FLORIDA INTERNATIONAL UNIVERSITY

2010-2020 CAMPUS MASTER PLAN UPDATE

MARCH 2014


FLORIDA INTERNATIONAL UNIVERSITY
SPES SCIENTIA FACULTAS
1965
MIAMI

EXECUTIVE SUMMARY

SUSTAINABLE
INNOVATIVE
INTERDISCIPLINARY
IDENTITY
SOUTH FLORIDA
COMPACT URBAN
ENVIRONMENT
FLORIDA
INTERNATIONAL
UNIVERSITY
MULTI-MODAL
SOLUTIONS
TRANSPORTATION
CONNECTIVITY
NEIGHBORING COMMUNITIES
PEDESTRIAN-FRIENDLY
MAIN AXES
STUDENT LIFE
MIXED USE COMMUNITIES
MULTI-PURPOSE OPEN SPACE

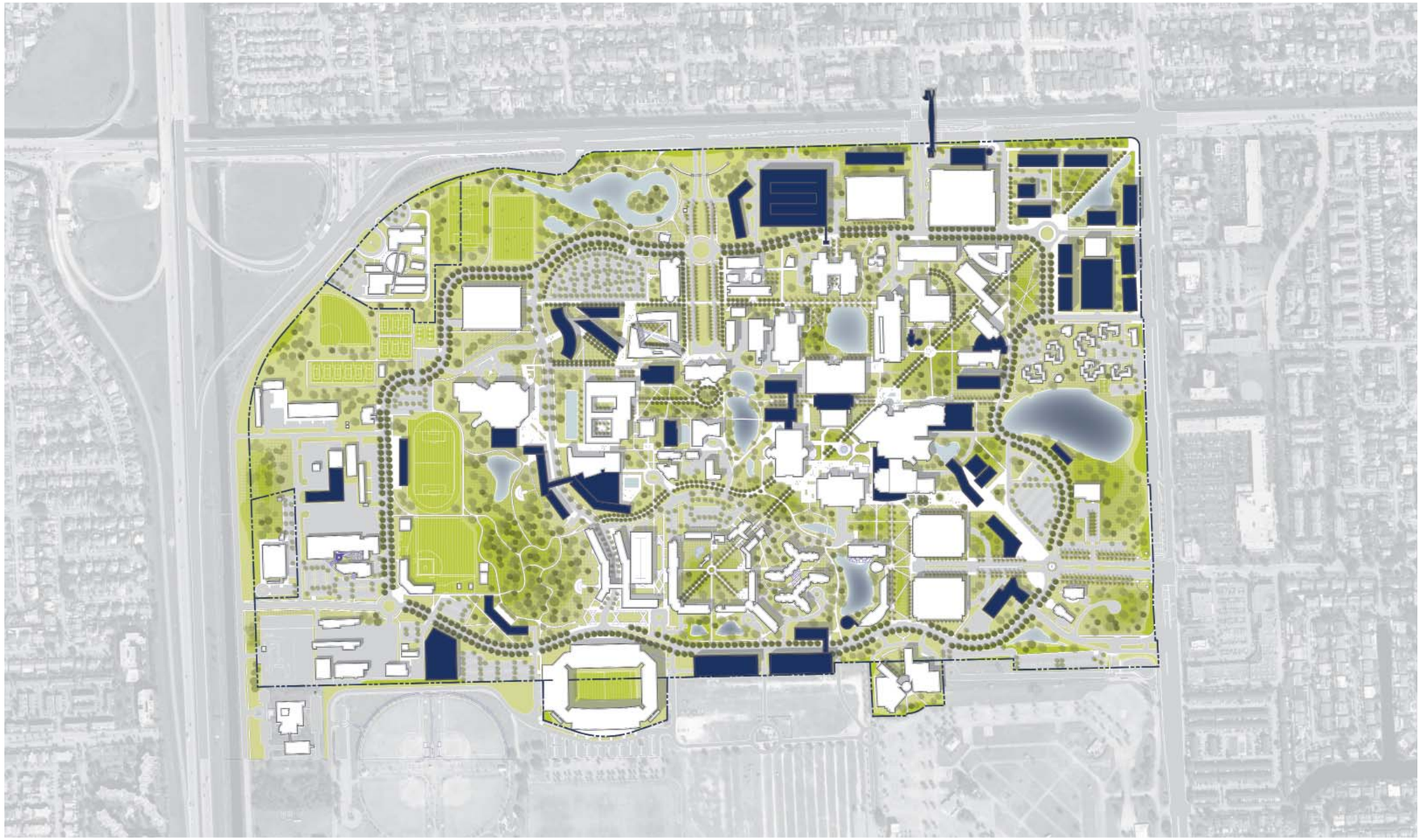

Figure 1.1 Modesto A. Maidique Campus

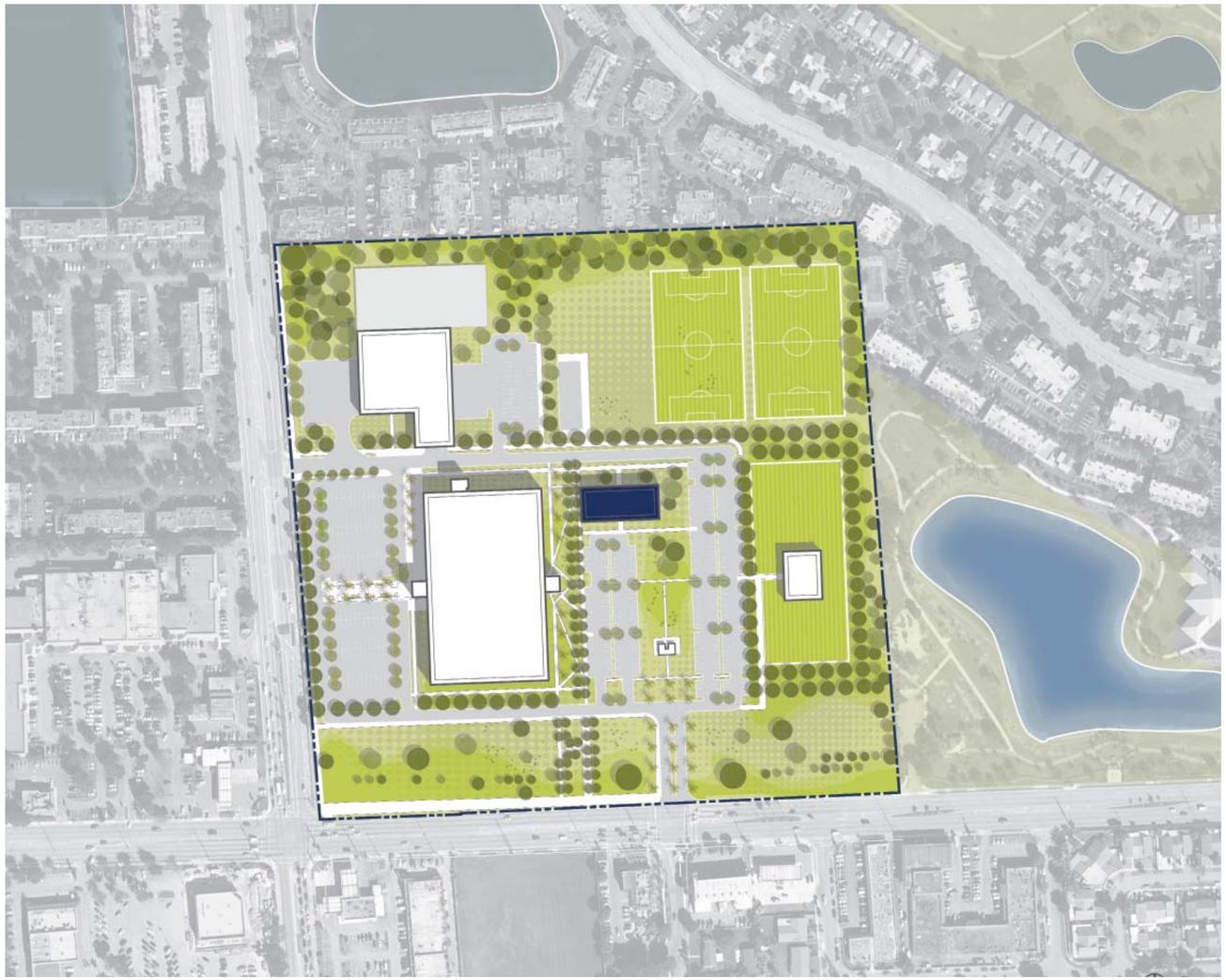

Figure 1.2 Engineering Center

Figure 1.3 Biscayne Bay Campus

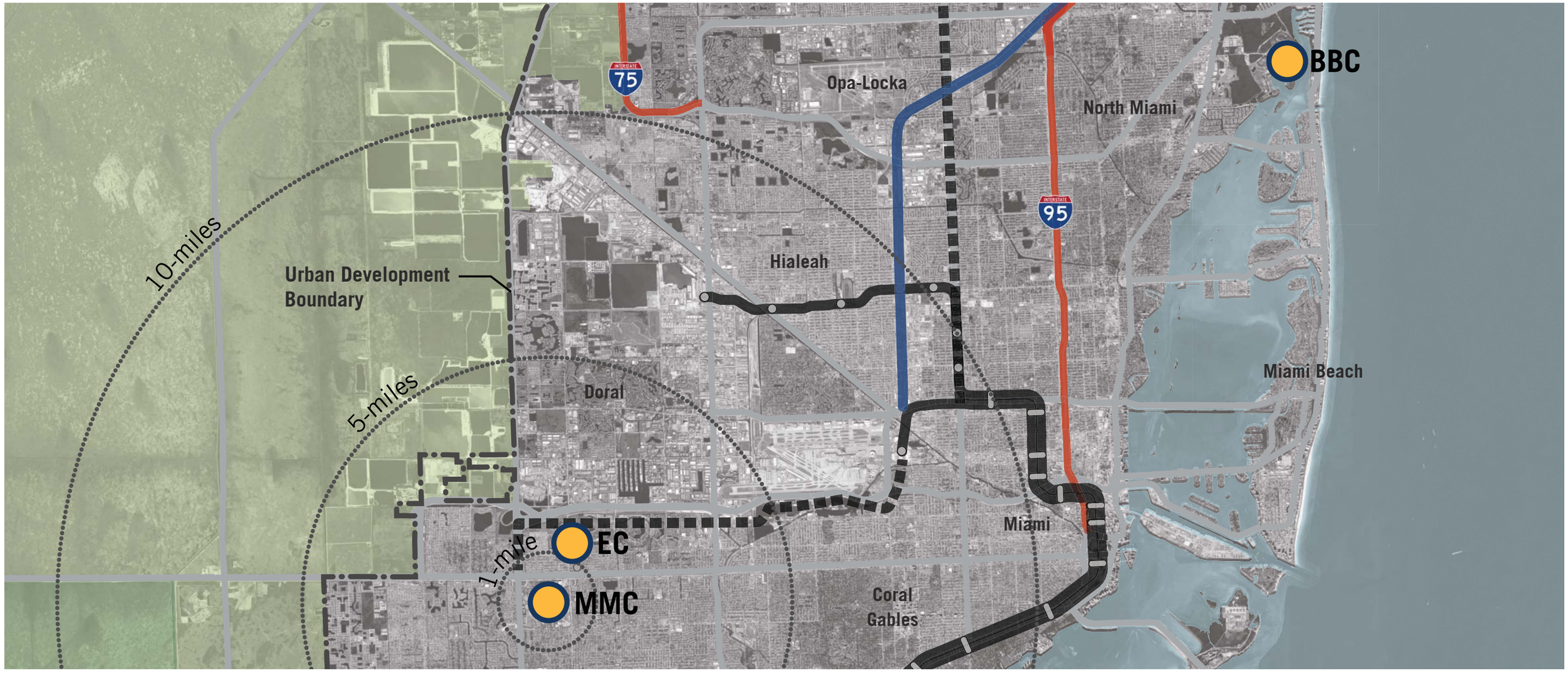

Figure 1.4 Florida International University Campus Context

Figure 1.5 Entry Gateway to Modesto A. Maidique Campus

INTRODUCTION

The 2010-2020 Florida International University (FIU) Campus Master Plan carries forward past physical and capital planning; builds upon the momentum of recent strategic planning, and positions unfolding new initiatives to support FIU in its goal to be "Worlds Ahead". The plan also recognizes that since June 2010, when the last master plan was completed, FIU has successfully achieved many of its past planning objectives and executed many of its priority improvements.

