

Objective 2.2 Flood Protection:
Florida International University shall ensure that all existing and proposed development have drainage systems that provide flood protection.

- Policy 2.2.1 The following design criteria shall be used in the design and construction of facilities at Florida International University:

	<u>University Park</u>	<u>Biscayne Bay Campus</u>
Minimum Building Finished Floor Elevation	9.0 feet NGVD	8.0 feet NGVD
Minimum Sidewalk Elev.	8.0 feet NGVD	6.0 feet NGVD
Minimum Crown of Roadways Elevation	7.0 feet NGVD	5.5 feet NGVD
Minimum Parking Lot Elevation	7.0 feet NGVD	5.0 feet NGVD

- Policy 2.2.2 New construction and substantial improvements in areas subject to special flood hazards shall be constructed by methods and practices that minimize flood damage.

Residential construction:

Residential buildings shall have the lowest floor elevated no lower than 1 foot above the base flood elevation. Should solid foundation perimeter walls be used to elevate a structure, openings sufficient to facilitate the unimpeded movement of flood waters shall be provided. Structures will be anchored to prevent flotation, collapse, or lateral movement of the structure.

Non-residential construction:

Non-residential buildings shall have the lowest floor elevated no lower than 1 foot above the base flood elevation. Buildings located in a Velocity Zone, will be constructed to adhere to the requirements for this zone. Walls and roof structures will be sufficiently anchored to prevent loss from high winds. FIU will work with the Miami-Dade County Department of Environmental Resources Management (DERM) to determine the proper criteria for construction within this zone.

Elevated buildings:

Elevated buildings that include fully enclosed areas formed by foundation and other exterior walls below the base flood elevation

shall be designed to preclude finished living space and designed to allow for the entry and exit of flood waters to automatically equalize hydrostatic flood forces on exterior walls. Structures will be anchored to prevent flotation, collapse, or lateral movement of the structure.

- Policy 2.2.3 All paved surfaces and landscaped islands shall utilize curbing or curb and gutter when necessary for stormwater runoff control.
- Policy 2.2.4 Drainage systems for all new development shall be designed in accordance with the campus master development plan, the Miami-Dade County Public Works Department Public Works Manual Section D4 Water Control, and the South Florida Water Management District Permit Information Manual Volume IV and shall be constructed concurrent with the new development.
- Policy 2.2.5 Florida International University shall adopt the following water quantity level of service standards for University Park and shall use these standards as the basis for drainage system design.

Road Crown/Ground Surface LOS:

The minimum acceptable flood protection/drainage level of service (LOS) standards for University Park roadways, parking areas, and ground surfaces shall be protection from the degree of flooding that would result from a storm duration of one day that statistically occurs once in five years. Current elevations required per the Miami-Dade County Flood Criteria Map, as amended is 7.0 ft. NGVD.

Minimum Floor Elevations LOS:

The minimum acceptable flood protection/drainage level of service (LOS) standards for University Park minimum floor elevation shall be the elevations as specified in the Federal Flood Insurance Rate Maps for Dade County or the protection from the degree of flooding that would result from a storm duration of three days that statistically occurs once in one hundred years or elevation 9.0 ft NGVD, whichever is greater.

- Policy 2.2.6 Florida International University shall adopt the following water quantity level of service standards and shall use these standards as the basis for drainage system design:

Road Crown/Ground Surface LOS:

The minimum acceptable flood protection/drainage level of service (LOS) standards for FIU roadways, parking areas, and ground surfaces shall be protection from the degree of flooding that would result from a storm duration of one day that statistically occurs once in five years. Current elevations required per the Miami-Dade County

Flood Criteria Map, as amended, is 5.0 ft. NGVD.

Minimum Floor Elevation LOS:

The minimum acceptable flood protection/drainage level of service (LOS) standards for Biscayne Bay Campus minimum floor elevation shall be the elevations as specified in the Federal Insurance Rate Maps for Miami-Dade County or the protection from the degree of flooding that would result from a storm duration of three days that statistically occurs once in one hundred years or elevation 8.0 ft. NGVD, whichever is greater.

- Policy 2.2.7 The minimum acceptable Flood Protection Level of Service standards for University facilities shall be protected from the degree of flooding that would result for a duration of one day from a ten-year storm.

Objective 2.3

Water Quality:

Florida International University shall ensure that all existing and proposed developments have drainage systems that provide water quality enhancement to stormwater runoff.

- Policy 2.3.1 Best Management Practices shall be incorporated into the drainage system design to minimize the impacts from development to the ground and surface water quality. These practices shall include, but not be limited to:

1. Incorporating stormwater management retention and detention features into the design of parks, trails, commons and open spaces, where such features do not detract from the recreational or aesthetic value of a site.
2. Use of slow release fertilizers and/or carefully managed fertilizer applications timed to ensure maximum root uptake and minimal surface water runoff or leaching to groundwater.
3. 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.
4. Avoid the widespread application of broad spectrum pesticides by involving only purposeful and minimal application of pesticides, aimed at identified targeted species.
5. Coordinating pesticide application with irrigation practices to reduce runoff and leaching to groundwater.

6. Use of turf blocks to minimize impervious surface area.
7. Incorporating features into the design of fertilizer and pesticide storage, mixing and loading areas that are designed to prevent/minimize spillage.
8. Use of downturned elbows in catch basins.

Policy 2.3.2 Florida International University shall adopt the following water quality level of service standard and shall use these standards as the basis for drainage system design:

The minimum acceptable water quality/drainage level of service (LOS) standards for FIU shall be the treatment of the first inch of stormwater runoff in accordance with Miami-Dade County Department of Environmental Resources Management and South Florida Water Management District criteria.

Policy 2.3.3 All stormwater runoff shall be contained within the project site utilizing exfiltration trench, with overflow to an on-site water body when available and shall not adversely affect adjacent property.

Policy 2.3.4 Exfiltration trench systems with overflow into a water body shall be designed to retain on site all the volume of runoff generated by the contributing drainage area.

Policy 2.3.5 Design of new facilities as well as retrofitting of existing drainage systems and areas having drainage deficiencies identified in the Master Drainage Study shall be undertaken in accordance with the Capital Improvements Element and Master Drainage Study.

Policy 2.3.6 It shall be the policy of FIU that no stormwater discharges shall cause or contribute to a violation of water quality standards in waters of the State. All discharge of stormwater shall be conducted in accordance with the water quality requirements of South Florida Water Management District (SFWMD) and Miami-Dade Department of Environmental Resources Management (DERM).

Policy 2.3.7 All drainage inlets receiving runoff directly from paved surfaces shall have oil pollution baffles installed.

Policy 2.3.8 All drainage system plans shall be reviewed and approved by SFWMD or its designee prior to the initiation of any drainage system construction activity.

GOAL 3: Florida International University shall ensure that potable water is available for existing and future campus development.

Objective 3.1 Adequacy of Potable Water Supply and Distribution:
Florida International University shall ensure that prior to development activities adequate potable water supply, treatment, distribution facilities and adequate fire flow protection are available at the adopted level of service standards in accordance with the capital improvements element.

Policy 3.1.1 Florida International University shall adopt the following potable water level of service standards:

10 gallons per capita per day*

* Level of service standard is consistent with local government comprehensive plan for schools. Present consumption records indicate the water usage at 50% of this level of service.

Projected Total Potable Water Requirements:

YEAR	Average GPD
UNIVERSITY PARK	
2000	152,220
2005	189,690
2010	236,390
BISCAYNE BAY CAMPUS	
2000	38,050
2005	47,420
2010	59,100

SOURCE: Fall Student Profiles

*Average GPD for 1999-00 is based on actual consumption measured by water meters.

Policy 3.1.2 The level of service water pressure standard shall be a minimum of 20 p.s.i. and no greater than 100 p.s.i. A minimum flow of 2,000 gallons per minute should be added to this level of service standard to comply with the required minimum fire flow levels for schools.

Policy 3.1.3 The minimum level of service water main size for primary and secondary distribution systems shall be 12 inches in diameter.

Policy 3.1.4 UNIVERSITY PARK:
All potable water plans shall be reviewed and approved by the State of Florida Health and Rehabilitative Services (HRS), Miami-Dade County Department of Environmental Resources Management, Miami-Dade County Water and Sewer Authority Department and the state fire marshall.

Policy 3.1.5 BISCAYNE BAY CAMPUS:

All potable water plans shall be reviewed and approved by the State of Florida Health and Rehabilitative Services (HRS), Miami-Dade County Department of Environmental Resources Management, Miami-Dade County Water and Sewer Authority Department, the state fire marshall, and the City of North Miami.

Policy 3.1.6 All potable water mains in primary distribution and secondary distribution systems shall be looped.

Policy 3.1.7 All existing dead-end potable water primary and secondary distribution systems shall be eliminated by constructing links to complete a loop.

Policy 3.1.8 All primary and secondary potable water distribution systems shall incorporate fire system demands.

Policy 3.1.9 All fire protection services to new developments shall be in accordance with the National Fire Protection Association (NFPA 24 Private Water Distribution System).

Policy 3.1.10 The priorities for potable water improvements shall be 1) the elimination of dead-end water distribution systems, and 2) the expansion of potable water infrastructure.

Policy 3.1.11 New and replacement water supply systems shall be designed to minimize or eliminate infiltration of flood waters into the system and shall be according to WASD standard and specification.

Policy 3.1.12 FIU shall design and construct or improve potable water facilities as identified in Figures 9.2, 9.5 AND 9.7. The timing and phasing requirements for these improvements are established in the 14.0 Capital Improvements Element.

Policy 3.1.13 Periodically revise and/or update the existing water service agreements between the University Board of Trustees and Miami-Dade County.

Objective 3.2

Water Conservation Program:

Florida International University shall develop and implement a comprehensive water conservation program that is consistent with Florida's Water Conservation Act.

Policy 3.2.1 Promote an educational program which will discourage waste and conserve water.

Policy 3.2.2 Enforce requirements, and establish new requirements and procedures as needed, to assure that low water usage plumbing fixtures are used in all new facilities and in conjunction with renovations to existing facilities.

GOAL 4: Florida International University shall ensure that sanitary sewer is available for existing and future campus development.

Objective 4.1 Florida International University shall ensure prior to development activities adequate sanitary sewer collection, transmission, and treatment facilities are available at adopted levels of service standards in accordance with the capital improvements element.

Policy 4.1.1 Florida International University shall adopt the following sanitary sewer level of service standards:

Projected Total Sanitary Sewer Requirements:

YEAR	Average GPD
UNIVERSITY PARK	
2000	159,831
2005	199,175
2010	248,210
BISCAYNE BAY CAMPUS	
2000	39,953
2005	49,791
2010	62,055

SOURCE: Fall Student Profiles

*Average GPD for 1999-00 is based on actual consumption measured by water meters.

Policy 4.1.2 The minimum level of service gravity sewer pipe size for sewer collection mains shall be eight inches in diameter.

Policy 4.1.3 **UNIVERSITY PARK:**
All sanitary sewer plans shall be reviewed by the Miami-Dade County Department of Environmental Resources Management and any proposed connection to the existing sewer in public right-of-way shall be reviewed by WASD. Final approval of any available point connection will only be forthcoming once the proposal successfully passes the rigorous review process in place by the WASD.

Policy 4.1.4 **BISCAYNE BAY CAMPUS:**
All sanitary sewer plans shall be reviewed and approved by the Miami-Dade County Department of Environmental Resources

Management and the City of North Miami. Final approval of any available point connection will only be forthcoming once the proposal successfully passes the rigorous review process in place by the WASD.

Policy 4.1.5 The priorities for gravity sewer improvement shall be 1) the maintenance of existing sewer system, and 2) the expansion of sanitary sewer infrastructure.

Policy 4.1.6 FIU shall design and construct or improve sanitary sewer facilities as identified in Figures 9.3, 9.6 and 9.9. The timing and phasing requirements for these improvements are established in the 14.0 Capital Improvements Element.

Policy 4.1.7 Periodically revise and/or update the sewer service agreements between the University Board of Trustees and Miami-Dade County.

Objective 4.2 Florida International University shall develop and implement an infiltration and inflow study for the gravity sewer system for each campus.

Policy 4.2.1 All gravity sewer lines below the ground water table shall be inspected by video for infiltration and inflow conditions.

Policy 4.2.2 Pipes with excessive ground water infiltration shall be repaired or replaced.

Policy 4.2.3 Monitoring at regular intervals shall be used to identify and schedule maintenance programs.

Policy 4.2.4 New and replacement sanitary sewage systems shall be designed to minimize or eliminate infiltration of flood waters into the system and discharges from the systems into flood waters.

10.0 UTILITIES ELEMENT

The purpose of this element is to ensure adequate provision of utility services required to meet the future needs of the University, including the following:

- a) Ensure provision of adequate hot water and chilled water supply to meet future University needs.
- b) Ensure provision of adequate electric power supply and other fuels to meet future University needs.

HOT WATER AND CHILLED WATER: The requirements imposed by Florida International University Expansion of Facilities on the chilled water generation and distribution are three-fold. First is the upgrade of the Plant's ability to pump the chilled water to all the growth areas, coupled with the energy efficiency optimization of the generating and pumping equipment. Third is the increment in capacity of the plant to satisfy the higher chilled water demands imposed by new buildings.

ELECTRICAL POWER: Electrical energy is furnished to Florida International University by Florida Power and Light (FP&L). They master plan their facilities to satisfy all campus expansion. Close coordination must be maintained with them so the needs of new buildings are provided for. Additionally, FP&L offers various incentive programs that may be used by the University to improve the energy consumption of their lighting and chiller systems.

TELECOMMUNICATIONS: The existing telecommunications grid has been heavily used in some areas of University Park. The planning priorities are to expand the grid to serve new buildings and to reinforce the existing grid by adding new ductbanks. Another area of development is the creation of a second feed at University Park so the grid has the reliability of two sources of off-Campus communication.

Due in part from a lack of accurate and accessible information pertaining to the 10.0 Utilities Element, in 2001 FIU contracted with Reynolds, Smith and Hills, inc. to update the University Park Utility Atlas database inventory for surface and underground utilities. The survey information will be used to bring up to date the existing construction as-built electronic files provided by FIU. The specific information to be updated included field verification by way of electronic sensing horizontal location of electrical, water, communication, chilled water lines and sanitary sewer lines and vertical elevation of all storm drainage and sanitary sewer structures. For all updated information pertaining to utilities and infrastructure, a copy of the *Utility Infrastructure Survey Update* is on file in the offices of FIU Facilities Planning and Construction.

10.0 UTILITIES ELEMENT

Hot Water and Chilled Water Sub-Element

UNIVERSITY PARK

GOAL 1: Upgrade the chilled water generation and distribution system to serve efficiently University Park's present and future needs.

Objective 1.1 Piping Loop Expansion:
Extend the existing chilled water piping loop to maintain the current level of service standard for existing facilities and to serve the new areas of projected growth in the south/southeast and at the S.W. 8th Street entrance. The timing and phasing requirements and priorities for the improvements identified in the following policies are established in the 14.0 Capital Improvements Element.

- Policy 1.1.1 Continue the south/southeast piping loop expansion initiated with the Fine Arts Building. Segments of the loop must be coordinated with upcoming buildings so service is available coinciding with building completions (see Figure 10.1).
- Policy 1.1.2 Extend the chilled water piping westward from the S.W. 8th Street entrance to create a new loop to serve the west core of buildings (see Figure 10.1).
- Policy 1.1.3 Establish chilled water flow required at each expansion segment so piping sizes may be established. Cumulative flow requirements will be instrumental in determining the parameters for the Chiller Plant capacity upgrade and pumping ability. These issues are discussed under a separate objective.
- Policy 1.1.4 Update the University Engineering Design Guidelines to establish clearly piping loop materials and methods of installation. Similarly establish parameters for the piping, controls, and pumping arrangements for the connection of new buildings to the piping loop.
- Policy 1.1.5 **Engineering Center:**
Increase chilled water capacity to coincide with expansion of academic facilities (see Figure 10.4).

Objective 1.2 Chiller Plant Upgrade:
Increase chiller capacity of existing plant to serve new building demands. Upgrade and modify pumping system to operate with the existing and expanded piping loop. The timing and phasing requirements and priorities for the improvements identified in the following policies are established in the 14.0 Capital Improvements Element.

Policy 1.2.1 The five year capital improvement program will require that additional chiller capacity be added to the system by the addition of a fifth unit with the consequent expansion of the Chiller Plant building and upgrade of chiller no. 3. These steps will require an upgrade of the condenser water (cooling towers and pumps) system (see Figure 10.1).

Policy 1.2.2 Dedicated utility corridors will be established to locate all services to create easy accessibility for maintenance.

GOAL 2: In the process of upgrading the chilled water generation and distribution system, optimize the entire operation to reduce energy costs by increasing operational efficiency.

Objective 2.1 Reduce Energy Costs:
Produce a feasibility study to verify attractiveness of ice storage system and to engage into an arrangement with the local utility (FPL) to receive preferential consumption and demand rates as well as their programmed rebate.

Policy 2.1.1 Install an ice storage system to operate with the existing plant including an ice making chiller as well as tanks, piping, and control if the feasibility study proves that the system has an attractive payback on the investment.

Objective 2.2 Chiller Efficiency and Refrigerant Compliance:
Replace existing chillers with more efficient equipment. The timing and phasing requirements and priorities for the improvements identified in the following policies are established in the 14.0 Capital Improvements Element.

Policy 2.2.1 Replace old chiller no. 3 with a more efficient machine taking advantage of local utility (FPL) rebate for chiller exchange.

Policy 2.2.2 Establish a scheduled program to convert existing chillers nos. 1, 2, 4 to an environmentally friendly refrigerant.

Objective 2.3 Convert Direct Expansion Systems to Chilled Water:
Convert existing direct expansion systems to chilled water operation. The timing and phasing requirements and priorities for the improvements identified in the following policies are established in the 14.0 Capital Improvements Element.

Policy 2.3.1 Creating a satellite chiller plant and chilled water distribution loop to serve University Park support buildings if the planned growth in this sector of the Campus warrants it. The plant will be an expansion of the Chiller Plant serving the Golden Panther Arena.

Policy 2.3.2 Extend the existing main chilled water loop to serve the existing housing units, Greek Housing, and new resident halls at the northeast corner of the Campus (see Figure 10.2).

BISCAYNE BAY CAMPUS

GOAL 3: Upgrade the chilled water generation and distribution system to serve efficiently the present and future needs of Biscayne Bay Campus.

Objective 3.1 Piping Loop Expansion:
Extend the existing chilled water piping loop to maintain the current level of service to existing facilities and to serve the new areas of projected growth at the south/southeast and at the north/northeast of the Campus core. The timing and phasing requirements and priorities for the improvements identified in the following policies are established in the 14.0 Capital Improvements Element.

Policy 3.1.1 Continue the south/southeast piping loop expansion initiated with the Conference Center. Segments of the loop must be coordinated with upcoming buildings so service is available coinciding with building completions. Extend existing loop to the north/northeast to serve expansion planned for ten (10) year capital improvements. See Figure 10.7.

Policy 3.1.2 Establish chilled water flow required at each expansion segment so piping sizes may be established. Cumulative flow requirements will be instrumental in determining the parameters for the Chiller Plant capacity upgrade and pumping ability. These issues are discussed under a separate objective. See Figures 10.7.

Policy 3.1.3 Update the University Engineering Design Guidelines to establish clearly piping loop materials and methods of installation. Similarly establish parameters for the piping, controls, and pumping

arrangements for the connection of new buildings to the piping loop. Specific recommendations for underground piping apply to Biscayne Bay Campus due to the aggressive nature of the subsoil materials.

Objective 3.2 Chiller Plant Upgrade:
Increase chiller capacity of existing plant to serve new building requirements. Upgrade and modify pumping system to operate with the existing and expanded piping loop. The timing and phasing requirements and priorities for the improvements identified in the following policies are established in the 14.0 Capital Improvements Element.

Policy 3.2.1 Additional chiller capacity must be added to the system for any expansion beyond the three year capital improvement plan. This may be accomplished either by the substitution of the oldest existing unit, by addition of additional units, or by addition of an ice storage system. All alternatives require an upgrade of the condenser water (cooling towers and pumps) system.

GOAL 4: In the process of upgrading the chilled water generation and distribution system, optimize the entire operation to reduce energy costs by increasing operational efficiency.

Objective 4.1 Optimize Chiller Efficiency:
Replace existing chillers with more efficient equipment. The timing and phasing requirements and priorities for the improvements identified in the following policies are established in the 14.0 Capital Improvements Element.

Policy 4.1.1 Establish a scheduled program to convert existing chillers to an environmentally friendly refrigerant or to replace them with more efficient machines taking advantage of local utility (FPL) rebate for chiller exchange.

Electrical Power and Other Fuels (Energy) Sub-Element

UNIVERSITY PARK

GOAL 5: Extend the utility power primary voltage network to efficiently serve the campus in its present and future configurations.

Objective 5.1 Grid Expansion:
Extend the existing electrical power grid from the updated dual

feed source recently installed by the Utility to maintain the current level of service standard to the existing as well as the new buildings. The timing and phasing requirements and priorities for the improvements identified in the following policies are established in the Capital Improvements Element.

- Policy 5.1.1 Extend electrical feeders to planned building expansion at University Park to form a loop. See Figure 10.2
- Policy 5.1.2 Extend electrical feeders to serve new buildings in the north/south and east/west alignment of the main entrance at S.W. 8th Street. See Figure 10.2.
- Policy 5.1.3 UNIVERSITY PARK / Engineering Center
Maintain close coordination with the local utility, Florida Power & Light (FP&L), so they may tailor their facilities to the projected campus growth. FP&L is responsible for extending their facilities on campus to serve all new buildings. Therefore, Master Plan information must be accessible to FP&L and the University must act as coordinator to guarantee that FP&L planning is in step with Master Plan requirements.
- Policy 5.1.5 Establish design guidelines to match FP&L requirements to FIU Building Standards so there is a coordinated design for service entrance to the electrical vaults or pad mounted transformers of new buildings.

GOAL 6: Improve the efficiency of electrically powered equipment aimed at reducing operating costs.

Objective 6.1 Efficiency optimization:
Install energy efficient equipment in planned buildings and retrofit existing facilities with energy efficient components. The timing and phasing requirements and priorities for the improvements identified in the following policies are established in the 14.0 Capital Improvements Element.

- Policy 6.1.1 UNIVERSITY PARK / Engineering Center
Utilize electronic ballasts for fluorescent lighting fixtures and octron T-8 lamps for maximum efficiency in all new or refurbished buildings.
- Policy 6.1.2 Progressively retrofit all existing buildings with equipment described in 6.1.1 above. Coordinate these steps with FP&L to make maximum use of their available rebate programs.

- Policy 6.1.3 Cooperate closely with the chilled water element efficiency optimization measures such as chiller exchange and ice storage system.

BISCAYNE BAY CAMPUS

GOAL 7: Extend the utility power primary voltage network to efficiently serve the campus in its present and future configurations.

Objective 7.1 Grid Expansion:
Extend the existing electrical power grid from the service at Bay Vista Boulevard, to maintain the current level of service to the existing as well as the new buildings. The timing and phasing requirements and priorities for the improvements identified in the following policies are established in the 14.0 Capital Improvements Element.

- Policy 7.1.1 Provide a new power ductbank to serve southeast expansion.
- Policy 7.1.2 Extend electrical feeders to planned building expansion on the northeast corner of Biscayne Bay Campus. See Figure 10.8.
- Policy 7.1.3 Maintain a close coordination with the local utility, Florida Power & Light, so they may tailor their facilities to the projected campus growth.
- Policy 7.1.4 Establish design guidelines to match FP&L requirements to F.I.U. Building Standards so there is a coordinated design for service entrance to the electrical vaults of new buildings. Provide specific instructions to address underground ductbanks and appurtenances in light of unique subsoil conditions and constraints.

GOAL 8: Improve the efficiency of electrically powered equipment aimed at reducing operating costs.

Objective 8.1 Efficiency Optimization:
Install energy efficient equipment in planned buildings and retrofit existing facilities with energy efficient components.

- Policy 8.1.1 Utilize electronic ballasts for fluorescent lighting fixtures and octron T-8 lamps for maximum efficiency in new and refurbished buildings.

- Policy 8.1.2 Retrofit progressively all existing buildings with equipment described in 8.1.1 above. Coordinate these steps with FP&L to make maximum use of their available rebates for lighting efficiency optimization.
- Policy 8.1.3 Cooperate closely with the chilled water element efficiency optimization measures such as chiller exchange and ice storage system.

Telecommunications Sub-Element

UNIVERSITY PARK

GOAL 9: Maintain the level of service for telecommunications and upgrade it to include multiple communication modes for new and existing buildings.