The focus of this planning effort has been FIU's two principal campuses – which comprise the majority of its owned property and facilities. The largest campus, Modesto A. Maidique, occupies approximately 343 acres located at the crossroads of the Florida Turnpike (SR 821) and Southwest 8th Street (US 41) in west central Miami-Dade County. The Biscayne Bay Campus occupies approximately 195 acres on Biscayne Bay within the City of North Miami in northeast Miami-Dade County. In addition to the two main campuses, the Engineering Center, a 36 acre branch campus, is located 1 mile north of Modesto A. Maidique at the northeast intersection of SW 107th Avenue and West Flagler Street.

Located at both an international hub for commerce and Florida's fastest growing population center, FIU anticipates continued, significant growth in enrollment – both for students attending classes in person and virtually. Past planning goals have been reevaluated to confirm their applicability in this era of dynamic change. FIU has also sought feedback from a wide cross section of on- and off-campus groups. Interviews, focus groups, public hearings and campus open house forums were utilized to maximize the public participation.

The 2010-2020 Campus Master Plan Update provides a framework of flexible growth opportunities for FIU based on the following principles:

- Develop a sustainable campus environment.
- Develop forward looking, innovative and interdisciplinary learning and research environments.
- Reinforce FIU's identity through the articulation of landmarks, precincts, edges, buildings, and open spaces.
- Create a more compact urban environment.
- Develop comprehensive multi-modal solutions to transportation & infrastructure.
- Establish better connectivity with neighboring communities.
- Create a safe, connected, pedestrian-friendly campus.
- Site core academic programs along main axes.
- Develop student life mixed use communities.
- Foster learning through multipurpose open space.

The following narrative summarizes each of the eighteen elements identified by the State University System planning guidelines. Together, they provide a comprehensive and integrated guide for effectively planning campus change over the coming years.

1.0 ACADEMIC MISSION

Since opening its doors in 1965 to 6,000 students, FIU has experienced tremendous growth. Over the years, the University has both established itself as one of South Florida's premier research institutions as well as its largest public university. As a member of State University System (SUS) of Florida, FIU's headcount enrollment now numbers more than 42,000 students offering a wide array of undergraduate, graduate and professional programs. The student body continues to reflect the diverse and vibrant culture of South Florida with an ever-increasing percentage of minority groups and international students.

FIU's mission statement reads as follows:
"Florida International University (FIU) is an urban, multi-campus, public research university serving its students and the diverse population of South Florida. We are committed to high quality teaching, state of the art research and creative activity, and collaborative engagement with our local and global communities."

Five key strategic themes guide the development of the University's educational and research programs: International, Environmental; Florida and Local Economic Development; Health; Arts, Culture and Diversity; and Learning Opportunities.

The University's operational philosophies complement these themes by encouraging: quality, competitiveness, accountability, innovation, collegiality, diversity, and operational excellence. Its vision can be stated in five words: top public urban research university.

Figure 1.6 A collection of Florida International University's facilities through it's history

Figure 1.7 Avenue of the Professions

2.0 ACADEMIC PROGRAM

With more than 42,000 students enrolled in the Fall of 2011, Florida International University continues to provide a vast and rapidly expanding array of educational opportunities. Currently, the University offers more than 200 baccalaureate, masters and doctoral majors. The majority of students take advantage of taking classes at multiple campuses and centers throughout the Miami-Dade area and abroad. However, advancements in technology have created a paradigm shift – including a "flipped classroom" experience - which has allowed an ever-increasing percentage of students to enroll on-line.

A key success factor for FIU's expanding degree programs has been the creation of the Herbert Wertheim College of Medicine in 2006 and its interdisciplinary, team-based pedagogy. It has been accredited as the first public medical school in South Florida. As a result, FIU has fostered partnerships with businesses, health service providers, and the community to encourage interdisciplinary teaching and research. With the continued growth in both student population and academic degree programs, FIU is committed to providing high quality education to the South Florida area at both an undergraduate and advanced degree level.

Florida International University is planning to support a headcount (HC) enrollment of 49,692 students - that translates as 29,935 full time equivalent students (FTE) - by the end of the 2020 planning period. The HC and FTE projections are based on Fall 2011 enrollment data as well as strategic planning within the following schools and colleges.

- College of Architecture & the Arts
- College of Arts and Sciences
- College of Business
- College of Education
- College of Engineering & Computing
- Honors College
- College of Law
- Herbert Wertheim College of Medicine
- College of Nursing & Health Sciences
- Chaplin School of Hospitality & Tourism Management
- School of Journalism & Mass Communications
- Robert Stempel College of Public Health & Social Work
- University College

3.0 URBAN DESIGN

Urban design at FIU is grounded on strengthening connections to its urban surroundings, while simultaneously enhancing the campus from within. From this objective emerges five comprehensive goals that will inform on-campus design: incorporating research and teaching opportunities throughout campus; improving walkability; maximizing the impact of art; incorporating sustainable design strategies; and increasing the amount and quality of student spaces.

With increasingly dense facilities and expanded on-campus housing, creating memorable, high quality campus environments is essential to supporting a successful student experience, safety, security, branding and wayfinding. Development must be planned to effectively preserve, define and enhance campus open space through the use of regulating axes, campus streets and a hierarchy of landscapes. The surrounding urban context at Modesto A. Maidique and Engineering Center, and the more naturalized context at Biscayne Bay, have created connectivity issues for the University. As FIU's campuses expand and foster relationships with their respective host communities, creating more permeable and accessible campus edges is an key concern. The following actions should be taken at each location to encourage effective urban design.

Modesto A. Maidique Campus

Growth at Modesto A. Maidique Campus should continue to take advantage of infill building sites and facility additions to create a walkable and compact, urban setting. Development should be guided by existing axial patterns punctuated by high quality and memorable open spaces throughout campus. Realignment and improvements to the campus loop road should better define the central academic core of campus while allowing for the placement of future facilities in key adjacencies. To effectively implement this goal and promote pedestrian circulation, surface parking should be redistributed into mixed-use parking structures located outside of the campus loop road at the campus edges.

Engineering Center

Development at Engineering Center should be grounded on the same design principles of Modesto A. Maidique. Although separated geographically, this will create a consistent design vocabulary to visually connect the two locations. Enhanced pedestrian corridors, edge conditions, gateways, and outdoor gathering areas should all be considered to improve the appeal and character of the Center.

Biscayne Bay Campus

The surrounding state park and coastal context at Biscayne Bay Campus is the campus's greatest attribute as well as its biggest challenge. While Modesto Maidique and Engineering Center reside in a highly urbanized context, the Biscayne Bay Campus surroundings are much more natural in character. With FIU's increasing emphasis on resiliency, walkability and connectivity – as well as a desire to save land for its highest and best use - creating a compact campus and preserving open space should still be the guiding urban design principle. By increasing the density on campus with programs targeted to its unique setting, providing needed academic and student life facilities, and improving pedestrian and bicycle connections to adjacent schools and residential development, the campus can strengthen its sense of place while augmenting its appeal.