Objective 9.1 Network Expansion:
Extend the new fiber optic cable network to all new and existing buildings so current level of telecommunications service is upgraded to voice, data, video, etc. The timing and phasing requirements and priorities for the improvements identified in the following policies are established in the 14.0 Capital Improvements Element.

- Policy 9.1.1 Provide a feed to extend from Primera Casa to a designated remote site to serve the new building core at the south/southeast portion of the campus. See Figure 10.3.
- Policy 9.1.2 Extend fiber optic service to University Park from a new LAN at the Arena fed from local utility services at S.W. 117th Avenue.
- Policy 9.1.3 Provide service to new buildings along the north/south, east/west alignment at the S.W. 8th Street main entrance, fed from existing facilities east of sponsored research building.
- Policy 9.1.4 Complete a loop to guarantee campus service from two sources by extending system beyond (manhole*) located at the southeast corner of the NOAA Building under construction. See Figure 10.3.

*Exchange NOAA handhole for a manhole to continue loop.

- Policy 9.1.5 **UNIVERSITY PARK / Engineering Center**
Establish design guidelines for ductbank construction, telephone room conditions, sizes and locations, etc. Consider specifying level 5 cable which will set the network for voice, data, video, and security up to six choices of transmission modes.

- Policy 9.1.6 Coordinate with Southern Bell the requirements and projections of the Master Plan so they may tailor their equipment to serve the campus needs.

BISCAYNE BAY CAMPUS

GOAL 10: Maintain the level of service for telecommunications and upgrade it to include multiple communication modes for new and existing buildings.

Objective 10.1 Network Expansion:
Extend the service network to all new and existing buildings so current level of telecommunications service are upgraded to voice, data, video, etc. This includes progressive replacement of the existing F.I.U. owned copper cabled administrative network. The timing and phasing requirements and priorities for the improvements identified in the following policies are established in the 14.0 Capital Improvements Element.

Policy 10.1.1 Grid to extend to new building cores at the south/ southeast portions of Biscayne Bay Campus. See Figure 10.9.

Policy 10.1.2 Coordinate with utility for a second feed from their facilities behind existing treatment plant. See Figure 10.9.

Policy 10.1.3 Establish design guidelines for ductbank construction, telephone room conditions, sizes and locations, etc. Consider specifying level 5 cable which will set the network for voice, data, video, and security up to six choices of transmission modes. When specifying guidelines for underground ductbanks or facilities, consider the unique subsoil conditions and constraints.

Policy 10.1.4 Coordinate with Southern Bell the requirements and projections of the Master Plan so they may tailor their equipment to serve Biscayne Bay Campus needs.

11.0 TRANSPORTATION ELEMENT

Transit, Circulation and Parking Sub-Element: With the continuing student enrollment growth coinciding with the anticipated expansion of University Park, major emphasis will be on the ability of Florida International University (FIU) to provide adequate parking capacity. While FIU remains a commuter-oriented institution, it must still accommodate a rapidly increasing population within Miami-Dade County. Additional parking garages are planned outside of the loop road to accommodate parking needs as well as for the replacement of surface parking lots lost to construction of new facilities. FIU will continue to address the use of lands to the south of campus for overflow parking for special events (see Figure 11.1: Transit, Circulation and Parking).

Engineering Center will relocate the main entrance to West Flagler Street. A second entrance will be planned and constructed within three years to accommodate new parking lots and future academic facilities (see Figure 11.3: Transportation Network Map).

Biscayne Bay Campus continues to have adequate lands available for its parking requirements. Although the existing parking lots support its parking needs, it is recommended that these lots be re-configured to provide more efficient circulation for both vehicular use and for safe pedestrian circulation to the campus core (see Figure 11.4: Transit, Circulation and Parking).

Pedestrian and Non-Vehicular Circulation Sub-Element: Pedestrian circulation remains a major design issue. FIU will provide safe pedestrian walkways from the perimeter of campus by creating identifiable crosswalks at strategic locations from the parking garages and surface lots into the campus core. Signage and lighting will be key components to these areas. Safe movement throughout the campus for its users will continue to be paramount when placing new facilities and creating pedestrian corridors. Vistas and pedestrian corridors will be maintained and created throughout each campus, making way-finding easier and more efficient for all users (see Figure 11.2: Pedestrian and Non-Vehicular Circulation for University Park, Figure 11.3: Transportation Network Map for Engineering Center and Figure 11.5: Pedestrian and Non-Vehicular Circulation for Biscayne Bay Campus)

11.0 TRANSPORTATION ELEMENT

Transit, Circulation and Parking Sub-Element

GOAL 1: Florida International University shall continue to develop, operate, and maintain a safe and efficient vehicular circulation system that provides ease of mobility for all people and goods; is consistent with planned land use patterns, promotes energy conservation and protects the natural environment.

Objective 1.1 Traffic Circulation:
The University shall promote roadway designs, which lead to safe conditions, and provide sufficient capacity to serve on-campus development at the adopted level of service (LOS) standard (LOS C in accordance with Goal 1 of the Traffic Circulation Element of the Miami-Dade County Comprehensive Development Master Plan).

Policy 1.1.1 UNIVERSITY PARK:
Provide four entrances and at least nine lanes into and out of the campus by the end of the planning period (2000-2010) and in accordance with the Traffic Circulation Plan (Figure 11.1 (UP)).

Policy 1.1.2 Provide three lanes of roadway capacity with curb and gutter and storage (two through lanes and a median lane for left turns and a turn off lane for student shuttle service, where appropriate) in order to allow two-way flow throughout campus and in accordance with the Traffic Circulation Plan (Figure 11.1 (University Park) and Figure 11.3 (Biscayne Bay Campus).

Policy 1.1.3 UNIVERSITY PARK:
Concurrent or prior to the completion of Parking Garage 3, FIU will develop an additional entrance from SW 8th Street at SW 109th Avenue to a new parking garage.

Policy 1.1.4 Engineering Center
Provide a new main entrance from West Flagler Street connecting to a landscaped median into the parking lots.

Policy 1.1.5 Provide a secondary entrance to the site from SW 107th Avenue.

Policy 1.1.6 BISCAYNE BAY CAMPUS
Existing parking lots will be recommended for re-configuration to establish safer linkages for pedestrians and improve way-finding to the campus core.

- Policy 1.1.7 **UNIVERSITY-WIDE**
The University will endeavor to widen all campus roadways lane widths to be made ten feet wide by Fiscal YR 2010.
- Policy 1.1.8 As feasible, FIU will initiate the study of adjacent roadways level-of-service to determine entrance point improvements.
- Policy 1.1.9 Level-of-service for the link of SW 24th Street between SW 117th and SW 127th Avenues will be studied for future traffic concurrency standards.

Objective 1.2 Transit:
The University shall allocate funds to capital expansions and improvements of internal roadway systems that relieve on-campus traffic or reduce the demand for additional parking.

- Policy 1.2.1 **UNIVERSITY PARK:**
FIU will coordinate with Miami-Dade Transit to determine the best and highest use for the type of station to be proposed on the western most portion of the campus property.
- Policy 1.2.2 **UNIVERSITY PARK:**
The University shall start construction of parking lots and bus stations in close proximity to their present locations (see Figure 11.1 (UP) and Figure 11.3 (BBC)), to include such features as adequate turning radii for large vehicles, direct access to sheltered areas with seating that can serve as a bus stop and pedestrian access to the campus core.
- Policy 1.2.3 The University shall encourage MDTA to continue increased frequency of service, provide express bus service, maintain clean and comfortable vehicles, provide weather proof shelters (the University shall provide weather-proof access to transit terminals close to campus buildings).
- Policy 1.2.4 At such time as demand dictates its feasibility, FIU will consider the provision of an on-campus shuttle system.

Objective 1.3 Future Land Use:
The University shall protect right-of-way necessary for roadway/transit improvements so as not to preclude said improvements nor improvements in the host community.

- Policy 1.3.1 Determine right-of-way necessary (including clear zone) and provide protection for all of the recommended roadway improvements in the 2000-2010 Master Plan.

Policy 1.3.2 The University shall monitor comprehensive plan of host communities to ensure that roadway/transit improvements in the FIU Master Plan do not conflict with future land uses in the context area.

Policy 1.3.3 FIU will coordinate reevaluation of the LPA of the East-West corridor study for Segment 1.

Objective 1.4 Parking:
The University shall construct additional parking structures and establish programs or administrative procedures to accommodate future parking requirements on-campus.

Policy 1.4.1 Ensure, through annual monitoring, that future parking supply is adequate to serve parking demand.

Policy 1.4.2 Parking structures and surface lots shall be designed with internal walkways to be fully integrated with the campus pedestrian and traffic circulation system.

Policy 1.4.3 UNIVERSITY PARK:
Parking garages P3 (1,400 spaces), P4 (1,400 spaces) should be constructed in FY 2003-04, and P5 (1,400 spaces) should be constructed by the FY 2006-07.

Policy 1.4.4 ENGINEERING CENTER:
A parking lot will be constructed east of the planned new academic facility location to provide additional parking capacity.

Policy 1.4.5 BISCAYNE BAY CAMPUS:
Reconfigure parking lot to provide users for more orderly, functional accessibility to the campus core. This will be achieved through restriping, signage and realignment of parking spaces. Pedestrian corridors will be created for safe movement through the parking lot to the campus core.

Policy 1.4.6 The University shall implement Transportation Demand Management techniques (e.g. increase the number of students living on campus, improved transit, modify academic scheduling and car pooling) in order to reduce the parking demand by the end of the planning period and in accordance with the Traffic Circulation Plan (Figure 11.1 (UP) and Figure 11.3 (BBC)).

Policy 1.4.7 Handicap accessible parking should be reserved adjacent to each academic, support and residential entrance in amounts ranging from 2 to 10 spaces variable on facility size occupancy and assigned use.

- Policy 1.4.8 Provide sufficient parking (based on annual monitoring) by FY 2010 so that none of the University's demand will be satisfied off-campus in the host community.

Objective 1.5 Signage:
The University shall create a hierarchy of internal signage.

- Policy 1.5.1 UNIVERSITY-WIDE:
The University shall assess its current signage system and make recommendations for better way-finding efforts through the establishment of a hierarchy of signage which includes varying sizes and designs for way-finding.

Pedestrian and Non-Vehicular Circulation Sub-Element

GOAL 2: To develop, operate and maintain a safe, efficient and economical pedestrian and non-vehicular circulation system on-campus that, in conjunction with systems to be developed off-campus by the host community(ies), will provide ease of mobility for all people, is consistent with planned land use patterns, promotes energy conservation, and protects the natural environment.

Objective 2.1 Walkways:
Create a campus wide system of interconnected walkways.

- Policy 2.1.1 UNIVERSITY-WIDE:
The University shall continue to recommend to the Design Review Committee, when feasible, covered walkways adjacent to planned or existing buildings, be built to the appropriate width between existing and new academic and student service facilities at the time of construction.

- Policy 2.1.2 The University shall recommend the construction of uncovered walkways of appropriate width alongside the roadways, between major buildings from the parking lots in the northern portion of campus, and within parking lots following "natural" walking routes, by the end of the planning period (Fiscal YR 2010), as indicated in Figure 11.2 (University Park) and Figure 11.4 (Biscayne Bay Campus).

- Policy 2.1.3 Roadways on campus and entrances to the campus should be designed with clearly designated bicycle lanes to encourage and promote safe bicycle access to the campus. Bicycle parking should be provided at all major buildings and recreational facilities on campus.

Policy 2.1.4 UNIVERSITY PARK:

FIU shall initiate the creation of the 'Avenue of the Arts' to be placed from the Wertheim Performing Arts Center north throughout the Graham Center and intersecting with the 'Avenue of the Professions' running west to the Graduate School of Business and School of Law. These corridors will serve as pedestrian linkages through campus.

Policy 2.1.5 ENGINEERING CENTER:

Pedestrian corridors will be provided with the construction of the new classroom to provide a linkage to the existing facility.

Policy 2.1.6 BISCAYNE BAY CAMPUS:

The University shall maintain the bicycle path which has been designed and will be constructed by the Florida Department of Transportation at the campus.

Objective 2.2

Campus Security:

The University shall modify vehicular circulation patterns and parking locations to create existing and future pedestrian/vehicular safety at crossings.

Policy 1.2.1 UNIVERSITY-WIDE

All crosswalks on the existing and future loop road should be constructed to provide adequate warning and visibility.

Objective 2.3

Context Area:

The University shall create pedestrian and non-vehicular connections to the host community(ies) in the immediately surrounding area.

Policy 2.3.1 UNIVERSITY-WIDE:

Maintain a standing committee between University staff and host community representatives to provide coordination and resolve issues related to pedestrian and non-vehicular circulation.

Policy 2.3.2 The University shall study the feasibility of constructing a pedestrian bridge over the Tamiami Canal at SW 112 Avenue.

Policy 2.3.3 Existing bikeway paths located on SW 117 Avenue and Coral Way (SW 24 Street) should be maintained, protected and promoted with an on-campus signage program.

Policy 2.3.4 **ENGINEERING CENTER:**

FIU will coordinate with the City of Sweetwater to provide sidewalk enhancements including benches and signage to visually link the EC site with University Park.

Objective 2.4

Lighting:

The University shall provide appropriate lighting for all major pedestrian and non-vehicular facilities on-campus (i.e. parking, public areas, walkways).

Policy 2.4.1 All major pedestrian walkways shall be provided with lighting typical of existing pedestrian walkways as indicated in Figures 11.3 (University Park) and 11.4 (Biscayne Bay Campus).

Policy 2.4.2 Lighting should be provided on the outside edge of all parking lots by the end of the planning period and in accordance with phasing.

Objective 2.5

Campus Safety Plan:

Future pedestrian and non-vehicular facilities should be planned in accordance with the Campus Safety Plan and Crime Prevention Through Environmental Design (CPTED) standards.

Policy 2.5.1 Continue to provide daily escort service after dusk for students between University buildings and parking lots.



UNIVERSITY PARK

- ATHLETICS ACADEMIC FITNESS CENTER (20)
- BASEBALL STADIUM (19)
- TOWER (C0)
- DUPLICATING CENTER (C05)
- CHILDREN'S CREATIVE LEARNING CENTER (07)
- CARLOS FINLAY ELEMENTARY SCHOOL (06)
- COLLEGE OF HEALTH (10)
- CHEMISTRY & PHYSICS (09)
- SCHOOL OF ARCHITECTURE (04)

- CAMPUS SUPPORT COMPLEX (23)
- CENTRAL UTILITIES (04A)
- DEUXIEME MAISON (02)
- ENGINEERING & COMPUTER SCIENCES (08)
- FIU COMMUNITY STADIUM (27)
- EARNST & GRAHAM CENTER (03)
- STEVE & DOROTHEA GREEN LIBRARY (05)
- GOLDEN PANTHER ARENA (07)

- STUDENT HEALTH & WELLNESS CENTER (02)
- LABOR CENTER (09)
- GRADUATE SCHOOL OF BUSINESS (04)
- NATIONAL HURRICANE CENTER (41)
- OWA EHAN (04)
- CHARLES E. PERRY PRIMERA CASA (01)
- PARKING GARAGE (04-PG)
- PANTHER RESIDENCE HALL (09)

- RYDER BUSINESS BUILDING (01)
- FUTURE DEVELOPMENT (45A-45B)
- STUDENT HOUSING (05)
- UNIVERSITY TOWERS (09A)
- WERTHEIM CONSERVATORY (06A)
- WERTHEIM HAUS (04)
- HERBERT & NICOLE WERTHEIM PERFORMING ARTS CENTER (04)
- SANFORD & DOLORES ZIFF EDUCATION BUILDING (04)
- UNIVERSITY HOUSE (28)

SW 8TH STREET GOLDEN PANTHER TRAIL

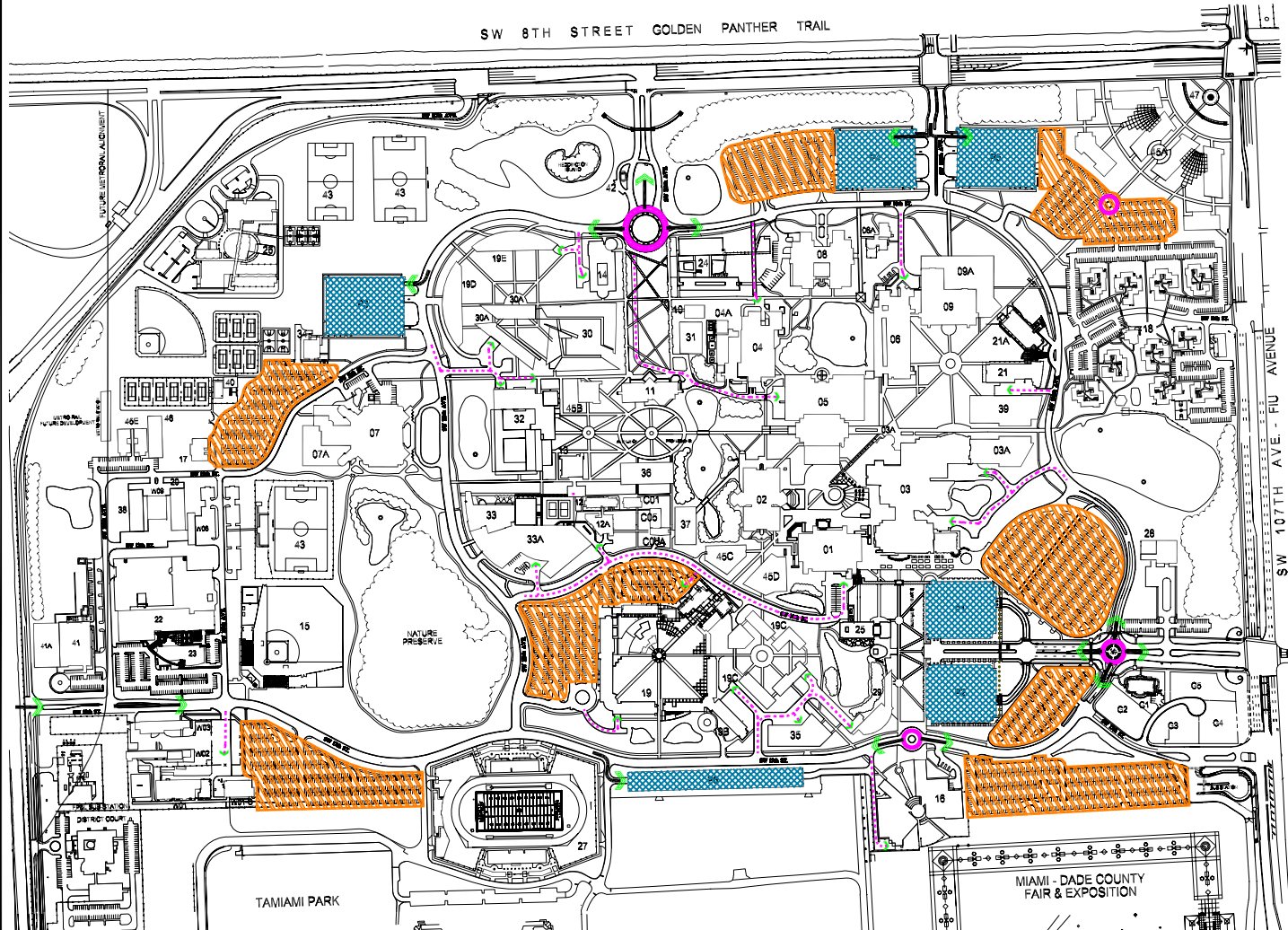


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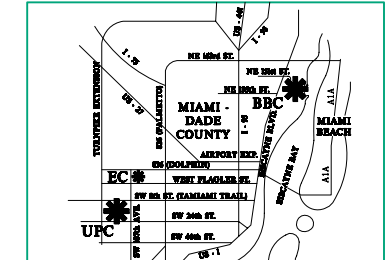
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TRANSIT, CIRCULATION AND PARKING

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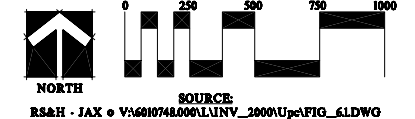
- PROPOSED TRANSIT ROUTE
- GARAGE PARKING
- SURFACE PARKING
- ROUND ABOUT
- SERVICE ROUTE

KEY MAP



FINAL MASTER PLAN FLORIDA INTERNATIONAL UNIVERSITY MIAMI, FLORIDA

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UNIVERSITY PARK

- ATHLETICS ACADEMIC FITNESS CENTER (20)
- BASEBALL STADIUM (15)
- TOWER (C0)
- DUPLICATING CENTER (C05)
- CHILDREN'S CREATIVE LEARNING CENTER (07)
- CARLOS FINLAY ELEMENTARY SCHOOL (06)
- COLLEGE OF HEALTH (10)
- CHEMISTRY & PHYSICS (09)
- SCHOOL OF ARCHITECTURE (24)

- CAMPUS SUPPORT COMPLEX (23)
- CENTRAL UTILITIES (04A)
- DEUXIEME MAISON (02)
- ENGINEERING & COMPUTER SCIENCES (08)
- FIU COMMUNITY STADIUM (27)
- EARNST & GRAHAM CENTER (03)
- STEVE & DOROTHEA GREEN LIBRARY (05)
- GOLDEN PANTHER ARENA (07)

- STUDENT HEALTH & WELLNESS CENTER (02)
- LABOR CENTER (09)
- GRADUATE SCHOOL OF BUSINESS (04)
- NATIONAL HURRICANE CENTER (41)
- OWA BEAN (04)
- CHARLES E. PERRY PRIMERIA CASA (01)
- PARKING GARAGE (P1-P6)
- PANTHER RESIDENCE HALL (09)

- RYDER BUSINESS BUILDING (01)
- FUTURE DEVELOPMENT (45A-45B)
- STUDENT HOUSING (05)
- UNIVERSITY TOWERS (09A)
- WERTHEIM CONSERVATORY (06A)
- WERTHEIM HAUS (04)
- HERBERT & NICOLE WERTHEIM PERFORMING ARTS CENTER (04)
- SANFORD & DOLORES ZIFF EDUCATION BUILDING (04)
- UNIVERSITY HOUSE (28)

SW 8TH STREET GOLDEN PANTHER TRAIL

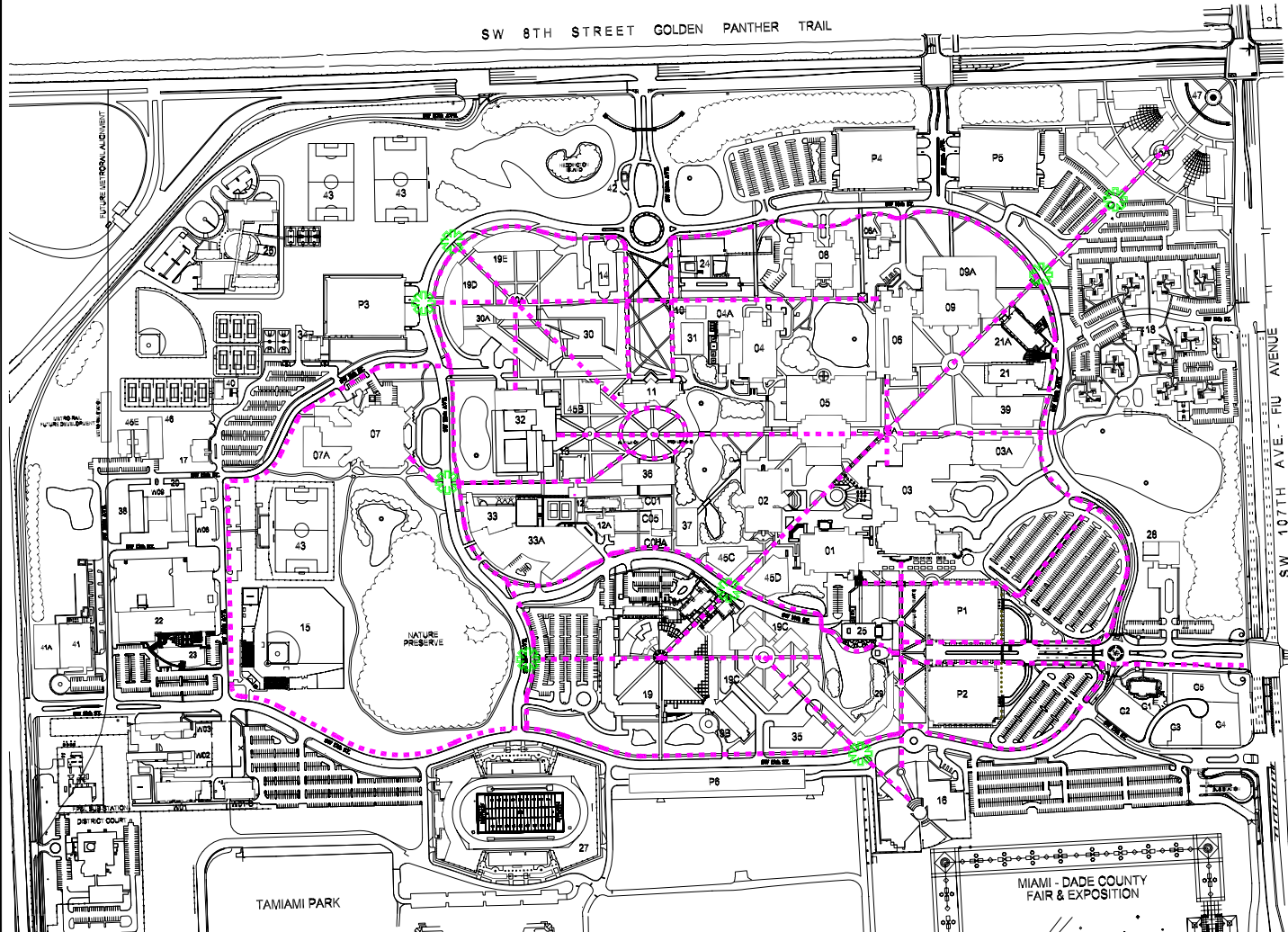


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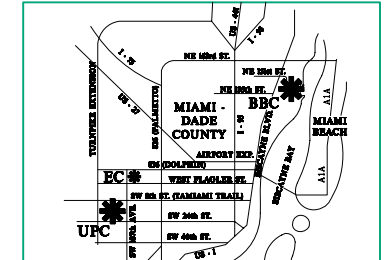
11.2

PEDESTRIAN AND NON-VEHICULAR CIRCULATION

LEGEND:

- PLANNED MAIN WALKWAYS
- PLANNED CROSS WALKS

KEY MAP

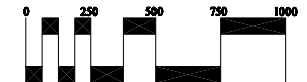


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NORTH



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ENGINEERING CENTER

- ENGINEERING & APPLIED SCIENCES (01)
- OPERATIONS / UTILITIES (02)
- PLANNED OR UNDER CONST. (03)
- FUTURE DEVELOPMENT (04)
- FUTURE DEVELOPMENT (05)

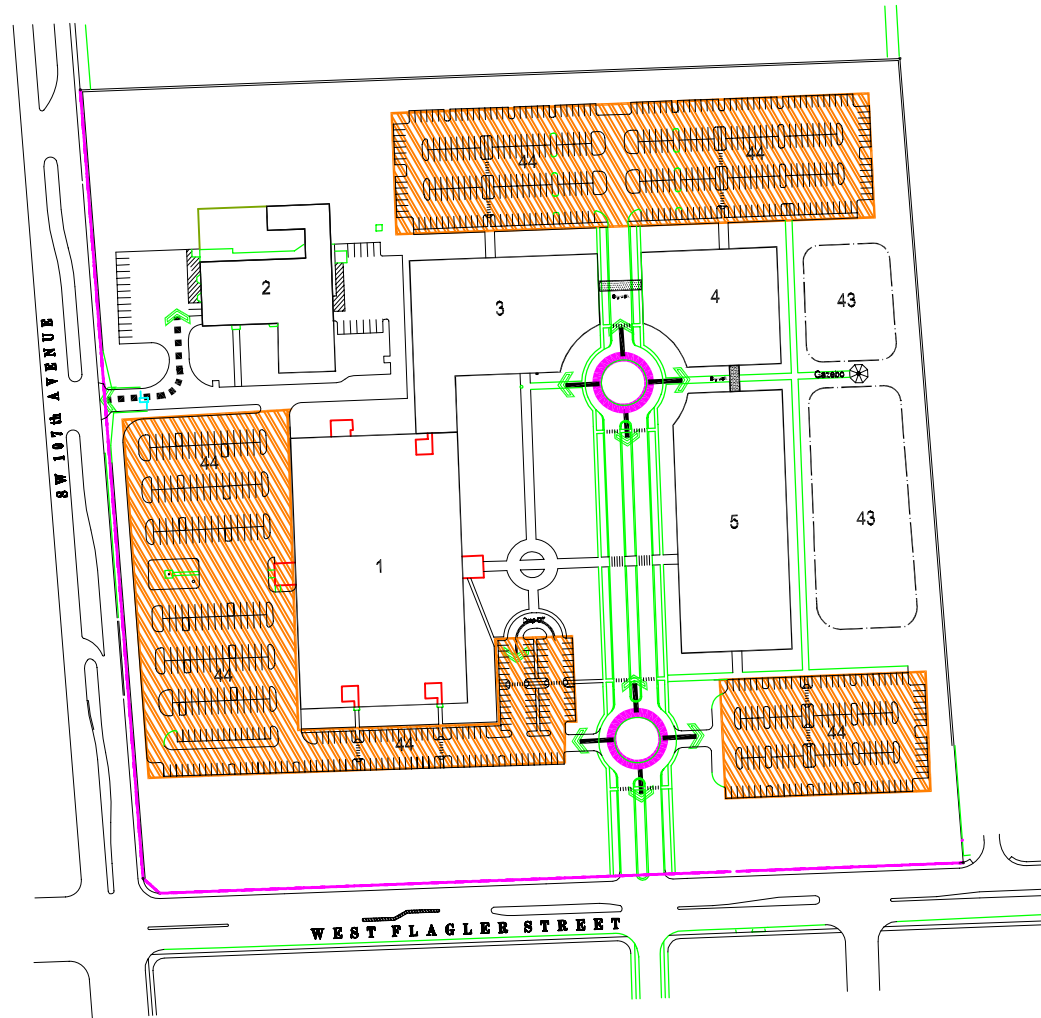


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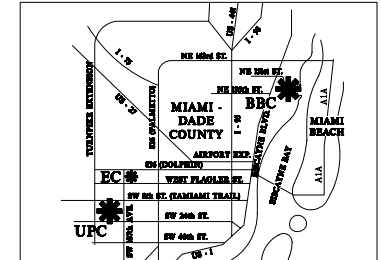
11.3

TRANSIT, CIRCULATION AND PARKING

LEGEND:

- PROPOSED TRANSIT ROUTE
- GARAGE PARKING
- SURFACE PARKING
- ROUND ABOUT
- SERVICE ROUTE

KEY MAP



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BISCAYNE BAY CAMPUS

- ACADEMIC ONE (02)
- ACADEMIC TWO (04)
- AQUATIC CENTER (01A)
- BAY VISTA HOUSING (03)
- HOTEL (04)
- HOSPITALITY MANAGEMENT (01)

- CONFERENCE CENTER (07)
- LIBRARY (05)
- ACADEMIC THREE - MARINE HQ. (03)
- ACADEMIC FOUR (12)
- HOUSING (15)
- INFORMATION CENTER (06)

- ECOLOGY LAB (27)
- FUTURE DEVELOPMENT - A (29A)
- FUTURE DEVELOPMENT - B (29B)
- RECREATION FIELDS (43)
- FDC / HR ADMINISTRATION (20)
- SUPPORT : CENTRAL RECEIVING (22)

- SUPPORT : PUBLIC SAFETY (23)
- SUPPORT : PHYSICAL PLANT (24)
- SUPPORT : GROUND (25)
- STUDENT HEALTH CENTER (06-06A)
- WELLNESS CENTER (20)
- WOLFE UNIVERSITY CENTER (03-03A)

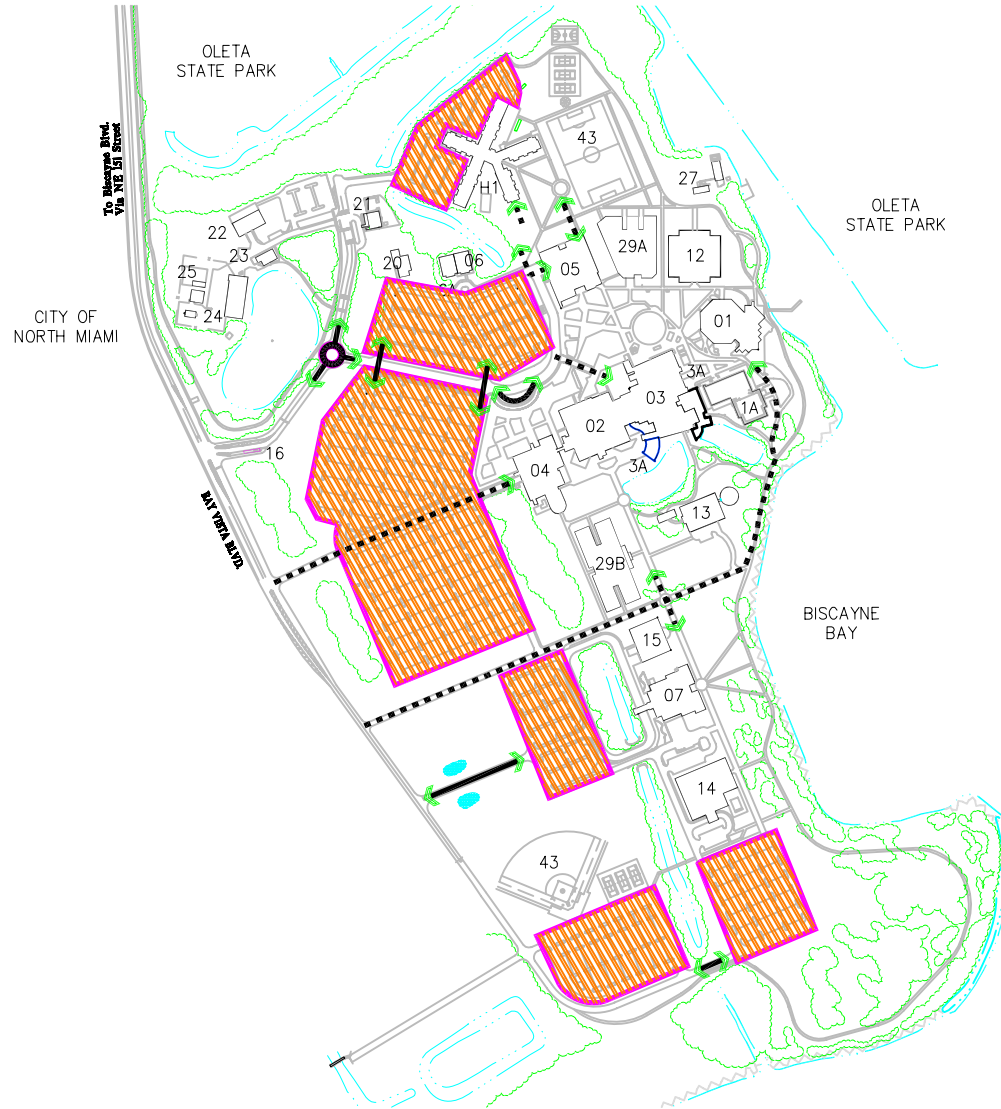


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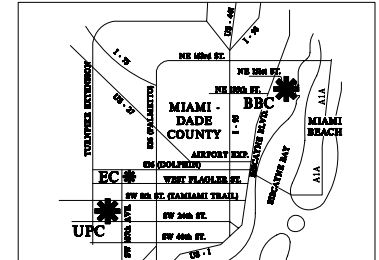
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TRANSIT CIRCULATION AND PARKING

LEGEND:

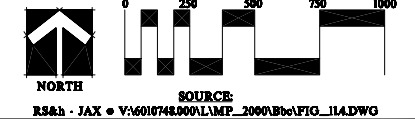
- PROPOSED TRANSIT ROUTE
- GARAGE PARKING
- SURFACE PARKING
- ROUNDABOUT
- SERVICE ROUTE

KEY MAP



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BISCAYNE BAY CAMPUS

- ACADEMIC ONE (02)
- ACADEMIC TWO (04)
- AQUATIC CENTER (01A)
- BAY VISTA HOUSING (01)
- HOTEL (04)
- HOSPITALITY MANAGEMENT (01)

- CONFERENCE CENTER (07)
- LIBRARY (05)
- ACADEMIC THREE - MARINE HQ. (03)
- ACADEMIC FOUR (12)
- HOUSING (15)
- INFORMATION CENTER (06)

- BIOLOGY LAB (27)
- FUTURE DEVELOPMENT - A (29A)
- FUTURE DEVELOPMENT - B (29B)
- RECREATION FIELDS (43)
- FDC / HR ADMINISTRATION (20)
- SUPPORT / CENTRAL RECEIVING (22)

- SUPPORT / PUBLIC SAFETY (23)
- SUPPORT / PHYSICAL PLANT (24)
- SUPPORT / GROUND (25)
- STUDENT HEALTH CENTER (06-06A)
- WELLNESS CENTER (20)
- WOLFE UNIVERSITY CENTER (03-03A)

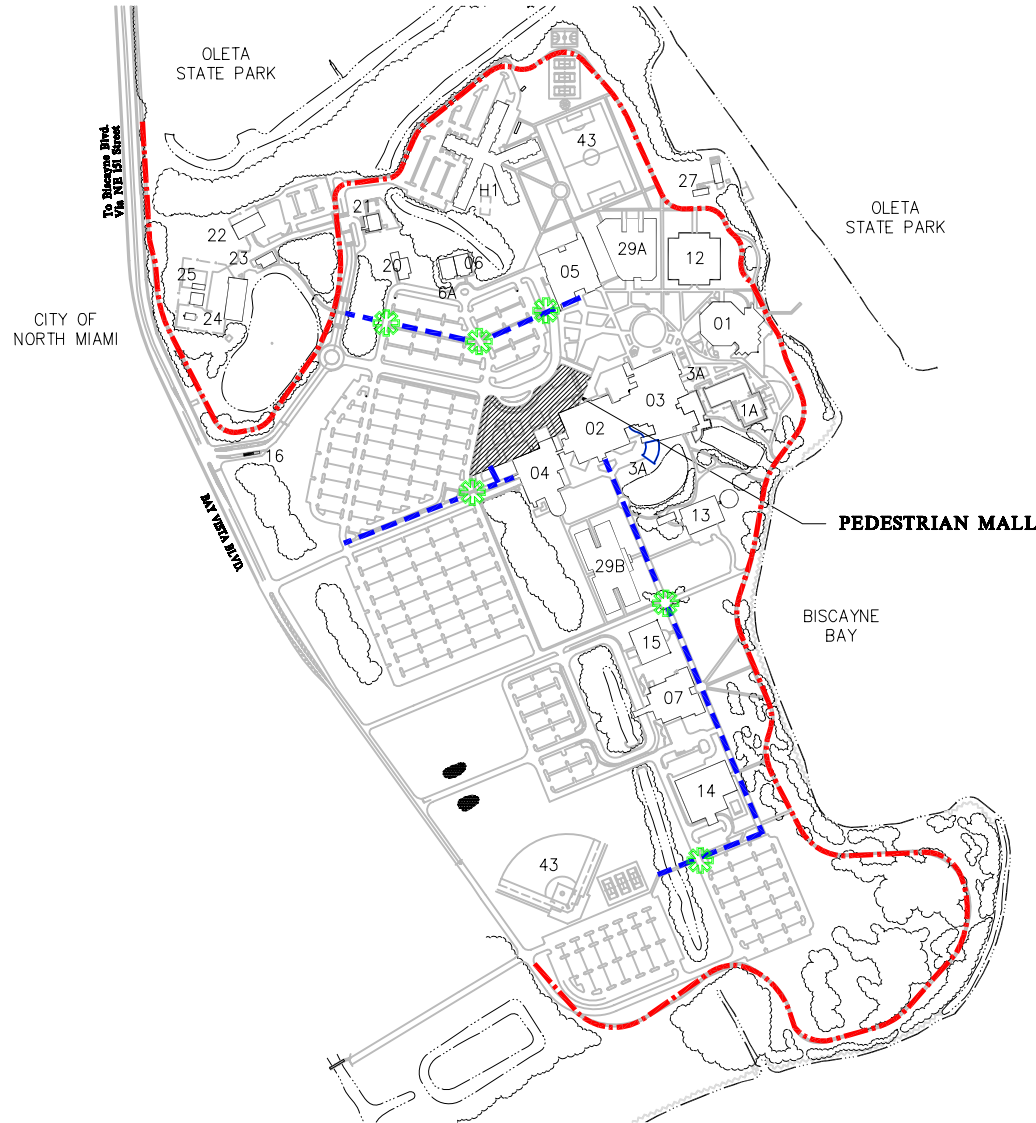


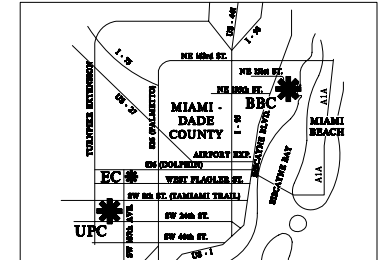
FIGURE NUMBER 11.5

PEDESTRIAN AND NON-VEHICULAR CIRCULATION

LEGEND:

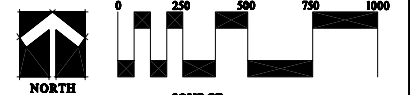
- PLANNED MAIN WALKWAYS
- PLANNED CROSS WALKS
- BIKE PATH

KEY MAP



FINAL MASTER PLAN FLORIDA INTERNATIONAL UNIVERSITY MIAMI, FLORIDA

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12.0 INTERGOVERNMENTAL COORDINATION ELEMENT

In the traditional master planning process, the principle institution focuses primarily on itself as it charts a course for growth into the future. The comprehensive planning process, by contrast, is reflective of and responsive to the interaction between the principle institution and vital elements of the surrounding community and concerned jurisdictions and governmental agencies. The most important factors in successful comprehensive planning are cooperation, consideration, and coordination.

These basic principles of comprehensive planning are evident throughout this Comprehensive Master Plan:

Cooperation: The Comprehensive Master Plan recognizes the importance of the existing regulatory structure at the local, state and federal levels of government. Throughout the Comprehensive Master Plan, FIU states its intention to cooperate with the permitting, concurrency and other applicable code requirements of overseeing regulatory agencies and departments of local and state government.

The University has dedicated itself to being a responsive and responsible member of both the Miami-Dade County business and educational communities. The Academic Program at the University, the development of new areas of study and the creation of work-based learning opportunities for area businesses all rely on cooperation and communication between the University and the Miami-Dade County business and economic development agencies. Continuation of this highly successful relationship has been structured into relevant elements of the University's Master Plan.

Consideration: FIU recognizes that it is a large development within the community. Consequently, projects at the University have the potential to affect development patterns and surrounding land uses. Similarly, developments around the University have the potential to enhance or detract from the University's unique academic environment. These efforts are supported through the Intergovernmental Coordination Element.

Coordination: The goal of intergovernmental coordination is the joint process for collaborative planning, decision making, and development review by governmental agencies. The University Master Plan Update identifies issues, which because of their unique circumstances, require intergovernmental coordination above and beyond that which routinely occur in the day-to-day university operations. Resolution of these issues require mechanisms and procedures which facilitate coordination and communication between the University, local government and service providers. In addition, this element establishes procedures for the review of this master plan by local, county and state government and the service providers. When the provisions in the campus master plan conflicts with the provisions in the comprehensive plan of the local government, these intergovernmental coordination mechanisms will be used to resolve the conflicts while working toward achievement

of the goals, objectives and policies.

The goals, objectives and policies of this Intergovernmental Coordination Element formalize the many existing cooperative and coordinating efforts between the University and Miami-Dade County. It continues existing procedures to enhance and solidify this relationship:

- Procedures for review and comment by Miami-Dade County of the University's Comprehensive Master Plan, proposed plan amendments and development plans.
- Procedures for review and comment by the University of Miami-Dade County's actions, such as Local Government Comprehensive Plan, amendments or development applications, on land within the University's context area which may affect the campus activities, plans or programs.
- Establishment of a process for resolution of conflict between the University and Miami-Dade County.
- Procedures for involvement of other local, regional and state agencies in review and comment on FIU plans, amendments and development processes.
- Review of a mutually accepted Campus Development Agreement articulating these procedures.

The issues identified in this element requiring intergovernmental coordination attention are: land use compatibility; availability of land resources for future campus development; on campus wetland delineation; siting of mass transit facilities; availability of sanitary sewage treatment capacity; development review; coordination of the establishment of reciprocal review and coordination of the establishment of campus level of service standards.

12.0 INTERGOVERNMENTAL COORDINATION ELEMENT

Goal 1: To implement and achieve the goals, objectives and policies established in this master plan that require the interaction of the University, the host communities and other governmental entities.

Objective 1.1 Establish a process which maintains the land use compatibility between the University and the host community through the reciprocal review of local government comprehensive plans and campus master plans.

Policy 1.1.1 The Florida International University (FIU) Director of Facilities Planning shall meet with officials from the Miami-Dade County, the City of North Miami and the City of Sweetwater to determine an appropriate process for reciprocal review and comment of appropriate elements of the FIU campus master plan by local government officials, and of appropriate elements of local government comprehensive plans by the University. FIU master plan elements to be reviewed by local governments shall be limited to the Future Land Use Element, Housing Element, Recreation and Open Space Element, General Infrastructure Element, Capital Improvements Element, Transportation Element, Intergovernmental Coordination Element, and the Conservation Element.

Policy 1.1.2 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 Miami-Dade County, City of North Miami, City of Sweetwater, South Florida Regional Planning Council, South Florida 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, and the State of Florida Department of Community Affairs for review in accordance with the procedures established in Chapter 6C-21, Part 1, Florida Administration Code.

Policy 1.1.3 Proposed amendments to the campus master plan which do not exceed the thresholds established in Chapter 1013.30, F.S (9)., 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 Metro-Dade County, City of North Miami, and City of Sweetwater for a courtesy review.

Policy 1.1.4 It shall be the policy of FIU that proposed amendments to the comprehensive plans of the Miami-Dade County, City of North Miami, and the City of Sweetwater 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 which otherwise impact university facilities or resources shall be submitted to the University Director of Facilities Planning for review and comment.

Policy 1.1.5 FIU shall make every effort to formalize this reciprocal review process through the execution of an interlocal agreement or memorandum of understanding.

Policy 1.1.6 Until the campus master plan has been adopted and the campus development agreement has been executed disputes between Florida International University shall be resolved by the process established in Chapter 1013.30 (8), F.S.

Objective 1.2 In order to allow for orderly expansion of the University Park campus, through and beyond the projected buildout date of 2009-10, Florida International University will assess the feasibility of utilization of properties, adjacent and to the south on the present campus, for academic purposes.

Policy 1.2.1 In order to conserve the limited land resources at University Park, FIU shall discourage development of use not in conformance with the policies of the University's Master Plan with the exception of planned joint use facilities with the Miami-Dade County Fair and Exposition and Tamiami Park, which considers surrounding uses when developing uses for the Park.

Policy 1.2.2 In the event additional lands are conveyed to Florida International University and any of the thresholds established in Chapter 1013.30 (8) F.S. are reached, the campus master plan shall be amended and reviewed in accordance with the criteria established under Chapter 1013.30 (6), (7) and (8) F.S.

Objective 1.3 Obtain a wetland jurisdictional determination for both campuses in order to allow wetland mitigation or enhancement activities to take place in a comprehensive and efficient manner.

Policy 1.3.1 The Department of Facilities Planning and Natural Resource Protection and Management Committee shall determine whether a campus wide or phased dredge and fill permit process will be the most effective means of achieving wetland mitigation.

Policy 1.3.2 FIU shall undertake wetland mitigation in a manner that maximize the efficiency of the mitigation activities in terms of dredge and fill permit credit received, affordability and maintenance.

Objective 1.4 Obtain an allocation of sanitary sewer treatment capacity from the Water and Sewer Authority Department sufficient to handle the sanitary sewer generated by the University.

- Policy 1.4.1 In order to expedite University development activities and in particular the installation of potable water and sanitary sewer infrastructure, FIU shall formally request that DERM assign a single contact person to review the University's activities for the University Park campus, and that the City of North Miami assign a single contact person to review the University's activities for Biscayne Bay Campus.
- Policy 1.4.2 FIU shall request DERM and the City of North Miami to indicate what the specific sanitary sewer treatment allocation is assigned to government and what proportion of that allocation is presently utilized for University Park and Biscayne Bay Campus.
- Policy 1.4.3 FIU shall request a letter of sanitary sewer allocation from DERM and from the City of North Miami, this allocation coming from that capacity reserved for governmental activities and in a quantity sufficient to handle the sanitary sewer projected in the campus master plan to be generated at campus buildout.
- Policy 1.4.4 The provisions of the sanitary sewer treatment allocation shall be incorporated into the FIU development agreement and adopted pursuant to Chapter 1013.30 F.S.

Objective 1.5 To assess the impacts generated by the University on the host government and the service providers and provide mitigation measures for the University's impacts for those services found to be deficient.

- Policy 1.5.1 A draft development agreement shall be forwarded to the local and county government for review and comment. This agreement shall contain the following components:
- Identify the geographic area covered by the agreement;
 - Establish the duration of the agreement;
 - Identify the level of service standards for public services and facilities, the entity to provide these services, and any financial arrangements between the Board of Regents and the service provider;
 - Determine the impact of the proposed campus development on public service providers and facilities, and any deficiencies projected to occur as a result of this development;
 - Identify what facility improvements are necessary to correct deficiencies caused by the University's development activities;

- Identify the Board of Regents "fair share" of the cost associated with the required improvements; and
- Be consistent with adopted campus master plan and host local government adopted comprehensive plan.
- Identify remedies that will minimize off-site impacts and include a schedule of funding for capital projects.

Policy 1.5.2 Florida Board of Education, Division of Colleges and Universities, and the host governments shall execute the campus development agreement within 180 days after receipt of the draft agreement.

Policy 1.5.3 Upon execution of the campus development agreement, all development may proceed without further review by the host government if it is consistent with the campus development agreement and the adopted campus master plan.

Policy 1.5.4 Upon payment of the "fair share" by the Florida Board of Education, Division of Colleges and Universities for the capital improvements established in the campus development agreement, all concurrency management requirements of the University shall be fulfilled.

Policy 1.5.5 Any disputes between the University and the host local government which arise concerning the provisions of the campus development agreement and result in the failure to execute the agreement within 180 days after receipt of the draft agreement shall be resolved in accordance with Chapter 1013.30 (16), F.S.

Policy 1.5.6 Any disputes between the University and the host local government which arise from the implementation of the campus development agreement shall be resolved in accordance with the provisions established in Chapter 1013.30 (17), F.S.

Objective 1.6 University and local officials shall establish a development review process to assess the impacts of proposed development on significant local, regional and state resources and facilities. This shall be a reciprocal process whereby local officials are given an opportunity to review proposed campus development in order to assess its potential impacts on local, regional and state resources and facilities, and whereby university officials are given an opportunity to review proposed development within the context area in which to assess its potential impacts on university resources and facilities.

Policy 1.6.1 Except when otherwise stated in Chapter 1013.30, F.S., the provisions of the campus master plan and associated campus

development agreement superseded the requirements of Part II of Chapter 163, F.S.

- Policy 1.6.2 It shall be the policy of FIU that 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 Director of Facilities Planning for review.
- Policy 1.6.3 The FIU Director of Facilities Planning shall meet with local officials to establish the criteria and thresholds for development proposals which would be subject to review by the University. The construction or renovation of single-family homes, and other small scale developments are to be excluded from review by the University.
- Policy 1.6.4 University officials shall participate and cooperate with local officials in the review of proposed campus development to assess potential impacts on local, regional and state resources and facilities until execution of the campus development agreement.
- Policy 1.6.5 Once the campus development agreement is executed, all campus development may proceed without further review by the host local government if it is consistent with the adopted campus master plan and associated campus development agreement.
- Policy 1.6.6 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 1.6.7 University officials shall participate and cooperate with local officials in the identification of appropriate strategies to mitigate the impacts of campus development on local, regional and state resources and facilities, and to mitigate the impacts of proposed development within the context area on university resources and facilities.
- Policy 1.6.8 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.
- Policy 1.6.9 FIU and Miami-Dade Transit staff reviews for the development and expansion of transit facilities will occur on a regular basis.

Objective 1.7 The level of service standards established in this campus master plan shall be reviewed by the entity having operational and

maintenance responsibility for said facility.

- Policy 1.7.1 In addition to the entities, set forth in Chapter 1013.30 (6), receiving the campus master plan for review and comment, the plan shall also be transmitted to the following service providers; Miami-Dade Water and Sewer Authority Department; Miami-Dade Metropolitan Planning Organization; Miami-Dade Public Works Department; and the Miami-Dade Mass Transit Authority.
- Policy 1.7.2 FIU shall request that the service providers provide comments to the Board of Regents, in particular with reference to the levels of service established in the plan, within 90 days to coincide with the timeframes established in Chapter 1013.30 (6) for plan review and adoption.
- Policy 1.7.3 Any disputes concerning levels of service established in the Campus Master Plan arising between the Board of Regents and the service providers shall be resolved in accordance with Chapter 1013.30 (8).

Table 12.1 Intergovernmental Coordination Element

Governmental Entity	Nature of Relationship	Coordinating Entity	Coordinating Mechanism
City of North Miami	Non-regulatory	FIU Department of Facilities Planning	Coordination in accordance with the provisions of the campus development agreement and adopted goals, objectives and policies.
City of Sweetwater	Non-regulatory	FIU Department of Facilities Planning	Coordination in accordance with the provisions of the campus development agreement and adopted goals, objectives and policies.
Miami-Dade County	Non-regulatory	FIU Department of Facilities Planning	Coordination in accordance with the provisions of the campus development agreement and adopted goals, objectives and policies.
Miami-Dade Mass Transit Authority	Agency responsible for Dade County mass transit	FIU Department of Facilities Planning FIU Liaison (proposed)	No coordination mechanism FIU staff will be assigned to monitor EWMACS
Miami-Dade County Park and Recreation Department	Non-regulatory	FIU Department of Facilities Planning	Campus master plan Policy 401.3.1 mandates that a joint use agreement be in place by 1996 for Tamiami Park.
Miami-Dade County Planning Department	Regulatory	FIU Department of Facilities Planning FIU Urban Design Liaison	Regulates land development activities in accordance with the Chapter 163 Comprehensive Plan and Land Development Regulations
South Florida Regional Planning Council	Reviewing agency	FIU Department of Facilities Planning	Reviews and comments on campus master plan in accordance with S.40.155(6)
South Florida Water Management District	Regulatory	FIU Department of Facilities Planning FIU Natural Resource Protection Management Committee	Reviews dredge and fill permits

U.S. Army Corps of Engineers	Regulatory	FIU Department of Facilities Management Committee FIU Natural Resource Protection Management Committee	Regulates dredge and fill permits in accordance with S.404 of the Clean Water Act.
Monroe County Office of Emergency Management	Non-regulatory	Board of Regents	Agreement with MCOEM to provide emergency shelter for 5,000 Monroe County residents.
Miami-Dade County Planning Organization	Agency oversees and plans for country roads	FIU Department of Facilities Planning MPO Liaison (proposed)	No coordinating mechanism. FIU staff will be assigned to monitor EWMACS
Water and Sewer Authority Department	Utility Provider	FIU Department of Facilities Planning	Responsible for water distribution and sewer collection and treatment.
Department of Environmental Resource Management	Regulatory	FIU Department of Facilities Planning	Monitors and regulates operation of water facilities under Chapter 24 of Country Code.
Florida Department of Community Affairs	Reviewing Agency	FIU Department of Facilities Planning Board of Regents	Reviews and comments on campus master plans in accordance with the provisions of s.240.155(6), F.S.
Florida Department of Environmental Protection	Environmental protection, jurisdictional wetlands, dredge and fill permitting regulatory	FIU Department of Facilities Planning FIU Natural Resources Protection Management Committee	Meetings as necessary
Florida Department of State	Reviewing agency	FIU Department of Facilities Planning	Reviews and comments on campus master plan in accordance with S.240.155(6).
Florida Department of Transportation	Reviewing Agency Regulatory authority over construction and maintenance of state roads	FIU Department of Facilities Planning Board of Regents	Reviews and comments on campus master plan in accordance with S.240.155(6). Campus master plan Policy 401.9.1 requires that FIU enters into an interlocal agreement requiring notification of FDOT improvements.
Florida Game and Fresh Water Fish Commission	Reviewing agency	FIU Department of Facilities Planning	Review and comments on campus master plan in accordance with S.240.155(6)

13.0 CONSERVATION ELEMENT

In order to appropriately manage native vegetative communities and wildlife habitats, campus expansion must be in accordance with local, state and federal regulations and when practicable, conform with various agency guidelines and policies. Landscape efforts will utilize native vegetation. Avoidance or minimization of wetland impacts and the establishment of upland buffers adjacent to wetlands will be implemented where feasible. Unavoidable wetland impacts will be mitigated. The undeveloped upland habitat will be left in its natural state when possible. Adverse impacts to protected wildlife species will be mitigated in accordance with local, state and federal guidelines.

Natural resources occur at University Park, Engineering Center and Biscayne Bay Campus of Florida International University (see Figures 13.1 for University Park, Figure 13.2 for Biscayne Bay Campus and Figure 4.2 for Engineering Center). Many of these resources are protected and will remain so throughout the future of each campus and site. There are parcels, however, which need to be assessed as to its viability for native species and vegetation as well as for its suitability for protection versus development. Therefore, a principal challenge of the master planning process is to allow sensitively planned development of these campuses while protecting and enhancing natural resources.

Except where otherwise noted, policies contained in the Coastal Element shall be implemented upon adoption of this Master Plan. Some of the policies require the Natural Resources Protection and Management Committee (the "Committee"; see Policy 1.1.1) to formulate management plans, guidelines, procedures and schedules. The Committee shall review all policies contained in the Conservation and Coastal Management Elements of this Master Plan for consistency with these plans, guidelines, procedures and schedules.

To minimize adverse impacts to local air quality and maintain existing good air quality conditions, FIU will manage its stationary sources of air discharges through an organized preventative maintenance and inspection program. Points of discharges such as boilers and laboratory flues will be inspected regularly to ensure their operations are within applicable regulatory standards. Implementation of preventative maintenance of stationary sources will reduce the probability of unexpected releases of air pollutants as well as establish a reliable management tool.

Where possible, less hazardous materials will be substituted for more hazardous materials. The purpose of such replacement will reduce the potential for more serious accidents affecting the environment, reduce the generation rate of hazardous waste on campus, and reduce the volume of hazardous wastes contributed by the University to landfills elsewhere. It is an objective of the University to minimize hazardous waste accumulation points on campus and implement a system of Best Management Practices to safely manage these locations.

13.0 CONSERVATION ELEMENT

GOAL 1: Conserve and enhance existing natural resources and natural ecosystems at University Park and Biscayne Bay Campus.

Objective 1.1 Implementation and Management of Natural Resource Policies: Implement and manage natural resource policies through the formation and support of a Natural Resources Protection and Management Committee.

Policy 1.1.1 The University shall endeavor to develop a resource of knowledgeable FIU experts to oversee issues relating to development and conservation of University natural resources. It shall be the task of the these individuals to oversee the implementation of the coastal resource management policies defined in the Conservation Elements of this Master Plan. It shall also be the task of the Committee to review these policies and, if necessary, prepare any necessary additional policies, guidelines, procedures and implementation schedules within one year of the adoption of the Master Plan. The adopted Master Plan shall be amended as necessary to incorporate those guidelines, procedures and implementation schedules.

The University shall provide an administrative staff person of the Environmental Health and Safety Division to serve as Environmental Coordinator to manage the activities of the Natural Resources Protection and Management Committee. The Environmental Coordinator shall periodically review proposed University improvements and activities to ensure University compliance with the policies defined in the Conservation and Coastal Management Elements of this Master Plan. The Environmental Coordinator shall also periodically review host community, state and federal conservation and coastal management policies to ensure University compliance with these policies.

Objective 1.2 Maintain, Protect and Enhance Natural Resources: Maintain and enhance existing values for natural resources on University Park and Biscayne Bay Campus.

Policy 1.2.1 UNIVERSITY-WIDE:
The University shall review, on an annual basis, the state, regional and local regulations and guidelines governing the designation and delineation of environmentally sensitive lands. These regulations and guidelines include, but are not limited to, the Florida Natural Areas Inventory, the Dade County Natural Forest Inventory (Resolution R-1764-84), and other elements of the Miami-Dade County Comprehensive Development Master Plan. Should changes in

regulations or guidelines result in the designation of portions of the University Park and/or Biscayne Bay Campus as environmentally sensitive lands, the University shall modify existing policies or develop new policies to protect these sensitive lands and incorporate those policies into the Master Plan within three months of the identification of the environmentally sensitive land.

Policy 1.2.2 UNIVERSITY-WIDE:

The University shall survey the precise locations of native vegetative associations prior to the construction of any buildings, roadways, pathways or other developments that may impact these vegetative associations. Prior to final site planning, the University shall identify those areas to be impacted and determine if minor changes in the proposed locations of roads or buildings can minimize impacts on these areas.

Policy 1.2.3 UNIVERSITY-WIDE:

In order to protect native vegetative communities, the University shall provide for a development buffer of at least 25 feet between native vegetative communities (Figure 13.1 and 13.2) and construction projects, including but not limited, to buildings, roadways, pathways and recreation facilities.

Policy 1.2.4 UNIVERSITY-WIDE:

The University shall remove invasive exotic plant species from natural vegetation associations and from landscaped areas. Priority shall be given to removing exotic species from those native vegetation associations indicated in Figures 13.1 and 13.2. Removal of exotic species shall be carried out in a manner that minimizes impacts to native vegetation associations. Where necessary, areas from which exotic plants have been removed shall be replanted with appropriate native plant species. Removal of exotic species from natural vegetation associations and from landscaped areas shall be carried out quarterly during the first year and yearly thereafter, unless monitoring activities indicate that more frequent removal is.

Policy 1.2.5 BISCAYNE BAY CAMPUS:

To help curtail their further spread into mangrove areas and other natural vegetation associations on campus, the University shall continue a program of removing large stands of Australian pines (see Figure 13.2). Removal of Australian pines shall be carried out in a manner that minimizes impacts to native vegetation associations. Areas from which Australian pines have been removed shall be revegetated in a manner consistent with the 16.0 Landscape Design Guidelines Element of this Master Plan. The use of native plant species in the landscaping of these areas shall be encouraged. The

choice of native plant species shall be consistent with those recommended by FIU Facilities Planning and Construction and Landscape Architect staff. In no case shall those plant species identified in Section 6.8 of the Miami-Dade County Comprehensive Development Master Plan as potentially invasive be in any University landscaping or enhancement planting.

Because the removal of Australian pines may result in soil disturbance and provide colonization opportunities for other invasive exotic plants, replanting of landscape vegetation shall immediately follow the removal of Australian pines. A timetable for removal of Australian pines shall be determined by the Natural Resources Protection and Management Committee within one year of the adoption of the Master Plan.

Policy 1.2.6 UNIVERSITY-WIDE:

An administrative staff person of the Environmental Health and Safety Division shall establish a protocol for monitoring the establishment and spread of invasive exotic plant species. Monitoring activities shall be carried out quarterly. If monitoring activities indicate that invasive exotic species are becoming re-established, exotic plants shall be removed using the methods outlined in Policy 1301.2.4 and 16.0 Landscape Design Guidelines Element Policy 1.2.3.

Policy 1.2.7 UNIVERSITY-WIDE:

The University shall use native plant species in restoration/enhancement planting of native vegetative communities. The use of native plant species in general campus landscaping shall be encouraged. The choice of native plant species shall be consistent with those recommended by the University's Environmental Studies staff, Fairchild Tropical Gardens staff, or other individuals or agencies competent in the selection, use and maintenance of vegetation native to south Florida. Where restoration or enhancement planting is instituted, the species chosen shall be those that are naturally found in the particular vegetative community being restored or enhanced.

Policy 1.2.8 UNIVERSITY-WIDE:

The University shall use native plant species in the 25-foot wide landscape buffer areas that border native vegetative communities.

Objective 1.3 Maintain and Enhance Existing Wetland and Aquatic Natural Resource Values:

Maintain and enhance existing values for current wetland, littoral zone and aquatic natural resources. For Biscayne Bay Campus, also see Goals, Objectives and Policies in the Coastal Management Element.

Policy 1.3.1 UNIVERSITY-WIDE:

The University shall prepare and implement a plan to enhance the ecological and aesthetic values of lakes on campus by grading lake shores to provide littoral zones, by enhancement planting of native littoral vegetation, and by minimizing or eliminating the use of fertilizers on campus to reduce eutrophication.

Policy 1.3.2 BISCAYNE BAY CAMPUS:

Maintain at least a 25-foot buffer zone between future planned buildings, ancillary structures, and access roads and mangrove areas and other natural areas slated for preservation (see Figure 13.2).

Policy 1.3.3 BISCAYNE BAY CAMPUS:

Protect and enhance existing shallow-water communities and seagrass beds in the waters of Biscayne Bay fronting Biscayne Bay Campus by reducing the impacts of stormwater runoff to these areas.

Policy 1.3.4 BISCAYNE BAY CAMPUS:

Protect the shoreline stabilization project carried out by Dade County Department of Environmental Resources Management (DERM) in 1989 and 1991.

Policy 1.3.5 BISCAYNE BAY CAMPUS:

Complete ongoing mitigation programs and protect new and ongoing mitigation programs.

Objective 1.4 Campus Setting and the Natural Environment:

Create an aesthetically pleasing, tropical educational setting through planting of xerophytic vegetation, using native species where possible, which will link natural areas on campus and provide for a harmonious transition from developed to natural areas.

Policy 1.4.1 UNIVERSITY PARK:

Use native vegetation to link natural areas on campus. This should be made consistent with objectives of the 3.0 Urban Design Element.

Policy 1.4.2 UNIVERSITY-WIDE:

Strongly encourage the use of native xerophytic plant species for use

in general landscaping and in the creation and enhancement of wildlife habitat. Limit the use of exotic species in general campus landscaping. Use of native species will reduce landscape water demands, will reduce seed sources of potentially invasive exotic species, and provide a natural setting that is indicative of a tropical environment.

Policy 1.4.3 The University shall endeavor to prevent any harm to its natural campus environment from construction activities. Any damage occurring will be repaired to its former state by those responsible parties.

Policy 1.4.4 BISCAYNE BAY CAMPUS:

The Environmental Coordinator shall, in cooperation with Oleta River State Recreation Area personnel, develop a plan to link mangrove areas in the northeast portion of campus with the Oleta River State Recreation Area by means of littoral zone vegetation (along the shoreline) or by plantings of strand vegetation immediately behind shoreline stabilization structures (see Figure 13.2). The Environmental Coordinator shall also encourage Oleta River State Recreation Area personnel to develop a plan for removal of Australian pines from the portion of the Oleta River State Recreation Area adjacent to Biscayne Bay Campus.

Objective 1.5

Protection of Listed Species:

Protect federal, state, and local listed species and their habitat from negative impacts of University activities.

Policy 1.5.1 UNIVERSITY-WIDE:

During the initial planning phase of any physical changes to either campus, the University shall perform a census of wildlife and plants in the area to be affected. Plants or animals identified in the "Official Lists of Endangered & 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 local, state and federal agencies, shall be noted. Protection plans for listed species shall be formulated consistent with those of the host communities and appropriate local, state and federal agencies.

Policy 1.5.2 UNIVERSITY-WIDE:

University personnel shall, when encountering listed species, follow procedures and seek consultation with the appropriate agencies as identified in the Florida Fish and Wildlife Conservation Commission's Wildlife Methodology Guidelines (January 15, 1988).

Objective 1.6 Minimize Impacts of Campus Operational and Maintenance Activities:

Establish campus-wide policies to minimize the impacts of campus operational and maintenance activities on the water quality, and to identify hazardous material sources and reduce their negative impacts.

Policy 1.6.1 UNIVERSITY-WIDE:

To limit negative impacts of campus activities on soils, wetlands, hydrology and hydroperiod, the Committee shall, on an annual basis, review existing and proposed University activities for compliance with the surface water policies of the South Florida Water Management District.

Policy 1.6.2 UNIVERSITY-WIDE:

The University shall continue to test stormwater runoff and groundwater quarterly for compliance with standards set by the State of Florida Department of Environmental Protection, the Dade County Department of Environmental Resources Management, the South Florida Water Management District, and the U.S. Environmental Protection Agency. Failure to meet relevant standards for stormwater runoff shall result in an assessment of probable causes and the production and implementation of a plan to improve the quality of runoff or groundwater.

Policy 1.6.3 BISCAYNE BAY CAMPUS:

The University shall continue monitoring and logging of results of sampling and analysis of petroleum tanks and their associated wells that are housed in the Central Utilities compound.

Policy 1.6.4 UNIVERSITY-WIDE:

The University shall continue to monitor water quality in the lakes, canals and mangrove areas on each campus on a quarterly basis. Should the water quality fall below the standards set by the State of Florida Department of Environmental Protection, the Miami-Dade County Department of Environmental Resources Management, the South Florida Water Management District, and the U.S. Environmental Protection Agency, an assessment of probable causes of pollution shall be performed and a plan developed and implemented to limit the point and non-point sources of pollution.

Policy 1.6.5 UNIVERSITY-WIDE:

The University shall maintain a record of types and amounts of hazardous, toxic and medical wastes that are generated within the University and a record of hazardous, toxic and medical waste that are collected by the Environmental Health and Safety Staff. The

University shall also maintain a record of the types and amounts of hazardous, toxic and medical waste that waste disposal companies collect. Records shall be kept of the name of the waste disposal companies and the name of the driver for each pick-up.

Policy 1.6.6 UNIVERSITY-WIDE:

Handling, data records, storage and disposal requirements for radioactive waste generated at University Park and Biscayne Bay Campus shall be in compliance with local, regional, state and federal regulations.

Policy 1.6.7 UNIVERSITY-WIDE:

At present, all hazardous materials for both campuses are handled under four EPA-Hazardous Waste Generator number. The University should investigate the possibility of operating under more than one number to ensure compliance with requirements associated with satellite collection areas.

Policy 1.6.8 UNIVERSITY-WIDE:

The University shall inventory herbicide, pesticide and fertilizer use and evaluate their impacts on water quality. Modify or reduce herbicide, pesticide and fertilizer usage to minimize or eliminate negative impacts on water quality.

Objective 1.7

Maintain and Enhance Air Quality:

Establish a program to maintain high air quality standards on campus, both within and outside of buildings and parking structures.

Policy 1.7.1 UNIVERSITY-WIDE:

The University shall monitor both indoor and outdoor air quality, as necessary. Outdoor sites to be sampled should include parking lots and congested intersections. Failure to meet air quality standards accepted by the State of Florida shall result in an assessment of probable causes and the production and implementation of a plan to improve and maintain air quality.

Policy 1.7.2 UNIVERSITY-WIDE:

Minimize emissions of air pollutants from and within buildings on campus through the installation of appropriate filtering devices on fume hoods and by minimizing the storage and use of volatile and hazardous materials in campus buildings.

Policy 1.7.3 UNIVERSITY-WIDE:

Determine potential impacts on air quality before construction of parking structures. Design parking structures to facilitate rapid ingress and egress of vehicles to minimize idling time, and design

such structures to maximize air flow through them and eliminate pockets of stagnation where levels of pollutants can build up.

Policy 1.7.4 UNIVERSITY-WIDE:

Encourage and facilitate non-polluting transportation alternatives on campus including pedestrian and bicycle access. Sidewalks and pedestrian malls should be designed to facilitate and encourage foot traffic between buildings, and to maximize handicap accessibility.

GOAL 2: Minimize resource utilization on campuses.

**Objective 2.1 Water Conservation:
Establish measures that reduce water utilization.**

Policy 2.1.1 UNIVERSITY-WIDE:

FIU shall conserve water and reduce chemical use through the use of xeriscape design principles, which include but are not limited to:

- Use of drought tolerant and native plant materials;
- Use of low volume delivery fixtures;
- Zoned irrigation systems;
- Moisture sensors and rain switches;
- Use of drought tolerant ground cover;
- Use of canopy trees; and
- Use of soil amendments and mulch to enable soils to retain moisture.

Policy 2.1.2 UNIVERSITY-WIDE:

Retrofit existing campus buildings with water-saving devices. Require that water-efficient (ultra-low volume) fixtures and other water-saving devices be installed in all future buildings.

Policy 2.1.3 UNIVERSITY-WIDE:

If feasible, expand the use of filtered wastewater ("reclaimed water") for landscape irrigation.

**Objective 2.2 Solid Waste Recycling and Resource Conservation:
Establish measures that encourage solid waste recycling.**

Policy 2.2.1 UNIVERSITY-WIDE:

A general recycling program for paper, aluminum, glass, etc. shall be instituted and recycling goals for proportions of materials recycled established. All entities on campus (including food vendors/cafeterias, etc.) should be required to subscribe to this program and compliance with the program should be monitored on a

regular basis. Work toward establishing this policy at University Park has been initiated by the Environmental Studies Program, and further efforts in this regard should be coordinated with it.

Policy 2.2.2 UNIVERSITY-WIDE:

State, regional and local standards for waste management shall be reviewed at least annually. Solid waste management on all campuses shall be in compliance with state, regional and local standards.

Policy 2.2.3 UNIVERSITY-WIDE:

The University shall contract with a licensed recycling contractor to provide for the collection for recycling, at minimum, of paper, aluminum, plastic, glass and newspapers. Separate refuse containers, as called for by the recycling contractor, shall be made available in all buildings, courtyards, in open space areas, etc. on both campuses. This program should be made compulsory on a campus-wide basis.

Policy 2.2.4 UNIVERSITY-WIDE:

Where feasible, recycled paper products shall be purchased for University use, including those used in food service.

**Objective 2.3 Energy Conservation and Efficiency:
Develop a program to conserve and appropriately use energy.**

Policy 2.3.1 UNIVERSITY-WIDE:

Retrofit existing buildings with energy-conserving lighting fixtures. Require all new buildings to be equipped with energy efficient lighting devices. Design new buildings to take maximum advantage of available natural lighting.

Policy 2.3.2 UNIVERSITY-WIDE:

Where feasible, buildings on campus shall be fitted with devices to automatically reduce energy use in rooms and buildings not in use, including programmable thermostats for air conditioners and sensors that automatically turn off lights.

Policy 2.3.3 UNIVERSITY-WIDE:

Investigate the possibility of using "non-traditional" energy sources on campus. Such alternatives could include the use of solar power for lighting parking lots, etc.



UNIVERSITY PARK

- ATHLETICS ACADEMIC FITNESS CENTER (26)
- BASEBALL STADIUM (45)
- TOWER (C6)
- DUPLICATING CENTER (C05)
- CHILDREN'S CREATIVE LEARNING CENTER (7)
- CARLOS FINLAY ELEMENTARY SCHOOL (26)
- COLLEGE OF HEALTH (10)
- CHEMISTRY & PHYSICS (49)
- SCHOOL OF ARCHITECTURE (24)

- CAMPUS SUPPORT COMPLEX (23)
- CENTRAL UTILITIES (44A)
- DEUXIEME MAISON (32)
- ENGINEERING & COMPUTER SCIENCES (40)
- FIU COMMUNITY STADIUM (27)
- BARNETT & GRAHAM CENTER (43)
- STEVE & DOROTHEA GREEN LIBRARY (35)
- GOLDEN PANTHER ARENA (47)

- STUDENT HEALTH & WELLNESS CENTER (12)
- LABOR CENTER (39)
- GRADUATE SCHOOL OF BUSINESS (40)
- NATIONAL HURRICANE CENTER (41)
- OWA BEAN (46)
- CHARLES E. PERRY PRIMERIA CASA (41)
- PARKING GARAGE (P1-P6)
- PANTHER RESIDENCE HALL (39)

- RYDER BUSINESS BUILDING (11)
- FUTURE DEVELOPMENT (45A-45E)
- STUDENT HOUSING (35)
- UNIVERSITY TOWERS (39A)
- WERTHEIM CONSERVATORY (46A)
- WERTHEIM HAUS (46)
- HERBERT & NICOLE WERTHEIM PERFORMING ARTS CENTER (46)
- SANFORD & DOLORES ZIFF EDUCATION BUILDING (44)
- UNIVERSITY HOUSE (28)

SW 8TH STREET GOLDEN PANTHER TRAIL

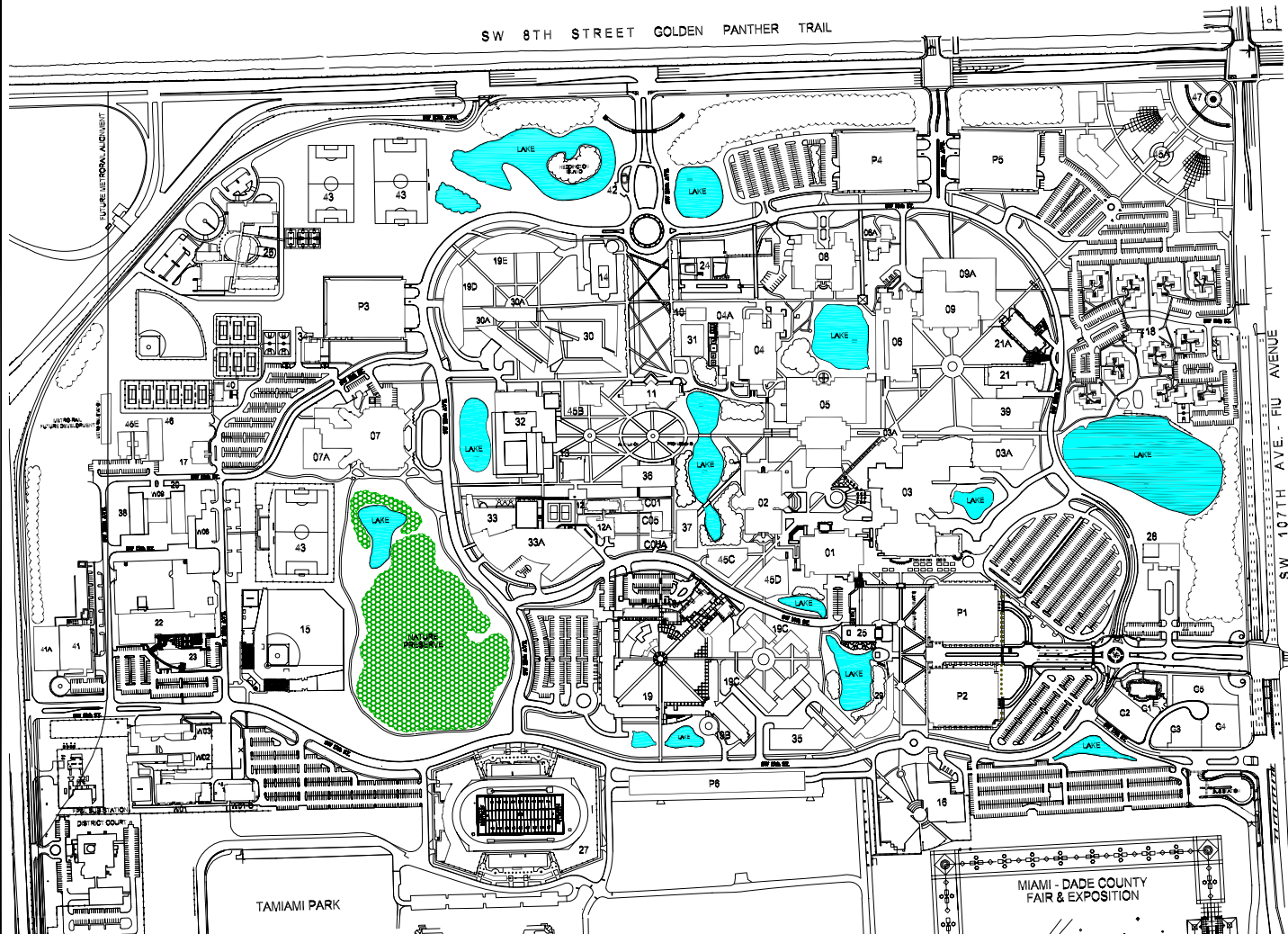


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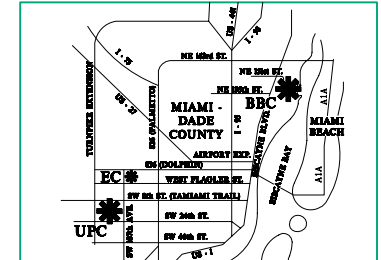
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NATURAL RESOURCES

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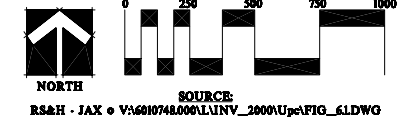
- LAKES AND CANALS
- PRESERVE (HARDWOOD HAMMOCK, PINE, WET PRAIRIE)

KEY MAP



FINAL MASTER PLAN FLORIDA INTERNATIONAL UNIVERSITY MIAMI, FLORIDA

DATE: OCTOBER 2003





BISCAYNE BAY CAMPUS

- ACADEMIC ONE (02)
- ACADEMIC TWO (04)
- AQUATIC CENTER (01A)
- BAY VISTA HOUSING (01)
- HOTEL (04)
- HOSPITALITY MANAGEMENT (01)

- CONFERENCE CENTER (07)
- LIBRARY (05)
- ACADEMIC THREE - MARINE BLDG. (03)
- ACADEMIC FOUR (12)
- HOUSING (15)
- INFORMATION CENTER (06)

- BIOLOGY LAB (27)
- FUTURE DEVELOPMENT - A (29A)
- FUTURE DEVELOPMENT - B (29B)
- RECREATION FIELDS (43)
- FDC / HR ADMINISTRATION (20)
- SUPPORT / CENTRAL RECEIVING (22)

- SUPPORT / PUBLIC SAFETY (23)
- SUPPORT / PHYSICAL PLANT (24)
- SUPPORT / GROUNDS (25)
- STUDENT HEALTH CENTER (06-06A)
- WELLNESS CENTER (20)
- WOLFE UNIVERSITY CENTER (03-03A)



FIGURE NUMBER

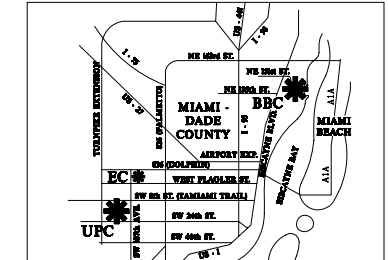
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NATURAL RESOURCES

LEGEND:

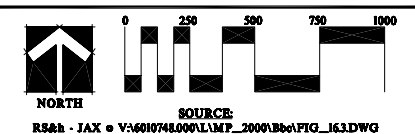
- LAKES AND CANALS
- MANGROVE AREAS
- BEACH STRAND VEGETATION
- BEACH RIP-RAP SHORELINE
- EXISTING VEGETATION

KEY MAP



FINAL MASTER PLAN FLORIDA INTERNATIONAL UNIVERSITY MIAMI, FLORIDA

DATE: OCTOBER 2003



14.0 CAPITAL IMPROVEMENTS ELEMENT

Florida International University faces a need for enormous expansion and development activity over the next decade, if facilities are to be made available to correct deficits and meet the needs of a rapidly expanding enrollment. The costs associated with this projected growth total approximately \$206 million for future buildings, which includes the cost for site improvements, infrastructure, parking, roads and landscaping. Where appropriate, creative funding mechanisms such as user fees and joint development agreements are identified. The funding of capital improvements, which constitutes this Master Plan, is one of the most critical steps in the planning process. The implementation of this Master Plan is contingent upon the identification, application and efficient use of both State University System (SUS) monies and those made available to or by Florida International University.

The majority of capital improvements required by growth and continued educational enhancement efforts of the University are supported by funding mechanisms such as Public Educational Capital Outlay (PECO) and Capital Improvement Trust Fund (CITF) program monies that are administratively allocated and funded by the SUS. The importance of each specific capital improvement identified by this plan must be specified by FIU. Table 14.1 outlines all SUS-eligible capital improvements for Years 2000-2005 and Years 2006-2010. This table also identifies those improvements that are not, at this time, considered eligible for SUS funding and, as a result, represent the fiscal requirements of this plan that will be imposed on FIU for implementation.

There are several complexities which will evolve annually from the implementation of this plan. As a result, the Master Plan and its effectiveness can only be ensured through a procedural update to this element. These updates should occur on an annual basis. These efforts hinge on several initiatives authorized by the adoption of this Master Plan but may equally depend on existing procedures such as the CIP planning process that takes place with the Office of Capital Programs on an annual basis.

The goals, objectives and policies of the Capital Improvements Element outline the procedures and strategies that will be implemented for this Master Plan in the most efficient and fiscally sound manner.

14.0 CAPITAL IMPROVEMENTS ELEMENT

GOAL 1: Florida International University shall plan, program and develop capital facilities necessary to accomplish the academic mission at projected enrollment levels, applying sound fiscal policies.

Objective 1.1 **Schedule of Capital Improvements:**
Plan and implement a schedule of capital improvements coordinating land use and development decisions with fiscal resources to meet projected facility needs while maintaining level of service standards herein identified.

- Policy 1.1.1 FIU shall coordinate with Miami-Dade County, the City of Sweetwater, the City of North Miami and utility providers to monitor and project the availability of off-campus services and facilities at adopted levels of service concurrent with the impacts of campus development prior to the programming of each development project. The Master Plan is acknowledged to have documented the ability to accommodate campus development indicated, herein through the plan period, consistent with the maintenance of host community levels of service.
- Policy 1.1.2 FIU shall, prior to programming each development project, verify that development impacts can be accommodated while maintaining on-campus level of service standards herein established.
- Policy 1.1.3 FIU shall ensure that the Capital Improvement Program 5-year project priority list remains consistent with the Master Plan, subsequent plan revisions and with applicable campus development and joint use agreements.
- Policy 1.1.4 Capital Improvement Program modifications shall be pursued to improve the efficiency, timeliness and cost effectiveness of improvements to infrastructure, parking, site development and landscaping. The adopted campus master plan will be amended as needed to incorporate any revisions to the Capital Improvement Program.
- Policy 1.1.5 Capital Improvement Program procedures shall be applied to make full use of "infill" areas where utility, parking and related infrastructure services are in place.
- Policy 1.1.6 The annual budgeting process shall include provisions for the adoption of a capital budget and shall be reviewed to ensure consistency with campus development agreements.

Objective 1.2 **Adequate Resources:**

Florida International University shall seek resources sufficient to meet projected facility needs and seek to secure funding in advance of projected need to avoid additional deficits.

Policy 1.2.1 Prepare CIP-3 Forms and CIP line item funding requests targeted to improvements to infrastructure, parking and site (landscape) development necessary to support existing, expanded and new facilities, separate and discrete from budgets for individual buildings.

Policy 1.2.2 Seek local ancillary funding sources to supplement PECO appropriations including the following:

- Revenues from joint use facilities (arts center, football stadium, etc.)
- User fees for upgraded parking and student/faculty services.

Policy 1.2.3 Accelerate facility development programming and feasibility studies to occur 3-4 years prior to the expected availability of PECO funds and auxiliary revenues such as student capital improvement fees for academic support and necessary infrastructure and service facilities.

**Objective 1.3 Deficiencies, Deficits and Future Growth:
The Capital Improvement Element shall seek to correct existing facility deficiencies and deficits and provide additional facilities necessitated by future growth by the end of the planning period.**

Policy 1.3.1 Apply the following criteria for evaluating and prioritizing capital improvements:

- Relative program performance and value to achievement of the Academic Mission.
- Degree of impact on the elimination of facility or service deficits.
- Cost effectiveness and development efficiency.
- Availability of supplementary matching funds or operating revenue opportunities.

Policy 1.3.2 Apply the following criteria for prioritizing facility renewal and upgrading projects.

- Projects necessary to maintain level of service standards, achieve code compliance and provide handicapped access.
- Projects which reduce operating costs and improve energy efficiency.
- Projects which expand facility capacities and utilization, reducing demand for new facilities.

Policy 1.3.3 By the end of the planning period replace all inadequate obsolete and potentially unsafe structures including:

- Trailers and portable classrooms.
- Pre-university airport support structures (except the control tower).
- Key bank building.

Policy 1.3.4 To ensure that future capital budgeting accurately reflects anticipated total development costs, future facility cost estimates shall include estimates of proportional costs for all related ancillary site improvements which will be necessitated by specific buildings or aggregations of facilities, including:

- utility extensions
- site modifications (including mitigation costs)
- parking
- pedestrian and vehicular circulation
- landscaping

Facilities shall be sized sufficiently to support anticipated future capacity requirements.

Table 14.1 Florida International University Capital Improvement Plan (2000-2010)

Program Element Description	GSF	Cost
UNIVERSITY PARK/The Engineering Center (EC) (YEAR 2000-2005)		
<u>PRIMARY ELEMENTS – PECO ELIGIBLE</u>		
Facilities Infrastructure/Capital Renewal	N/A	\$25,000,000
Health and Life Sciences	190,624	\$36,736,600
Central Utility Plant	10,000	\$9,300,000
Graduate School of Business – Building I	90,000	\$16,500,000
College of Law	150,000	\$25,000,000
Social Sciences	94,000	\$17,891,936
Molecular Biology	77,600	\$18,700,000
Classroom/Office (EC)	160,000	\$31,300,000
Arts Complex – Phase II	91,840	\$17,882,000
Computer Services	73,371	\$14,129,000
Classroom/Office, UP	<u>85,512</u>	<u>\$14,844,000</u>
SUB-TOTAL	1,022,947	\$227,283,536
<u>SUPPLEMENTAL ELEMENTS – NON-PECO ELIGIBLE</u>		
Graham Center Renovation	29,000	\$5,250,000
Student Health Services Center	20,000	\$3,000,000
Stadium Expansion	40,000	\$18,000,000
Frost Museum	40,000	\$12,300,000
International Hurricane Center	33,056	\$7,300,000
Training Complex	24,432	\$6,000,000
Public Safety Building	10,000	\$2,200,000
Recreation Center – Phase I	58,000	\$9,000,000
Lakeview Housing- Phase I	240,000	\$39,000,000
Greek Housing II	14,400	Note 1
Parking Garage Three	10,000	\$12,000,000
Parking Garage Four	<u>10,000</u>	<u>\$12,000,000</u>
SUB-TOTAL	499,888	\$126,050,000
TOTAL	1,522,835	\$353,333,536
BISCAYNE BAY CAMPUS (YEAR 2000-2005)		
<u>PRIMARY ELEMENTS – PECO ELIGIBLE</u>		
Marine Biology Classroom	83,734	\$13,100,000
Hospitality Management (Equipment/Remodeling)	<u>N/A</u>	<u>\$550,000</u>
SUB-TOTAL	83,734	\$13,650,000
<u>SUPPLEMENTAL ELEMENTS – NON-PECO ELIGIBLE</u>		
Kovens Center Enhancement – Phase I	16,300	\$781,000
Recreation	N/A	\$5,000,000
Parking Lot Reconfiguration	<u>N/A</u>	<u>\$500,000</u>
SUB-TOTAL	16,300	\$6,281,000
TOTAL	100,034	\$19,931,000

Table 14.1 Florida International University Capital Improvement Plan (2000-2010) continued

Program Element Description	GSF	Cost
OTHER (YEAR 2000-2005)		
<u>SUPPLEMENTAL ELEMENTS – NON-PECO ELIGIBLE</u>		
Wolfsonian Enhancement	N/A	\$852,000
SUB-TOTAL		\$852,000
CAPITAL ASSET MANAGEMENT SUPPLEMENT – UNIVERSITY WIDE (YEAR 2000-2005)		\$15,000,000
UNIVERSITY PARK / Engineering Center (EC) (YEAR 2006-2010)		
<u>PRIMARY ELEMENTS – PECO ELIGIBLE</u>		
Classroom/Office (Future Development A)	360,000	\$9,500,000
Future Development B - D	<u>170,000</u>	<u>\$24,120,000</u>
SUB-TOTAL	665,000	\$100,520,000
<u>SUPPLEMENTAL ELEMENTS – NON-PECO ELIGIBLE</u>		
Graham Center Expansion – Phase II	40,000	\$4,471,105
Lakeview Housing- Ph. II	240,000	\$40,000,000
Undergraduate Housing/ (Chapman Grad. School of Business)	240,000	\$40,000,000
Greek Housing III	14,400	Note 1
Greek Housing IV	14,400	Note 1
Greek Housing V	14,400	Note 1
Parking Garage Five	10,000	\$12,000,000
Parking Garage Six	10,000	\$12,000,000
Recreation Center – Phase II	95,831	\$12,340,157
Future Development E	<u>40,000</u>	<u>\$8,000,000</u>
SUB-TOTAL	719,031	\$128,811,262
TOTAL	1,384,031	\$229,331,262
BISCAYNE BAY CAMPUS (YEAR 2006-2010)		
<u>PRIMARY ELEMENTS – PECO ELIGIBLE</u>		
Academic Four Building	69,200	\$15,050,000
Future Development A	<u>70,000</u>	<u>\$15,750,000</u>
SUB-TOTAL	139,200	\$30,800,000
<u>SUPPLEMENTAL ELEMENTS – NON-PECO ELIGIBLE</u>		
Future Development B	<u>71,805</u>	<u>13,500,000</u>
SUB-TOTAL	71,805	13,500,000
TOTAL	211,005	\$44,300,000
CAPITAL ASSET MANAGEMENT SUPPLEMENT – UNIVERSITY WIDE (YEAR 2006-2010)		\$15,000,000

Table 14.1 Florida International University Capital Improvement Plan (2000-2010) continued

Program Element Description		GSF	Cost
TOTAL COSTS (YEARS 2000-2010)			
UNIVERSITY PARK / EC	(2000-2005)	1,522,835	\$353,333,536
	(2006-2010)	1,384,031	\$229,331,262
BISCAYNE BAY CAMPUS	(2000-2005)	100,034	\$19,931,000
	(2006-2010)	211,005	\$44,300,000
OTHER (YEAR 2000-2006)			\$852,000
CAPITAL ASSET MANAGEMENT SUPPLEMENT – UNIVERSITY WIDE (YEAR 2000-2005)			\$15,000,000
CAPITAL ASSET MANAGEMENT SUPPLEMENT – UNIVERSITY WIDE (YEAR 2006-2010)			\$15,000,000
GRAND TOTAL		3,217,905	\$677,747,798

Note: ¹ Costs to be determined by independent sublease tenants, privately financed.

Source: FIU, Five-Year Capital Improvement Plan (CIP-2) and Legislative Budget Request
 Period: 2004-2005 through 2008-2009 dated 08/01/03

15.0 ARCHITECTURAL DESIGN GUIDELINES ELEMENT

Excellent architectural design begins much earlier than the design process. The initial assessment of academic need is the first opportunity for Florida International University (FIU) to ensure a successful project. The University assesses future facility requirements to the best of its ability, then applies a statistical matrix of budget and square footage factors to quantify those needs.

Once selected, the design professional's challenge is to deliver a facility within the budget and quality parameters identified during the needs assessment, with the hope that construction cost inflation will not be significant and that project requirements will not change. Therefore, the creation of an up-front, comprehensive project-specific program document is a critical step in preparing a project to become an "excellent design."

The State University System (SUS) administers a concise process for the selection of architectural/engineering design services. This process seeks to select firms employing individuals possessing directly related design talent and capabilities. This selection process is the second critical step necessary to achieve design excellence for a particular project.

Once selected, the design professional must satisfy the program requirements as well as give consideration beyond the exterior walls of the project he/she has been commissioned to design. To assist the design process, FIU has established a set of Architectural Design Guidelines, which include a number of checkpoints. Each of these checkpoints preserve and enhance the image of higher education that has been the base concept for past design and has served as the foundation for development of FIU and this Comprehensive Master Plan.

- Site placement in response to adjacent structures and open campus green areas.
- Maintenance of desirable sight lines to and from the facility.
- Location of exterior service docks and refuse pick-up points out of view, screened and located, where practical, away from pedestrian areas.
- Adoption of passive solar design strategies for the exterior envelope to enhance the energy efficiency characteristics of the building's overall performance.
- Adherence to design requirements stipulated by the recently enacted Americans with Disabilities Act (ADA) as amended by the State of Florida.
- Design to deliver low maintenance/vandal-resistant interior finishes and building systems that are commonly available for necessary replacement.
- Base the design of mechanical, electrical and plumbing systems on simple, reliable components.
- Incorporation of SUS, Office of Capital Programs, Cost Containment Guidelines for the State University System of Florida.

Highlights of Architectural Design Guidelines are discussed below.

QUALITY OF MATERIALS

The American Society for Testing and Materials (ASTM) is recognized as the industry standard for establishing the performance requirements for various building materials. The Architectural Design Guidelines recognize that adherence to the performance levels set forth in the nationally recognized standards of ASTM and the industry standards for design criteria, material performance and construction available through the various building trades, will do much to control quality levels while eliminating untested/unproven materials, products and systems from consideration on future UNF projects.

ENERGY EFFICIENCY

The focus on energy-efficient design will continue to influence the delivery of new and renovated buildings well into the next century. New technologies involving identification of alternative energy sources lag behind the ever-increasing consumption of fossil fuels and other natural energy sources. New and renovated buildings are major consumers of energy; therefore, implementation of strategic design approaches targeting energy conservation/energy efficiency is mandatory.

LIFE CYCLE COST

The SUS Office of Capital Programs Cost Containment Guidelines for the State University System of Florida provides a wide range of minimum requirements to be used in addressing design and quality levels to establish a level of building quality which is consistent with the State University System's interest in long term (40-year life) ownership. This document has been supplemented by FIU and adherence to these guidelines is required, by contract, of all firms providing design and/or construction services.

The evaluation of life cycle costs for building materials, systems and equipment, will continue to be an issue in preparing construction drawings and specifications for the foreseeable future. Life Cycle Costing (LCC) is simply selecting the most appropriate/durable material based upon the owner's ability to initially purchase it, evaluated against the materials' longevity and expected maintenance costs. Most LCC systems address mechanical, electrical and plumbing equipment/systems. Analysis of architectural, civil and structural materials are more a "judgment" call based upon past performance (life) history and/or environmental factors that change from location to location.

COLOR AND TEXTURE

The guidelines for the color and texture of new and renovated or expanded facilities have been established to provide continuity between the new and existing facilities. In addition to providing aesthetic harmony in the campus appearance, this approach allows more cost-efficient maintenance of all University facilities.

SCALE/PROPORTION

Guidelines for the scale and proportion of buildings and adjacent facilities will continue to support development to be compatible with a pedestrian campus environment. Although no building height requirements restrict the number of floors built, guidelines are established to prevent a massing of multi-story buildings, which would create an enclosed, overwhelming atmosphere. The creation of gathering spaces adjacent to building and the use of landscaping, hardscape and light, would allow for a more pedestrian-friendly scale and proportion.

GRAPHICS AND SIGNAGE

The Architectural Design Guidelines recognize that FIU will continue to evaluate and revise a comprehensive and consistent interior/exterior signage system. It calls for revisions to this system as required to respond to Article 4.30, Signage, of the Florida Americans with Disabilities Accessibility Implementation Act and Americans with Disabilities Act Accessibility Guidelines, Appendix A to Part 36.

SAFETY STATEMENTS

The safety standards identified in the guidelines reflect the most recent safety guidelines established for materials and building systems.

BUILDING SITING AND LINKAGES

The guiding principles identified for building siting and linkage provide for open areas, access for emergency and maintenance vehicles as well as disabled/handicapped persons and the relationship of new facilities to adjacent facilities and the surrounding natural environment.

ARCHITECTURAL TREATMENTS ALONG CAMPUS EDGES

The Architectural Design Guidelines Element contributes two (2) other important features to the FIU Campus Master Plan: it provides for review processes to assure both design and construction projects meet the Architectural Design Guidelines and the specific plan's objectives; and it provides the mechanism to assure compliance with ADA objectives of providing accessibility to University facilities for all persons, regardless of physical limitations.

15.0 ARCHITECTURAL DESIGN GUIDELINES ELEMENT

GOAL 1: Florida International University shall ensure that future buildings adhere to the highest standard of architectural design with emphasis on environmental sensitivity and the establishment of character-defining architectural principles at each campus.

Objective 1.1 Defining Characteristics for each Campus:
Respond to the similarities and differences in the two campuses of Florida International University in order to establish a defining overall character for each. Each location shall develop an architectural language and vocabulary that takes advantage of its natural and manmade setting.

Policy 1.1.1 UNIVERSITY-WIDE:
Respond to the hot and humid climate of South Florida with an architecture that addresses the need for weather protection and shade. Architectural elements such as arcades, shaded courtyards, covered connections between buildings, protection at building entrances etc. shall be required where feasible. Placement of vegetation shall also be encouraged to provide outdoor shade and to screen solar gain at buildings.

Policy 1.1.2 UNIVERSITY-WIDE:
Scale Proportion and Massing: New construction shall encourage the use of space-defining buildings to reinforce the open space networks of malls, quads and courtyards. Buildings that define spaces shall be of similar scale and massing to the extent feasible by program. Buildings that together compose an open space shall consistently utilize the same architectural elements and shall be described herein as “fabric” buildings whereby each contributes to the whole.

Other buildings will by definition be more notable or monumental and shall be carefully planned and sparingly built. Monumental buildings shall be justified by program as those that are utilized campus wide and contribute to the importance or prestige of the University, such as the library or administration building. Monumental buildings shall be located at the end of axes, or other prominent locations. Monumental buildings may have a larger scale and mass than “fabric” buildings but they shall be attentive to the issues of human scale and proportion.

New construction shall produce "human scale" buildings by providing articulation of the different floor levels and adequate window and door openings. Architectural elements such as arcades and connectors should be utilized to encourage comfortable pedestrian movement within and between buildings. Building heights shall to the extent

feasible by area and program be the same for all "fabric" buildings.

Policy 1.1.3 UNIVERSITY PARK:

Character definition at this campus shall be provided by the creation of space-defining buildings that reinforce the open network of malls, quadrangles and courtyards. New construction shall reinforce the classical organization of planning with buildings that are fenestrated and proportioned according to classical principles.

Policy 1.1.4 ENGINEERING CENTER:

All new or improved architecture will be consistent with University Park through the use of similar textures and colors for buildings, archways where applicable, and overall architectural character including signage, light fixtures and hardscape features.

Policy 1.1.5 BISCAYNE BAY CAMPUS:

The adjacency of Biscayne Bay, and Oleta River State Recreation Area establishes a strong sense of natural setting to this campus. Character definition at this site should be created by maintaining open view corridors toward the Bay and circulation elements that encourage pedestrian appreciation of the site's features. New construction should create space-defining buildings that emphasize the natural setting and reinforce the native ecology. Modern proportions and fenestration should characterize the design of the new buildings.

Objective 2.1

Standards for Materials and Systems:

Design buildings that promote quality standards of durability and reliability in the selection of materials. Materials shall be consistent with the architectural character defined for each campus, be consistent with the regional context, be energy efficient and require no more than minimal maintenance.

Policy 2.1.1 Quality:

UNIVERSITY PARK/ENGINEERING CENTER: Materials shall convey the permanence expressed in the classical principles of design desired for the campus. Florida key stone shall be utilized whenever stone is desired as a cladding. Poured in place concrete or precast concrete may also be used provided the scale and fenestration are compatible with the scale and proportions required. Aluminum and glass window openings are encouraged to allow natural light into the building. Storefront assemblies of consisting of uninterrupted bays are generally discouraged except where uninterrupted transparency is justified by the building program. Color integral stucco can be utilized at new buildings as a field of color for building mass. Building elements such as window frames, door

openings, arches etc. shall be maintained in stone or concrete so as to discourage uninterrupted use of stucco.

BISCAYNE BAY CAMPUS: Materials selected shall be natural in appearance and shall be compatible with the existing campus materials. Buildings shall utilize either precast concrete panels or poured in place concrete for their structural skin. Glass and aluminum systems shall be utilized for admitting natural light into the buildings.

Policy 2.1.2 UNIVERSITY-WIDE:

Energy efficiency: All materials shall efficiently utilize natural resources in their production. New buildings shall utilize energy efficient materials and systems. Building locations shall take advantage of the cooling and shading effects of natural elements such as lakes or naturally vegetated areas. Buildings shall be designed to provide shade to mitigate solar gain and to generate passive cooling wherever possible. Insulating materials shall be generously used to reduce energy consumption.

Policy 2.1.3 UNIVERSITY-WIDE:

Life Cycle Costs: Architects shall take into consideration the life expectancy of materials and systems proposed for use. The life expectancy shall be compared with the replacement and operating costs of each building component alternative under consideration. The Architect shall provide to Florida International University the results of the life cycle cost investigations for review.

Policy 2.1.4 Color and Texture:

UNIVERSITY PARK/ENGINEERING CENTER: New buildings shall be in natural keystone and/or natural gray poured in place concrete or precast. Color integral stucco shall be in one of the colors selected from the chart of colors identified herein. Aluminum shall be in a medium bronze color and glass shall be bronze tinted. Color schemes shall be provided by each Architect indicating all visible building elements and details proposed to the University for review and compliance.

BISCAYNE BAY CAMPUS:

Color schemes shall be provided by each Architect indicating all visible building elements and details proposed to the University for review and compliance.

Policy 2.1.5 UNIVERSITY-WIDE:

Graphics and Signage: Florida International University shall create site maps that break down each campus into a series of districts or zones. These zones shall be identified with unique names and

colors on the site maps. Site signage shall be located at each entry point to the campus, whether vehicular or transit, with color identified directional signage designed to guide pedestrians to their destination. The design and usage of all graphics and signage shall be consistent throughout the campus. All signs shall be illuminated to promote easy orientation during evening hours of operation.

Policy 2.1.6 UNIVERSITY-WIDE:

Safety: Florida International University shall provide for the health, welfare and safety of all students, faculty and staff as well as visitors. The design of buildings shall take into account the visibility to passersby of interior and exterior spaces, so as to minimize the potential for harm that arises when spaces are hidden from view. Crime Prevention Through Environmental Design (CPTED) policies will be adhered to as a guide for design. All applicable State and Federal Codes regarding accessibility and safety during construction shall be strictly adhered to. All parking areas and walkways shall be well lit and secure. Residential dormitories shall have security systems and be closely monitored by University Police.

Policy 2.1.7 UNIVERSITY-WIDE

Lighting: Florida International University shall provide appropriate lighting for all pedestrian and non-vehicular facilities on-campus (i.e. parking, public areas and walkways) for the safety of all students, faculty and staff as well as visitors to each campus.

Objective 3.1

Districts:

Florida International University should organize and develop contextual standards where applicable for the design of buildings specific to certain areas of Campus or Districts.

Policy 3.1.1 UNIVERSITY PARK:

Central Core District: The buildings and spaces within this district are the original campus structures built in the 1970's. New buildings, additions and alterations shall be consistent with the existing building patterns, materials and colors of the district. The buildings include the following:

- Charles E Perry Primera Casa (administration building)
- Deuxieme Maison
- Green Library
- Ernest R. Graham University Center
- Ernest R. Graham University Center Addition

Policy 3.1.2 UNIVERSITY PARK:

Lake District: The buildings in this district are organized around the

picturesque lake setting. New buildings, additions and alterations shall be consistent with the existing building patterns, materials and colors of the district. The buildings in this area include the following:

- Green Library
- Viertes Haus
- Engineering & Computer Science
- Owa Ehan

Policy 3.1.3 UNIVERSITY PARK:

Tamiami Mall: This district is located at the entry off of SW 8th St. The buildings are organized around a symmetrical vehicular mall. All future buildings in this area shall be “fabric” buildings and share a common fenestration design, building base, building height and arcade treatment. Buildings in this area will include the following:

- Education Building
- Ryder Business Administration
- School of Architecture
- Future Classroom
- Graduate School of Business

Policy 3.1.4 UNIVERSITY PARK:

South Mall: Buildings in this mall are located immediately south of the Charles E Perry Primera Casa.

Buildings in this area shall be arcaded at the base level and shall be 3 stories in height. All of the buildings shall be space defining buildings and shall look out over the pedestrian mall. Entries shall be off the mall. Materials shall be keystone at the base and color integral stucco for the fields. The color shall be selected from the chart appended and shall contain only one color throughout the mall.

- Charles E Perry Primera Casa (administration building)
- Ernest R. Graham Center
- Ernest R. Graham University Center Addition
- Management and Advanced Research Center (MARC)
- Executive Center

Policy 3.1.5 UNIVERSITY-WIDE:

Housing Quads: New construction of student’s housing shall be composed of multi story apartments creating in the case of University Park, a dedicated quadrangle space for residents. Buildings at Biscayne Bay Campus shall be oriented toward the bay view. The buildings shall utilize to the extent possible an arcaded base, which will give access to the resident’s common areas such as lounges, laundries etc. Apartment levels shall be integral stucco exterior surfaces and shall have the appearance of housing and not academic buildings. A residential appearance shall be achieved by

creating buildings of small massing and footprints, fenestration with balconies and more informal arrangement of building volumes.

Policy 3.1.6 UNIVERSITY PARK:

Greek: Housing for fraternities and sororities "Greek" shall be provided on campus in the southeast corner of the campus. New construction or renovation shall be performed so that each fraternity or sorority is in a stand alone structure that provides lodging and ancillary activities to its members. The structures shall be designed so that they are residential in appearance and not more than two stories in height. The selection of materials shall convey a residential quality. The building's exterior shall consist of keystone and/or painted stucco. Signage shall consist of only the Greek letters indicating the affiliation and may be placed over the front portal or in a low site sign.

Objective 4.1

Guidelines for Architectural Building Types

Establish a vocabulary and set the parameters for building types and elements that will reinforce the visual unity within the campus and districts.

Policy 4.1.1 Arches:

UNIVERSITY PARK:

A signature element for this campus is the segmented arch. The arch shall be utilized in all new construction projects where buildings are either administrative or academic. The arch need not be utilized at support facilities that are uninhabited. The arch shall be utilized in a manner that appears functional whenever possible and should not be considered as a decorative device only.

ENGINEERING CENTER:

The existing site should incorporate the use of arches in plazas and walkways to reflect those at University Park.

Policy 4.1.2_ UNIVERSITY-WIDE:

Arcades or Loggias: New construction shall incorporate arcades wherever possible within the exterior face of the building volume so as to provide protection from the elements. At University Park, arcades shall be designed with segmented arches as described above. Arcades shall be used in conjunction with connecting walkways for weather protection.

Policy 4.1.3 Fenestration:

UNIVERSITY PARK:

Building fenestration shall be designed in a manner that is consistent with classical principles. Windows are to be placed as "punctures" in the surface of the wall as opposed to curtain walls or ribbon windows.

Windows shall align and have vertical orientations.

ENGINEERING CENTER:

Existing facility renovations and new construction will incorporate those elements approved for the University Park facilities to maintain design consistency.

BISCAYNE BAY CAMPUS: Fenestration shall follow a modern approach to the placement of windows. Windows shall be continuous bands generally composed horizontally, with adequate solar protection.

Policy 4.1.4 UNIVERSITY-WIDE:

Building Forms: Florida International University should strive to create buildings that are simple and direct and shall use building forms that are compatible with classical principles. Buildings shall be thought of as either contributing to the form of the open space they create “fabric” space defining buildings, or they shall be considered as special buildings that are “monumental” or objects in space. Monumental buildings shall be planned and coordinated so that their siting and building design are appropriate to the distinguished purpose they are to provide. Fabric buildings should be sited and designed to be harmonious and contributing to a greater whole. Fabric buildings shall be considered as deriving from classical types. Fabric buildings can be “bar” buildings, courtyard buildings, “L” shaped or “H” shaped but shall have forms that are easily discernible and contribute a space defining character.

Policy 4.1.5 UNIVERSITY-WIDE:

Service Yards: New construction at Florida International University shall include screening from view of all service yards. Screening shall be achieved with walls and landscaping. Combining service yards to minimize their spread is desirable providing the yard does not get so large as to become obtrusive.

Objective 5.1

Weather Protection (UNIVERSITY-WIDE)

Florida International University should create circulation elements that provide for weather protection and reinforce the linkages between quads, courtyards and buildings.

Policy 5.1.1 Covered Connections

Florida International University should provide adequate parking to support the needs of students, faculty and visitors

Policy 5.1.2 Parking Structures

The structures required for parking shall be located so as to minimize the impact of building bulk wherever possible. The structures shall be articulated into smaller volumes so that long uninterrupted faces are avoided. Structures shall be designed so that only level slabs occur at the exterior, sloping ramps may only occur at interior bays of the buildings. Incorporating first level campus support facilities such as convenience stores or bookstores as buffers to create pedestrian character is strongly encouraged. Parking shall be screened by the design of the structure's skin and landscaping.

Policy 5.1.3 UNIVERSITY-WIDE:

Surface Parking: Florida International University shall screen all surface parking areas by means of adequate landscaping. Signage and graphics shall be provided to orient people to their relative location on campus.

Objective 6.1

Design Review (UNIVERSITY-WIDE)

Create and monitor conformance of future design projects with referenced standards through University design review procedures.

Policy 6.1.1 Design Review Procedures

Design of future projects shall be receive a formal review for compliance with standards for new construction. The University President should appoint a design review committee for the purpose of formalizing acceptance of each new project. Review shall occur after University facilities staff has assessed the project for programmatic and design compliance. The architect for each project shall present the design including all proposed finishes so that comments and approvals can be obtained from the committee. The committee shall review the siting, landscape improvements and signage as well as the architecture and interior improvements proposed. The committee should have the ability to overrule certain guidelines if the proposed change in the guidelines creates a better result, or in the case that the committee is reviewing a special or monumental project.

16.0 LANDSCAPE DESIGN GUIDELINES ELEMENT

In campus planning, design professionals, specializing in landscape architecture, whose focus is the outdoors, must be sensitive to transitions from building to open space, the need for common areas and the protection of special features. These design professionals must also be able to use plant and building materials and site furniture to enhance the use of the outdoors for study, relaxation, contemplation, socializing and entertainment.

The purpose of Landscape Design Guidelines is to provide the campuses of Florida International University with a template for landscape as well as hardscape treatments to maintain a high level of quality to the design of new spaces and to the enhancement of existing landscaped areas. This also involves the embellishment of existing open space and gathering areas and the creation of new spaces. It is the intent of the Landscape Design Guideline Element to provide an overall landscape concept, which unifies each campus with its built environment and its unique natural environment.

Hierarchy of spaces is identified and main circulation routes are reinforced with identifiable landscape treatments. New pedestrian corridors will be identified, linking unique academic cores within the campus, creating way-finding alternatives and new activity areas. The overall character of the FIU campus is transformed to a more traditional institutional landscape by defining various spaces with a developed plant palette, using the following guiding principles:

- Blending new development sites with the character of the mature campus landscapes and other natural areas by retaining islands of natural vegetation in new development areas and creating new and similar vegetative buffers which soften building facades and site facilities.
- Integrating and articulating architectural and site design in conjunction with landscape architectural design in the planning process to ensure that attractive settings and ample open spaces are provided for new facilities.
- Seeking to develop new significant landscape features in association with campus expansion, including campus greens; attractive, creatively designed retention ponds; and pedestrian plazas which support the concept of the “Avenue of the Arts” and “Avenue of the Professions”, fundamental to the University’s total Master Plan.
- Continuing the initial style and character of the original campus plantings with emphasis on transitioning and reflecting the natural formation of plantings.
- Maintaining a selective palette of indigenous and site-adaptive plant species that continue the tropical environment as well as those plants that promote Xeriscape principles.

- Creating a sense of arrival at campus entrances and at the primary entrances to the Campus Core with accent plantings of subtropical plant species.

16.0 LANDSCAPE DESIGN GUIDELINES ELEMENT

GOAL 1: Create high quality, environmentally sound campus landscape settings which afford outdoor comfort, security, and a rich visual quality, exemplifying the uniqueness and diversity of South Florida's subtropical environments.

Objective 1.1 Landscape Concept Plans: Implement Landscape Concept Plans for the University Park, Engineering Center and Biscayne Bay Campus, depicted in Figure 16.1 and 16.2. In the event that provisions contained in the Concept Plans conflicts with provisions contained in the adopted Campus Master Plan then the Master Plan shall prevail and control.

Policy 1.1.1 UNIVERSITY-WIDE:

Reinforce the critical elements of the spatial organization defined in the Master Plan by developing an institutional landscape character for the areas outlined on the Landscape Concept Plans. This distinctive landscape can be characterized by:

- Limited plant palette of subtropical foliage plants in selected areas, contrasting with the predominant use of native materials.
- Use of trees of like species in large groups and masses.
- Selective removal or relocation of existing trees to allow spatial definition.
- Limited use of shrubs, hedges and ground covers.
- Diverse use of plant types characteristic of South Florida plant materials consisting of evergreen and flowering trees, canopy and accent palms and modest plantings of accent shrubs and groundcovers.

Policy 1.1.2 Develop the campus landscape outside of the institutional zone with the following criteria:

- Plant palette of indigenous plant material selected for availability and maintenance requirements.
- Plant selection within a designed context, should recognize importance of 'diversity' of the campus as a living laboratory of many University departments.
- Use of plants in informal groupings
- Simplicity of design ensured by limited use of shrub species and shrub masses.

- Policy 1.1.3 Locate all future buildings to define the open spaces depicted in the adopted Campus Master Plan.
- Policy 1.1.4 Provide a continuous tree canopy as appropriate in all surface parking lots and sufficiently screen all surface parking areas.
- Policy 1.1.5 Enhance landscape in existing housing areas, provide foundation plantings to incorporate a full range of the general campus plant palette; i.e., ground cover, shrubs, flowering trees, palms and shade trees.
- Policy 1.1.6 Prior to construction, relocate and incorporate existing valuable plant material in the areas of future construction and development.
- Policy 1.1.7 Emergency access facilities shall be kept clear of any impeding landscape.
- Policy 1.1.8 Screen all trash collection facilities from pedestrian or vehicular traffic with either a fence or wall consistent with architectural guidelines or evergreen plant material.
- Policy 1.1.9 Screen maintenance facilities from pedestrian and vehicular traffic with a fence, wall or evergreen plant material.
- Policy 1.1.10 UNIVERSITY PARK:
Reinforce and improve circulation hierarchy by developing distinct, identifiable landscape treatments for each road type, intersections and pedestrian circulation hierarchy.
1. Entrances:
8th Street - Expand use of oaks along street front to increase this primary entrance's impact.

107th Street - Expand use of oaks along street front to increase this primary entrance's impact.
SW 117th Street - Use same plant palette as 107th Street with formal arrangement scaled down for this secondary entrance.

SW 17th Street - Use same plant palette as 9th Street with formal arrangement scaled down for this secondary entrance.
 2. Primary Loop Road: Continue established 'boulevard' treatment with oaks for incompleeted areas.
 3. Secondary Roads: Use of alternative street trees with an

irregular spacing will contrast with Loop Road.

4. Major Intersections: Entrances/Loop Road - A consistent landscape treatment, highlighted with palms, will provide a visual clue to help orientate drivers and reinforce roadway hierarchy.
5. Pedestrian Hierarchy:
Major spine -- Border both sides with a double row of shade trees
Secondary -- Border both sides with a single row of shade trees
Tertiary -- Paths to be integrated with general campus landscape

Policy 1.1.11 Reinforce, integrate and improve existing and proposed landscape malls and courtyards as a defined sequence of unique landscapes.

1. Informal Malls -- Define the edges of these spaces with a selected 'institutional' tree. Develop interior as a garden esque landscape, minimize exaggerated earth mounding.
2. Informal Courtyards -- Courtyards with existing water bodies. The spaces will be clearly defined by the surrounding buildings. Enhance a strong theme for the Engineering/Computer Science courtyard and develop in an institutional manner.
3. Formal Courtyards -- located along major pedestrian spine. Create memorable, institutional spaces, using a formal landscape character. Enhance and develop the courtyard for Chemistry and Physics.

Policy 1.1.12 Incorporate within the general campus landscape area, appropriate theme gardens and natural habitats as an opportunity for botanical and environmental education and as campus amenities.

Policy 1.1.13 Create a new "signature campus gateway" at the corner of 107th Avenue and SW 8th Street.

Policy 1.1.14 Improve the integration of existing, enlarged and new stormwater retention areas as landscape enhancement elements.

Policy 1.1.15 Maintain and protect from encroachment the existing natural preserve and island adjacent to SW 8th Street. Continue to enhance perimeter natural landscape buffer along 8th Street.

Policy 1.1.16 Develop SW 107th Ave. edge with an edge to buffer developed areas adjacent to road.

Policy 1.1.17 ENGINEERING CENTER:

Create a new site entry feature at West Flagler Street for vehicular and pedestrian access. Embellish this entry with an 'institutional' landscape treatment which can be incorporated in some form for all significant campus entrances.

Policy 1.1.18 Create pedestrian corridors and access points into a central mall between the existing facility and new classroom for gathering areas.

Policy 1.1.19 BISCAYNE BAY CAMPUS:

Create a University entry feature at the intersection of US1 and NE 151st St. with an 'institutional' landscape treatment which can be incorporated in some form for all significant campus entrances.

Policy 1.1.20 Reinforce and improve circulation hierarchy by developing distinct identifiable landscape treatment for each road type and pedestrian circulation

1. Entrance Roads: border both sides of roads with oaks or Royal Palms at a regular interval.
2. Secondary Roads: contrast with entrance roads, establish native plantings of indigenous plant material.
3. Major Pedestrian Spine: connects campus core to future housing and academic facilities and to Kovens Center. Develop as a pedestrian street with special pavement, site furnishings, pedestrian lighting and an allee of shade trees.

Policy 1.1.21 Maintain a continuous open space "green zone" along the Bayfront and create a pedestrian promenade at its edge.

Policy 1.1.22 Reinforce, integrate and improve existing and proposed landscape quadrangles as defined sequence of unique landscapes.

1. Central Quadrangle -- Accentuate memorable spaces with formal plantings of flowering trees or canopy palms.
2. Informal Quadrangle -- define edge with 'institutional' flowering trees to frame informal interior space. Maintain views to bay.
3. Plazas -- Create and develop additional plazas with rich visual

quality and amenities. Soften plaza pavements adjacent to Academic One and Academic Two with generous shaded plantings, related site furnishings and special pavings.

Objective 1.2

Plant Materials:

Modify and adopt a revised plant materials list upon Master Plan adoption, eliminating use of invasive exotic species and those which necessitate excessive maintenance; and adding species appropriate to "institutional" settings.

Policy 1.2.1 UNIVERSITY-WIDE:

To the degree possible, landscape plans shall include the use of plant species that are indigenous to the native plant communities of the South Florida area. Selection of native species should be based on the desired plant form and use, tolerance of existing site conditions, compatibility with other indigenous species and sustainability of the landscape. Indigenous species shall be encouraged to promote water conservation, to reduce maintenance considerations and to ensure a sustainable landscape. The appropriate selection of native plant species shall be based on their desired size, form, texture and color in the landscape and their positive response to localized environmental conditions including available light levels and soil moisture. In cases where non-invasive exotic plants are to be used to enhance the landscape, plantings should be limited to those non-invasive species that are able to resist periods of drought and which require little fertilization and use of pesticides.

Policy 1.2.2 Monitor conformance of future construction projects with revised plant lists through University design review procedures.

Policy 1.2.3 It is the intent of FIU to remove all non-native plants (whether grasses, shrubs or trees) which are identified in the Exotic Pest Plant Council's "Florida's Most Invasive Species List" from the campus grounds. As these species are located on campus, FIU shall coordinate with the Florida Department of Environmental Protection (FDEP) and other appropriate governmental entities to ensure the proper removal and disposal of these exotic species.

Policy 1.2.4 Fire dependent plant communities in campus natural areas shall be prescribed burned at appropriate intervals.

Objective 1.3 Furnishings, Lighting and Graphics: Adopt standards for furnishings, lighting fixtures and graphics depicted.

Policy 1.3.1 UNIVERSITY-WIDE:
FIU Facilities Management shall identify projects which may enhance campus safety and handicapped accessibility. Prioritize projects according to the following elements: 1) removal of barriers, 2) visibility, 3) enhanced lighting, 4) pedestrian/vehicular conflict.

Policy 1.3.2 Identify coordinated site furnishings, lighting fixtures, campus signage and graphic system with manufacture and model numbers from selected materials used on campus and other acceptable products. As existing furnishings and lighting becomes unusable replace with new furnishings according to approved University standards.

Policy 1.3.3 FIU follow the design review procedures established in 15.0 Architectural Design Guidelines Element to ensure the coordination of the landscape, furnishings and graphics on the campus in accordance with the guidelines.

Policy 1.3.4 FIU Facilities Management shall conduct a study to establish areas of deficiency. Future bicycle facilities shall use one selected type of bicycle rack consistently with adequate adjacent pavement to accommodate bicycle traffic and under cover if possible. Plantings shall be kept away from area a sufficient distance to allow for bicycle maneuverability.

Policy 1.3.5 Public transportation facilities shall be consistent with Architectural Guidelines. They should be sited to allow visibility and ease of access for both vehicular and pedestrian traffic. Landscape treatment of facilities should provide shade if not provided by shelter.

Objective 1.4 Adopt standards for campus edge treatments as depicted in Figures 16.1, 16.2 and 16.3.

Policy 1.4.1 UNIVERSITY PARK:
Continue to enhance University Park edges along S.W. 8th Street, S.W. 107th avenue, S.W. 117th Street and the Miami-Dade County Fair and Exposition and create a "gateway" landscape feature at 107th Avenue and S.W. 8th Street.

Policy 1.4.2 ENGINEERING CENTER:
Use native plant materials to landscape a natural open space_buffer along SW 107th Avenue and West Flagler Street, creating a

“gateway” landscape feature at the intersection of these two roadways.

Policy 1.4.3 Create a tropical landscape pedestrian promenade at the new front entrance at West Flagler Street from the parking lots to the new classroom facility.

Policy 1.4.4 BISCAYNE BAY CAMPUS:
Modify and enhance Biscayne Bay Campus "entrance" on Biscayne Boulevard, create a tropical landscape pedestrian promenade along the Biscayne Bay waterfront, and develop a natural buffer between parking lots and NE 151st St.

Policy 1.4.5 Buffer parking areas from Bay Vista Boulevard.

Policy 1.4.6 Create, preserve and enhance views to Biscayne Bay.

Objective 1.5 Retention/Stormwater Elements: Adopt standards for landscape edge treatments surrounding ponds, lakes and stormwater features as depicted in Figure 16.5.

Policy 1.5.1 UNIVERSITY-WIDE:
Consistent with regulatory requirements, plant native wetland littoral vegetation along gradually sloping banks of lakes and water features located wherever appropriate.

Policy 1.5.2 Consistent with regulatory requirements, provide where necessary "hard edge" pedestrian treatments of water bodies in intensely developed areas.

Policy 1.5.3 FIU shall follow the design review procedures established in 15.0 Architectural Design Guidelines Element to ensure conformance of future construction projects with referenced standards.

Objective 1.6 Phasing: Implement landscape improvements in three phases, consistent with the scheduling of new academic and support buildings to which landscape improvement components will be allocated.

Policy 1.6.1 UNIVERSITY-WIDE:
FIU Facilities Management should establish administrative and budgeting procedures to insure the inclusion of landscape features identified in the objectives in the project budgets developed for future campus construction.

Policy 1.6.2 Implement the landscape concept plan by allocating each future and

existing building a proportional share of overall planned landscape improvement cost.

Policy 1.6.3 Apply the following descending priorities for implementing components of the Landscape Concept Plan.

UNIVERSITY PARK:

- Priority 1 Enhance and Preserve Pedestrian Hierarchy Landscape
- Priority 2 Develop and Reinforce with Landscaping a Pedestrian Spine Between Wertheim Performing Arts Center and Graham Center, and a Visual Corridor Between the SW 107th Street Campus Entrance and the Proposed Recreation Center
- Priority 3 Develop a Significant Corner Landscape Feature With an Urban Character
- Priority 4 Enhance and Develop Plantings at University Park Apartments and Other Residential Facilities
- Priority 5 Improve Parking Lot Tree Canopy
- Priority 6 Improve Edge Landscape Including SW 17th Street and SW 117th Avenue
- Priority 7 Complete Loop Road Landscaping.

ENGINEERING CENTER:

- Priority 1 Develop a new main entrance on West Flagler Street.
- Priority 2 Create a vegetative buffer along West Flagler Street and SW 107th Avenue, with a signature landscaped feature and signage at the southwest intersection of these roadways.
- Priority 3 Develop pedestrian corridors from the parking lots to the facility, incorporating a continuity of design to accommodate new construction.
- Priority 4 Create a central mall between existing and new facilities for pedestrians, incorporating landscape and hardscape elements.

BISCAYNE BAY CAMPUS:

- Priority 1 Develop a pedestrian promenade between the campus core and Kovens Center.
- Priority 2 Preserve, maintain and enhance an open greenway along Biscayne Bay.
- Priority 3 Buffer existing Parking Lots from Bay Vista Boulevard.
- Priority 4 Preserve and enhance views to Biscayne Bay from Bay Vista Boulevard.
- Priority 5 Develop new plazas and enhance existing plazas with rich visual quality, amenities and generous landscaping.

- Policy 1.6.4 UNIVERSITY-WIDE:
By 2009-10 establish policies and procedures to retain landscape architects for campus buildings, for the design and implementation of components of the Landscape Concept Plan.
- Policy 1.6.5 By 2009-10 establish policies and procedures to seek separate funding mechanisms and revenue sources specifically targeted for landscape improvements.
- Policy 1.6.6 By 2009-10 complete a campus wide analysis to document handicapped conflicts and constraints imposed by landscape features.
- Policy 1.6.7 Revise landscape implementation priorities to ensure elimination of documented handicapped conflicts and constraints imposed by landscape features.



UNIVERSITY PARK

- ATHLETICS ACADEMIC FITNESS CENTER (26)
- BASEBALL STADIUM (15)
- TOWER (24)
- DUPLICATION CENTER (C25)
- CHILDREN'S CREATIVE LEARNING CENTER (27)
- CARLOS FINLAY ELEMENTARY SCHOOL (28)
- COLLEGE OF HEALTH (10)
- CHEMISTRY & PHYSICS (49)
- SCHOOL OF ARCHITECTURE (34)

- CAMPUS SUPPORT COMPLEX (22)
- CENTRAL UTILITIES (04A)
- DIXIEHUE MANSION (23)
- ENGINEERING & COMPUTER SCIENCES (06)
- FIU COMMUNITY STADIUM (27)
- EARNEST R. GRAHAM CENTER (03)
- STEVE & DOROTHEA GREEN LIBRARY (05)
- GOLDEN PANTHER ARENA (07)

- STUDENT HEALTH & WELLNESS CENTER (12)
- LABOR CENTER (13)
- GRADUATE SCHOOL OF BUSINESS (30)
- NATIONAL HIBISCUS CENTER (41)
- OWA BEAN (06)
- CHARLES E. FERRY PRIMERIA CASA (00)
- PARKING GARAGE (P1-P6)
- PANTHER RESIDENCE HALL (19)

- RYDER BUSINESS BUILDING (11)
- FUTURE DEVELOPMENT (45A-45B)
- STUDENT HOUSING (08)
- UNIVERSITY TOWERS (09A)
- WERTHEIM CONSERVATORY (06A)
- VIKETES HAUS (04)
- HERBERT & NICOLE WERTHEIM PERFORMING ARTS CENTER (04)
- SANFORD & DOLORES ZIFF EDUCATION BUILDING (04)
- UNIVERSITY HOUSE (22)

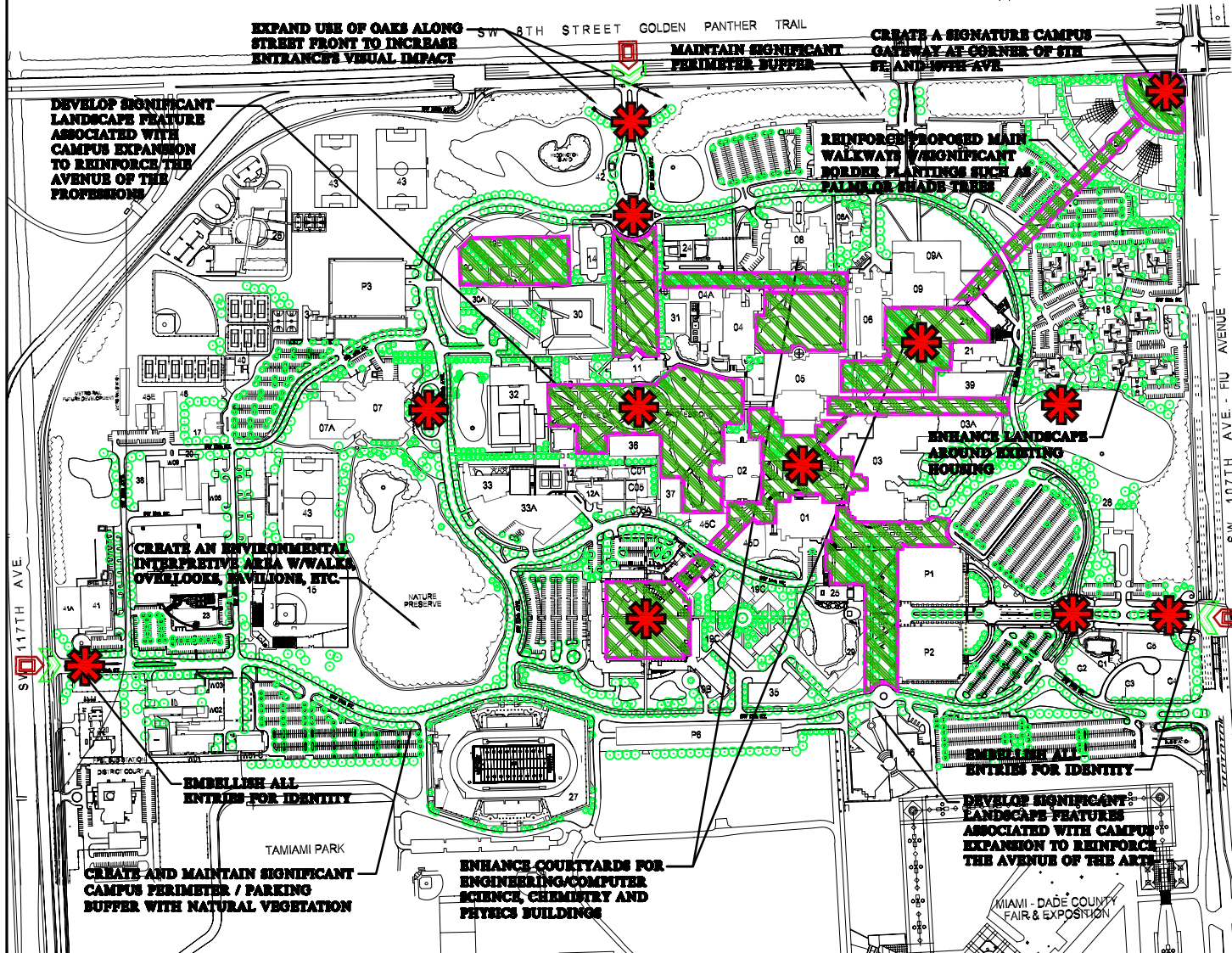


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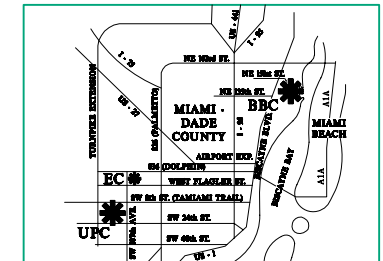
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LANDSCAPE DESIGN CONCEPT PLAN

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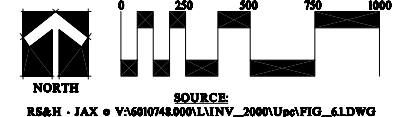
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- SIGNIFICANT CAMPUS SPACES
- FOCAL LANDSCAPE OPPORTUNITIES

KEY MAP



FINAL MASTER PLAN FLORIDA INTERNATIONAL UNIVERSITY MIAMI, FLORIDA

DATE: OCTOBER 2003





ENGINEERING CENTER

- ENGINEERING & APPLIED SCIENCES (00)
- OPERATIONS / UTILITIES (02)
- PLANNED OR UNDER CONST. (03)
- FUTURE DEVELOPMENT (04)
- FUTURE DEVELOPMENT (05)



FIGURE NUMBER

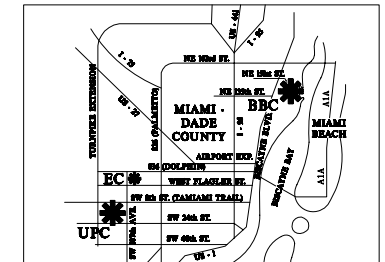
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LANDSCAPE DESIGN CONCEPT PLAN

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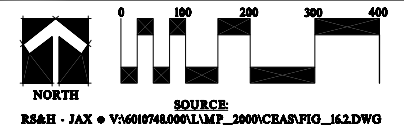
- ENTRANCES
- SIGNIFICANT CAMPUS SPACES
- FOCAL LANDSCAPE OPPORTUNITIES

KEY MAP



FINAL MASTER PLAN
FLORIDA
INTERNATIONAL
UNIVERSITY
MIAMI, FLORIDA

DATE: OCTOBER 2003





BISCAYNE BAY CAMPUS

- ACADEMIC ONE (02)
- ACADEMIC TWO (04)
- AQUATIC CENTER (01A)
- BAY VISTA HOUSING (H1)
- HOTEL (04)
- HOSPITALITY MANAGEMENT (01)

- CONFERENCE CENTER (07)
- LIBRARY (05)
- ACADEMIC THREE - MARINE Bldg. (3)
- ACADEMIC FOUR (12)
- HOUSING (15)
- INFORMATION CENTER (06)

- ECOLOGY LAB (27)
- FUTURE DEVELOPMENT - A (29A)
- FUTURE DEVELOPMENT - B (29B)
- RECREATION FIELDS (43)
- PDC / HRS ADMINISTRATION (20)
- SUPPORT / CENTRAL RECEIVING (22)

- SUPPORT / PUBLIC SAFETY (29)
- SUPPORT / PHYSICAL PLANT (24)
- SUPPORT / GROUND (25)
- STUDENT HEALTH CENTER (04-06A)
- WELLNESS CENTER (21)
- WOLFE UNIVERSITY CENTER (03-03A)

IMPROVE THE IMAGE OF STUDENT HOUSING WITH ENHANCED LANDSCAPE AND SITE FURNISHINGS

ACCENTUATE CAMPUS ENTRY POINT

IMPROVE PLAZA WITH ADDITIONAL TREE CANOPY, SPECIAL PAVEMENTS, SITE FURNISHINGS AND AMENITIES

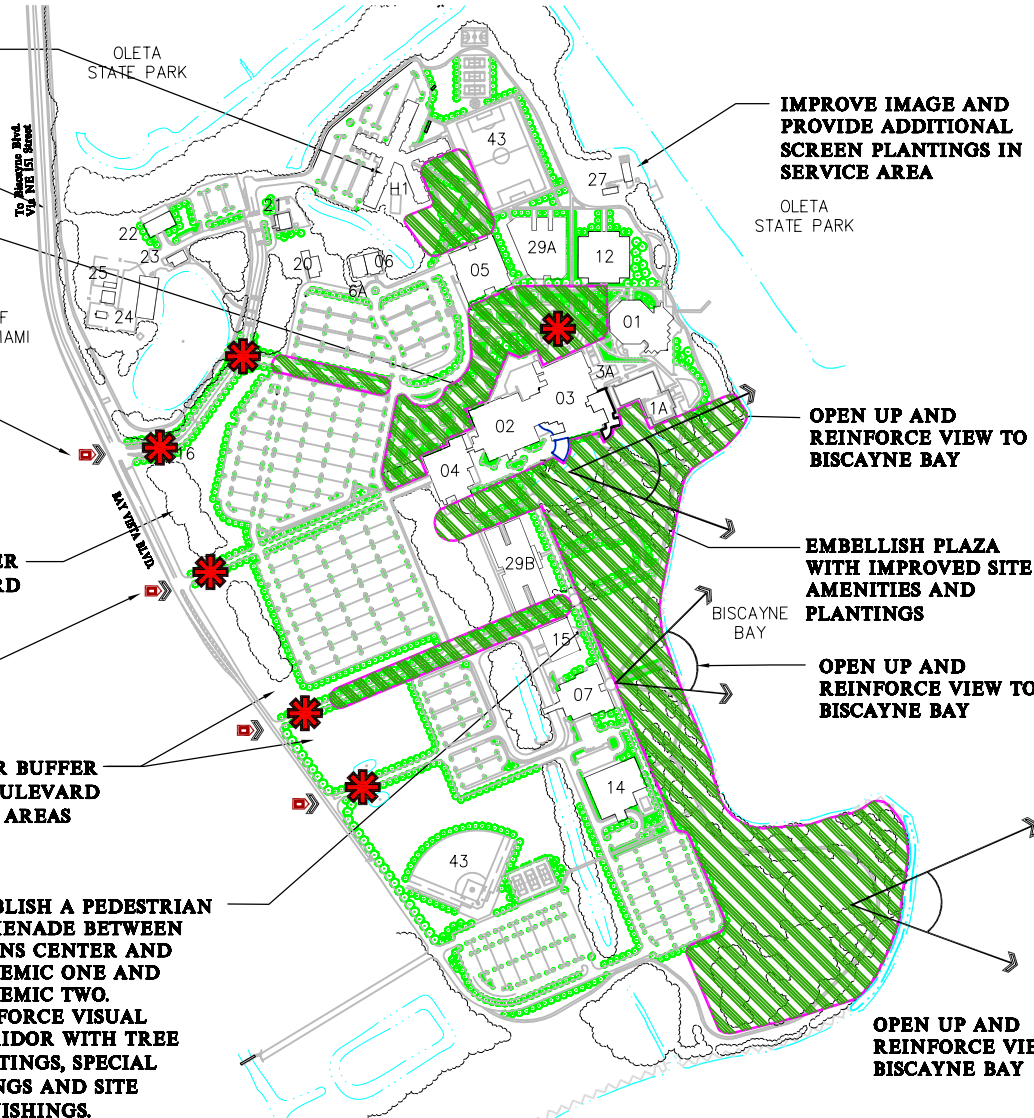
CREATE A SENSE OF ARRIVAL FOR THIS CAMPUS ENTRANCE WITH ENHANCED SIGNAGE AND LANDSCAPING

CREATE A PERIMETER BUFFER ALONG BAY VISTA BOULEVARD TO SCREEN PARKING AREAS

ACCENTUATE PARKING ENTRANCE WITH TREE PLANTINGS

CREATE A PERIMETER BUFFER ALONG BAY VISTA BOULEVARD TO SCREEN PARKING AREAS

ESTABLISH A PEDESTRIAN PROMENADE BETWEEN COVENS CENTER AND ACADEMIC ONE AND ACADEMIC TWO. REINFORCE VISUAL CORRIDOR WITH TREE PLANTINGS, SPECIAL PAVINGS AND SITE FURNISHINGS.



IMPROVE IMAGE AND PROVIDE ADDITIONAL SCREEN PLANTINGS IN SERVICE AREA

OPEN UP AND REINFORCE VIEW TO BISCAYNE BAY

EMBELLISH PLAZA WITH IMPROVED SITE AMENITIES AND PLANTINGS

OPEN UP AND REINFORCE VIEW TO BISCAYNE BAY

OPEN UP AND REINFORCE VIEW BISCAYNE BAY

FIGURE NUMBER

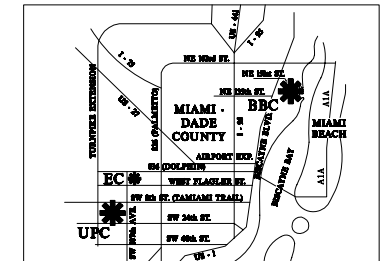
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LANDSCAPE DESIGN CONCEPT PLAN

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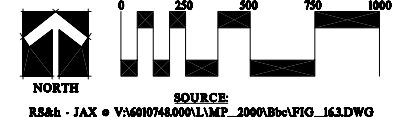
- ENTRANCES
- SIGNIFICANT CAMPUS SPACES
- FOCAL LANDSCAPE OPPORTUNITIES

KEY MAP



FINAL MASTER PLAN
FLORIDA
INTERNATIONAL
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MIAMI, FLORIDA

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17.0 FACILITIES MAINTENANCE ELEMENT

Florida International University presently lacks the integrated Facility Maintenance Program as described in the Campus Master Plan Guideline. At present priorities are assigned to address facility deficiencies based on explicit criteria and standards, with implementation limited by funding availability. Due largely to the lack of sufficient funding to correct even all high priority deficiencies, the University lacks a deferred or preventative maintenance system with appropriate schedules and budgets for routine maintenance. The Goals, Objectives and Policies below are aimed at documenting present procedures, while mandating an expansion of the facility maintenance program with an emphasis on long term scheduling of routine, preventive and deferred maintenance.

17.0 FACILITIES MAINTENANCE ELEMENT

GOAL 1: Provide for the timely and cost effective maintenance of campus facilities and plan future facilities having high levels of efficiency and limited maintenance requirements.

Objective 1.1 Building Element Performance:

Utilize building materials, finishes and systems which are durable, reliable and which require limited maintenance in accordance with Association of Physical Plant Administrators Guidelines.

Policy 1.1.1 On future facilities apply the following guidelines for exterior building elements.

Ground Level - Utilize durable, weather-resistant, climate-appropriate materials including unpainted concrete masonry, natural stone (keystone) and like materials which require only periodic pressure cleaning. Use of stucco, wood and other materials in active pedestrian areas which require high levels of maintenance, frequent painting or which are subject to deterioration is discouraged.

Upper Levels - Exposed concrete masonry, masonry panels are preferred. smooth finish stucco requiring painting no more often than every five years is acceptable.

Policy 1.1.2 Provide interior building materials which have a level of durability, security and sound attenuation appropriate to projected levels of use and wear, using commonly accepted maintenance practices as follows:

High Use Areas

Utilize hard surface, impervious surfaces such as ceramic tile and pavers on floors and base walls.

Low-Moderate Use Areas

Utilize vinyl tile coupled with appropriate acoustical ceiling treatments in moderate use areas such as classrooms, labs and hallways. Limit use of durable commercial grade carpet to low use areas such as offices, faculty lounges and conference rooms.

Walls should be high grade durable semi-gloss paint on drywall or plaster partitions. All trim should be color-integrated materials.

Policy 1.1.3 Provide durable, easily accessible, low maintenance and high energy efficiency mechanical and electrical systems, appropriate to local climatic (high humidity) conditions. Special standards shall apply to the control of moisture related facility deterioration problems. Provide high output, low energy lighting systems with appropriate color renditions. Maximize system and component standardization to facilitate ease of operations, maintenance and replacement.

Policy 1.1.4 Revise the preceding building element standards as part of the 1996 Facility Maintenance Program.

Objective 1.2 Facility Use and Capacity:

Manage facility utilization efficiency so as to minimize use conflicts, overcrowding and retrofit costs.

Policy 1.2.1 Apply DOE Guideline 6A-2 to all proposed facility use modifications to ensure optimum facility utilization.

Policy 1.2.2 Limit facility use changes which involve uses with significantly different operational, spatial or mechanical requirements (e.g. conversion of classrooms to laboratories, etc.)

Objective 1.3

Facility Maintenance Program:

Establish a Comprehensive Facility Maintenance Program, building on the current Facility Deficiency Report and related surveys of facility conditions, capacities and code compliance.

Policy 1.3.1 Until the development of a complete Facility Maintenance Program in 1996 continue present facility maintenance procedures consisting of annual application of criteria for prioritization contained in this document to the deficiencies identified in the data sources identified below for annual inclusion in the 5 year CIP based on available resources.

- Building Deficiency Survey
- Housing Deficiency Survey
- Life Safety (Fire Marshall) Reports
- Handicapped Accessibility (ADA) Reports
- Hazardous Materials Reports (Law Engineering)
- Roof Management Reports (Garland)

Policy 1.3.2 Expand and annually update the facility deficiency reporting system, including the data sources to include:

- ADA Compliance
- Conformance with Guideline 6A-2
- Potential for adaptive re-use
- Hazardous materials inventory
- Auxiliary and student services buildings
- Grounds maintenance needs (based on xeriscape principles)
- Short and long range cost projections.

Policy 1.3.3 Priorities for the remediation of facility deficiencies shall be assigned based on the following criteria in descending order of importance.

- Emergency life-safety or plant-safety items
- Previously initiated uncompleted projects
- Threatening life-safety items.
- Handicapped access corrections required by state law or ADA
- Threatening plant-safety items
- Critical needs for maintaining operations
- Expansion needs critical to University objectives
- New program or operations improvements

Policy 1.3.4 Utilize and expand upon the facility deficiency reporting system data base to develop a Facility Maintenance Program by 1996, composed of the following elements:

- Standards for the assessment of facility utilization and conditions.
- Priorities for maintenance and improvement projects which emphasize factors of safety, handicapped accessibility, operational efficiency and long term cost effectiveness.
- Process for the periodic review of facility utilization capacity and the identification of re-use potentials.
- Schedule and budget for routine and deferred maintenance and elimination of deficiencies among all facilities with annual maintenance cost projections.

Policy 1.3.5 Establish a deferred preventative and maintenance schedule,

consistent with projected funding, incorporated in the Facility Maintenance Program.

Policy 1.3.6 The review process for the use and capacity of buildings shall consist of the following elements:

- (a) Classroom-Laboratory utilization reports shall be prepared by the Board of Education Division of Colleges and Universities annually for use by Institutional Research and Space and Scheduling units of Academic Affairs in preparing class assignments.
- (b) The FIU Space Committee shall meet, at minimum, monthly to review and act upon space and change in use requests submitted by department heads.

Objective 1.4 Maintenance Funding:

Ensure the availability of sufficient funding and other resources to support projected facility maintenance requirements.

Policy 1.4.1 Incorporate within building construction programs and funding requests projected life cycle maintenance expenses to be held in a maintenance endowment account.

Policy 1.4.2 Establish a maintenance endowment account for existing buildings through a Board of Education Division of Colleges and Universities legislative grant in an amount to be determined as part of the Facilities Maintenance Program.

Policy 1.4.3 Based on the Facilities Maintenance Program analysis and application of the Texas Higher Education Coordinating Board Model, re-evaluate and revise maintenance cost formulas to reflect actual resources necessary to prevent building condition deterioration.

18.0 COASTAL MANAGEMENT ELEMENT

Few university campuses nationwide are located in the type of sub-tropical, coastal setting in which Biscayne Bay Campus of Florida International University is found. The coastal environment, however, offers many challenges to the Master Planning process. The challenges include determining how one may take advantage of the amenities offered by the coastal setting, while limiting the vulnerability of the campus to hurricanes, tropical storms and flooding, and at the same time protecting and enhancing important natural resources (see 13.0 Conservation Element Figures 13.1 and 13.2).

Recent legislative changes, however, require the State University System to assess existing facilities to identify the extent to which each campus has public shelter space adequate to house those students, faculty, and employees expected to seek public shelter prior to or during a disaster and those persons for which the campus has agreed with the local emergency management agency or other voluntary organization to provide shelter space. The State University System is also required to survey existing university facilities to determine those that are appropriately designed and located to serve as shelters. The goals, objectives and policies contained in this element are designed to establish the framework for meeting these requirements.

18.0 COASTAL MANAGEMENT ELEMENT

GOAL 1: The University shall manage its development activities so as to protect, conserve and maintain coastal and estuarine resources on the University property at Biscayne Bay Campus.

Objective 1.1 Implementation and Management of Coastal and Estuarine Resource Policies:
Implement and manage coastal and estuarine resource policies through the formation and support of a Natural Resources Protection and Management Committee.

Policy 1.1.1 The University shall form a Natural Resources Protection and Management Committee (The "Committee"). It shall be the task of the Committee to oversee the implementation of the coastal resource management policies defined in the Conservation and Coastal Management Elements of this Master Plan. It shall also be the task of the Committee to review these policies and, if necessary, prepare any necessary additional policies, guidelines, procedures and implementation schedules within one year of the adoption of the Master Plan. The adopted Master Plan shall be amended as necessary to incorporate those guidelines, procedures and implementation schedules. The University shall provide a staff person to serve as Environmental Coordinator to manage the

activities of the Natural Resources Protection and Management Committee. The Environmental Coordinator shall periodically review proposed University improvements and activities to ensure University compliance with the policies defined in the Conservation and Coastal Management Elements of this Master Plan. The Environmental Coordinator shall also periodically review host community, state and federal conservation and coastal management policies to ensure University compliance with these policies.

Objective 1.2 Protection and Maintenance of Coastal and Estuarine Resources:
Maintain and protect coastal and estuarine resources on the University property.

- Policy 1.2.1 The University shall undertake a binding jurisdictional determination of those areas identified as potentially jurisdictional wetlands in the Inventory and Analysis Document. Determination of jurisdictional wetlands status should be done prior to the commencement of any clearing or building activities in these areas. FIU will obtain and comply with all required local, state and federal permits prior to any work in wetlands or tidal waters, or prior to trimming or altering mangroves.
- Policy 1.2.2 Protect and enhance shallow-water communities and seagrass beds in the waters of Biscayne Bay fronting Biscayne Bay Campus by reducing the impacts of stormwater runoff to these areas.
- Policy 1.2.3 The Committee shall evaluate any proposed changes to the siting of buildings or other University improvements to determine whether such changes are in compliance with regulations governing jurisdictional wetlands. The adopted Master Plan shall be amended as necessary to incorporate the findings and recommendations of the Committee. FIU shall not site or plan any non-water dependent fixed or floating structures in coastal wetlands or tidal waters, such facilities will be located on upland areas.
- Policy 1.2.4 The University shall monitor the water quality of the lakes, canals and mangrove areas on each campus on a quarterly basis. Should the water quality of the water in the water bodies fall below the standards set by the State of Florida Department of Environmental Protection, the Miami-Dade County Department of Environmental Resources Management, the South Florida Water Management District, and the U.S. Environmental Protection Agency, an assessment of probable causes of pollution shall be performed and a plan developed and implemented to eliminate the point and

non-point sources of pollution.

- Policy 1.2.5 To reduce possible negative impacts on manatees and to limit the effects of wave action on the physical properties of the estuary, FIU will request the Florida Fish and Wildlife Conservation Commission require the current regulation be more restrictive to increase its level of enforcement.
- Policy 1.2.6 Prior to construction of facilities that border the coastal and estuarine habitats, engineering and design analyses shall be performed to ensure that facilities will not contribute polluted run-off into those habitats.
- Policy 1.2.7 To protect the mangroves, designate and post the mangrove-lined canals in the northern and southern portions of campus as restricted-access or no-access areas. FIU will avoid and minimize trimming or alteration of any mangroves and shall obtain required local, state and federal permits prior to trimming or altering mangroves.
- Policy 1.2.8 Future development activity, except for pathways and landscape improvements, shall occur no closer than 100 feet from any Biscayne Bay shoreline.
- Policy 1.2.9 The University shall not engage in water management practices that result in significant or permanent draw-down of the water table.
- Policy 1.2.10 Structures, roadways and paths shall be designed so as not to interfere with the proper drainage of water to estuarine and coastal habitats. Where necessary, structures shall be used to maintain drainage into estuarine and coastal habitats.
- Policy 1.2.11 FIU will comply with recommendations in the state-approved Miami-Dade County Protection Plan where feasible.

**Objective 1.3 Protection and Restoration of Beach, Beach Strand and Dune Systems:
Restore beaches, beach strand and dune systems and protect them from the impacts of development.**

- Policy 1.3.1 To ensure that the placement of buildings and infrastructure does not encroach on shoreline areas such as the beach strand, no future buildings or infrastructure shall be built within 100 feet of shoreline areas or beach strand vegetation.
- Policy 1.3.2 Post signs instructing beach visitors not to remove or destroy the

beach strand or other native vegetation.

- Policy 1.3.3 The University shall only allow the use of designated areas for boat docking, and shall prohibit such use from the areas with beach strand vegetation.
- Policy 1.3.4 FIU will encourage managed access to the shoreline that is compatible with protection of wetland and aquatic vegetation and sensitive marine resources.
- Policy 1.3.5 Ensure that new construction and operation of campus facilities does not alter the hydrologic regime needed to maintain beaches, beach strand or dunes.
- Policy 1.3.6 As an element of landscape and pedestrian access improvements to open spaces along the Biscayne Bay shoreline, existing native beach strand vegetation shall be protected and enhanced. Native beach strand vegetation shall be used in enhancement plantings in these areas.
- Policy 1.3.7 Monitor existing shoreline stability. As necessary, take the appropriate steps to accomplish the needed stabilization. Native vegetation shall be used to stabilize beaches and dunes.
- Policy 1.3.8 Protect the shoreline stabilization project carried out by Miami-Dade County Department of Environmental Resources Management (DERM) in 1989-1991.

Objective 1.4 Limiting Specific and Cumulative Impacts on Natural Resources:
Restrict University activities so as to limit specific and cumulative impacts of development on natural resources.

- Policy 1.4.1 In order to protect native vegetative communities, the University shall provide for a development buffer of at least 25 feet between native vegetative and any future construction projects, including, but not limited to, the siting of buildings, roadways, pathways and recreation facilities. FIU will endeavor to use visible barriers during construction or maintenance operations to delineate the boundaries of native plant communities and wetlands, where feasible.
- Policy 1.4.2 The University shall maintain a 25-foot minimum buffer zone between future buildings, ancillary facilities and infrastructure and those areas determined to be jurisdictional wetlands (including, but not limited to, mangrove areas).

Policy 1.4.3 The surface water hydrology of on-campus areas determined to be jurisdictional wetlands shall be monitored on a seasonal basis. Resultant hydrologic data will be used to produce a plan to maintain or improve surface water flow into and out of jurisdictional wetlands. Structures, including roadways and walkways, shall be designed so as not to change the surface water flow to wetland areas. FIU will endeavor to use visible barriers during construction or maintenance operations to delineate the boundaries of native plant communities and wetlands, where feasible.

Objective 1.5 Restoration and Enhancement of Coastal Natural Resources
Restore and enhance the coastal natural resources on
Biscayne Bay Campus property.

Policy 1.5.1 The University shall remove invasive exotic plant species from natural vegetation associations and from landscaped areas. Priority shall be given to removing exotic species from those native vegetation associations indicated in Figure 13.2. Initially, efforts shall be focussed on the removal of Brazilian pepper (Schinus terebinthifolius), melaleuca (Melaleuca quinquenervia) and Australian pine (Casuarina equisetifolia). Removal of exotic species shall be carried out in a manner that minimizes impacts to native vegetation associations. Where necessary, areas from which exotic plants have been removed shall be replanted with appropriate native plant species. Removal of exotic species from natural vegetation associations and from landscaped areas shall be carried out quarterly during the first year and yearly thereafter, unless monitoring activities indicate that more frequent removal is warranted.

Policy 1.5.2 To help curtail their further spread into mangrove areas and other natural vegetation associations on campus, the University shall remove large stands of Australian pines (see Figure 13.2 Exotic Vegetation to be cleared and replanted). Removal of Australian pines shall be carried out in a manner that minimizes impacts to native vegetation associations. Areas from which Australian pines have been removed shall be revegetated in a manner consistent with the Landscape Design Element of this Master Plan. The use of native plant species in the landscaping of these areas shall be encouraged. The choice of native plant species shall be consistent with those recommended by the Environmental Studies staff at the University Park, Fairchild Tropical Gardens staff, or other individuals or agencies competent in the selection, use and maintenance of vegetation native to south Florida. Because the removal of Australian pines may result in soil disturbance and provide colonization opportunities for other invasive exotic plants,

replanting of landscape vegetation shall immediately follow the removal of Australian pines. A timetable for removal of Australian pines shall be determined by the Natural Resources Protection and Management Committee within one year of the adoption of the Master Plan.

Policy 1.5.3 Within one year of the adoption of the Master Plan, the Natural Resources Protection and Management Committee shall establish a protocol for monitoring the establishment and spread of invasive exotic plant species. Monitoring activities shall be carried out quarterly. If monitoring activities indicate that invasive exotic species are becoming re-established, exotic plants shall be removed using the methods outlined in 13.0 Conservation Element.

Policy 1.5.4 The University shall use native plant species in restoration and enhancement planting of native vegetative communities. The use of native plant species in general campus landscaping shall be encouraged. The choice of native plant species shall be consistent with those recommended by the Environmental Studies staff at the University Park, Fairchild Tropical Gardens staff, or other individuals or agencies competent in the selection, use and maintenance of vegetation native to south Florida. Where restoration or enhancement planting is instituted, the species chosen shall be those that are naturally found in the particular vegetative community being restored or enhanced. FIU will not use controlled or invasive plant species in landscaping near wetlands or native plant communities.

Policy 1.5.5 The University shall use native plant species in the landscape buffer areas that occur within 25 feet of native vegetative communities. The choice of native plant species shall be consistent with those recommended by the Environmental Studies staff at the University Park, Fairchild Tropical Gardens staff, or other individuals or agencies competent in the selection, use and maintenance of vegetation native to South Florida.

Policy 1.5.6 Encourage DERM to complete the mangrove mitigation project that involves scraping 1.65 acres to an elevation of +1 foot above mean sea level, excavation of drainage channels to a height of 0 feet above mean sea level, and planting of red and black mangroves on 3-foot centers in the areas between the drainage channels.

Objective 1.6 Maintain and Enhance Water Quality in Estuarine and Aquatic Areas:
Maintain and enhance water quality in estuarine and aquatic areas on Biscayne Bay Campus. Also see 13.0 Conservation

Element policies limiting the impacts of campus operational and maintenance activities on the natural environment.

- Policy 1.6.1 To limit negative impacts of campus activities on soils, wetlands, hydrology and hydroperiod, the Committee shall, on an annual basis, review existing and proposed University activities for compliance with the surface water policies of the South Florida Water Management District.
- Policy 1.6.2 The University shall test stormwater runoff quarterly for the first year and yearly thereafter for compliance with standards set by the State of Florida Department of Environmental Protection, the Miami-Dade County Department of Environmental Resources Management, the South Florida Water Management District, and the U.S. Environmental Protection Agency. Failure to meet relevant standards for stormwater runoff shall result in an assessment of probable causes and the production and implementation of a plan to improve the quality of runoff.
- Policy 1.6.3 The University shall inventory herbicide, pesticide and fertilizer use and evaluate their impacts on-campus water quality. Modify or reduce herbicide, pesticide and fertilizer usage to minimize or eliminate negative impacts on water quality.

Objective 1.7 Consistency with Host Communities' Coastal Policies:
The University's development activities and environmental protection and enhancement policies shall be consistent with the policies of the City of North Miami and Miami-Dade County (the "host communities"), and with all applicable regional, state and federal policies regarding development in the coastal zone.

- Policy 1.7.1 The University's Environmental Coordinator shall, on an annual basis, perform a review of the host communities' natural resources management plans. If necessary, the University shall amend its plans such that they are consistent with the host communities' natural resources management plans.
- Policy 1.7.2 The University's Environmental Coordinator shall, on an annual basis, perform a review of all applicable rules, regulations and policies governing coastal zone development in the host communities during the planning and development of protection, conservation, restoration, enhancement and management activities so as to be in compliance with the host communities rules, regulations and policies governing coastal zone development.

Policy 1.7.3 All applicable rules, regulations and policies governing coastal zone development in the host communities shall be adhered to in University development activities.

Policy 1.7.4 Plant and animal species and habitats protected by the host communities or regional, state or federal agencies shall be protected on Biscayne Bay Campus (see policies in the 13.0 Conservation Element of this Master Plan).

Policy 1.7.5 Enhancement and restoration activities of coastal resources shall, at a minimum, be consistent with those activities found in the host communities.

**Objective 1.8 Pedestrian and Visual Access to Beach/Shoreline:
Provide enhanced pedestrian and visual access to beach and shoreline areas for members of the University community.**

Policy 1.8.1 Due to the availability of nearby beach areas at Oleta River State Recreation Area and oceanfront parks and discourage beach and shoreline water contact recreation on campus.

Policy 1.8.2 Improve public access to the Biscayne Bay shoreline by constructing a continuous waterfront pedestrian promenade, preserving and enhancing the bayfront edge as open space. The waterfront pedestrian promenade shall be located primarily on uplands and shall be designated to avoid and minimize impacts to coastal wetlands, tidal waters and mangroves.

GOAL 2: Provide adequate hurricane evacuation procedures and facilities for both University Park and Biscayne Bay Campus.

**Objective 2.1 Coastal High Hazard Areas:
Biscayne Bay Campus contains no Coastal high Hazard areas as defined by FEMA Area "V" zones. Consequently, no expenditures for development will be made in Coastal High Hazard Areas.**

**Objective 2.2 Hurricane Evacuation:
The University shall coordinate with Miami-Dade County, the NOAA National Hurricane Center and regional emergency management authorities to ensure that adequate hurricane evacuation times for residents of Biscayne Bay Campus are maintained or reduced.**

Policy 2.2.1 The University shall order the evacuation of students and other

residents of Biscayne Bay Campus upon issuance of a Category 1 or greater hurricane warning, or 24 hours prior to potential landfall whichever is greater. The University shall provide transit vehicles as necessary to ensure that all residents are safely evacuated to University Park no less than 12 hours prior to expected landfall.

Policy 2.2.2 The University shall order the relocation of all residents of University Park to on-campus shelters upon issuance of a Category 2 or greater hurricane warning. The University shall provide transit vehicles as necessary to ensure that all residents are safely relocated to on-campus shelters no less than 12-18 hours prior to projected landfall.

Policy 2.2.3 In coordination with Miami-Dade County Emergency Management, Florida International University shall survey all students, faculty and staff residing off-campus in coastal or other areas susceptible to storm surge inundation, those residing in structures incapable of withstanding hurricane force winds and others needing to be evacuated. Based on survey results, modify the FIU "Procedures and Control Operations for Hurricanes" to provide evacuation assistance and on-campus shelter space, if necessary, and coordinate with the Miami-Dade Emergency Operations Plan.

Objective 2.3 Hurricane Shelter Space:
Expand public shelter space at University Park as necessary to accommodate all students, faculty and staff needing evacuation and double the capacity for evacuating Monroe County residents.

Policy 2.3.1 Upon the adoption of the Master Plan, FIU will adopt new construction standards for the construction of University facilities to serve as hurricane shelters.

Policy 2.3.2 Coordinate with Miami-Dade and Monroe County Emergency Operations to refine measures of demand for shelter space on-campus and to determine total additional square footage required, applying a standard of 40 square feet per person, or other acceptable standard, to include the following:

- Student residents of Biscayne Bay Campus and University Park.
- Students, faculty and staff requiring evacuation from off-campus areas, in areas appropriate for evacuation to the University Park campus.
- Monroe County evacuees (expected to triple from 5,000 to 15,000

spaces).

Policy 2.3.3 FIU acknowledges the need to strive to provide additional on-campus public hurricane shelter space estimated in the following minimum amounts:

<u>Additional Users</u>	<u>Est. Persons</u>	<u>Space Std.</u>	<u>Total S.F.</u>
Additional on-campus students	1,610	40 s.f.	64,400 s.f.
Monroe County* evacuees	10,000	40 s.f.	<u>400,000 s.f.</u>
Est. Total Additional need at present			464,400 s.f.

* In addition to 5,000 Monroe evacuees for which space is reserved.

Policy 2.3.4 Evaluate and measure the ability to expand shelter space within Primera Casa and the expanded Graham Center. Evaluate the ability to convert additional existing buildings for use as hurricane shelters. Evaluate the ability of projected and planned structures to be utilized as hurricane shelters, applying new construction standards.

Policy 2.3.5 In coordination with Miami-Dade County and Monroe County Emergency Management, develop a phased action plan to establish timing for the retrofitting of designated University facilities for use as public shelters during hurricanes. Preliminary priorities for gaining additional shelter space through retrofitting existing buildings are as follows:

Priority 1: Expansion of designated shelter areas within Primera Casa.

Priority 2: Expansion of designated shelter areas with Graham Center with necessary retrofit to protect or replace glass exterior walls.

Priority 3: Utilization and, if necessary, retrofit of hallway areas in Golden Panther Arena.

Priority 4: Other existing or planned structures.

Policy 2.3.6 Coordinate with American Red Cross for the designation of specific portions of existing parking lots adjacent to the Graham Center and Primera Casa for use in staging emergency management personnel, equipment and resources. Establish a designated emergency helicopter landing pad in coordination with American Red Cross, Federal Aviation Administration and Miami-Dade

Emergency Management.

- Policy 2.3.7 Should emergency helicopter landing be needed at Biscayne Bay Campus, existing surface parking lots shall be utilized.
- Policy 2.3.8 Calculate costs to provide expanded shelter space and, through the BOR Office of Capital Programs, negotiate a cost sharing formula with Miami-Dade County and Monroe County. Request a special legislative appropriation to provide funding.
- Policy 2.3.9 In conjunction with its host communities, FIU will develop a post-disaster plan to recover from the disruption of University activities.



BISCAYNE BAY CAMPUS

- ACADEMIC ONE (02)
- ACADEMIC TWO (04)
- AQUATIC CENTER (01A)
- RAY VISTA HOUSING (H1)
- HOTEL (04)
- HOSPITALITY MANAGEMENT (01)

- CONFERENCE CENTER (07)
- LIBRARY (05)
- ACADEMIC THREE - MARINE BLDG. (03)
- ACADEMIC FOUR (02)
- HOUSING (05)
- INFORMATION CENTER (06)

- ECOLOGY LAB (27)
- FUTURE DEVELOPMENT - A (29A)
- FUTURE DEVELOPMENT - B (29B)
- RECREATION FIELDS (43)
- PDC / HRS ADMINISTRATION (20)
- SUPPORT / CENTRAL RECEIVING (22)

- SUPPORT / PUBLIC SAFETY (29)
- SUPPORT / PHYSICAL PLANT (24)
- SUPPORT / GROUNDS (25)
- STUDENT HEALTH CENTER (04-06A)
- WELLNESS CENTER (21)
- WOLFE UNIVERSITY CENTER (03-03A)



FIGURE NUMBER

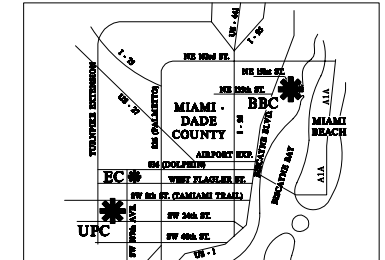
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COASTAL MANAGEMENT PLAN

LEGEND:

- LAKES AND CANALS
- MANGROVE AREAS
- BEACH STRAND VEGETATION
- BEACH RIP-RAP SHORELINE

KEY MAP



FINAL MASTER PLAN FLORIDA INTERNATIONAL UNIVERSITY MIAMI, FLORIDA

DATE: OCTOBER 2003