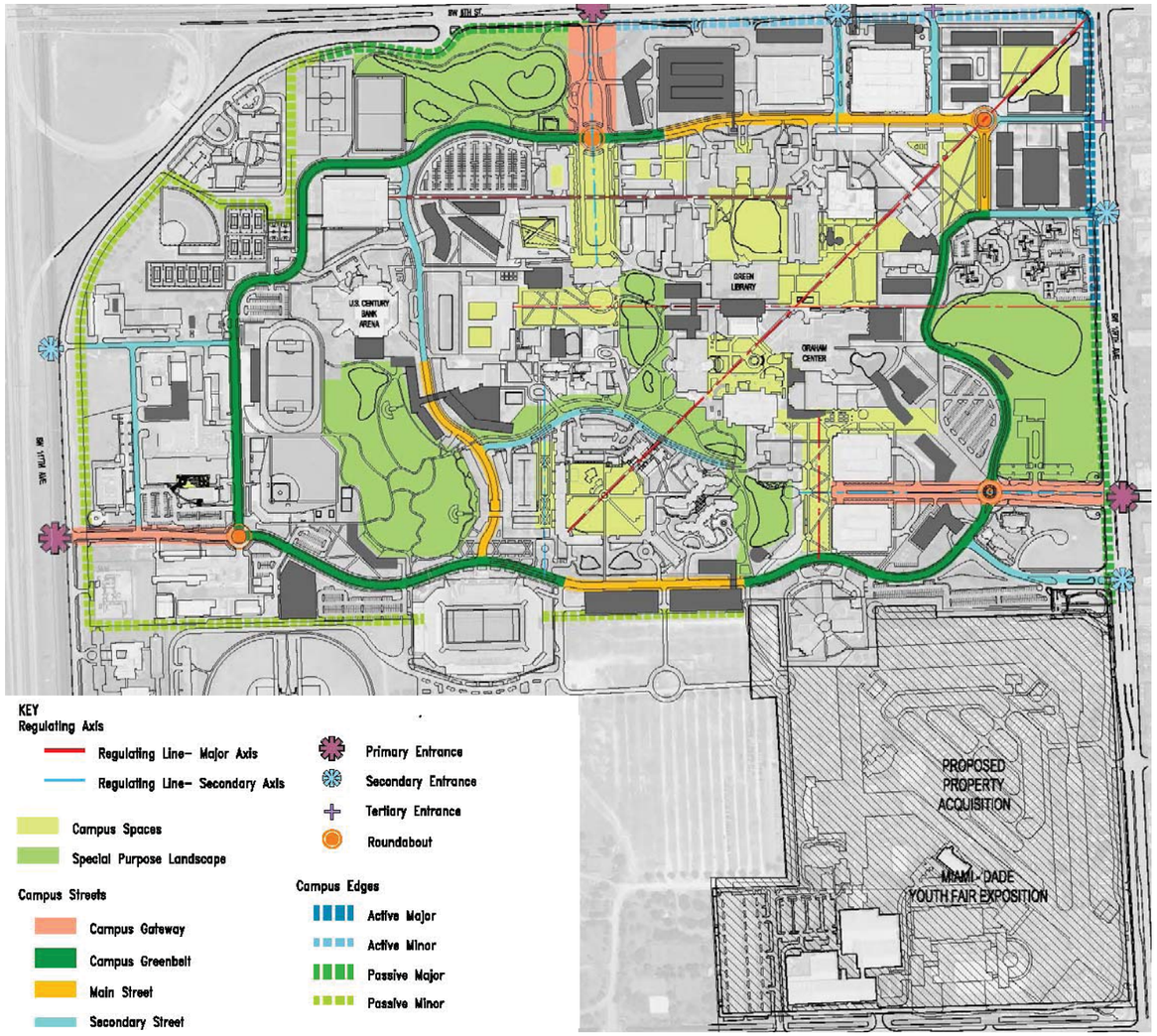

Figure 1.8 Modesto A. Maidique Urban Design

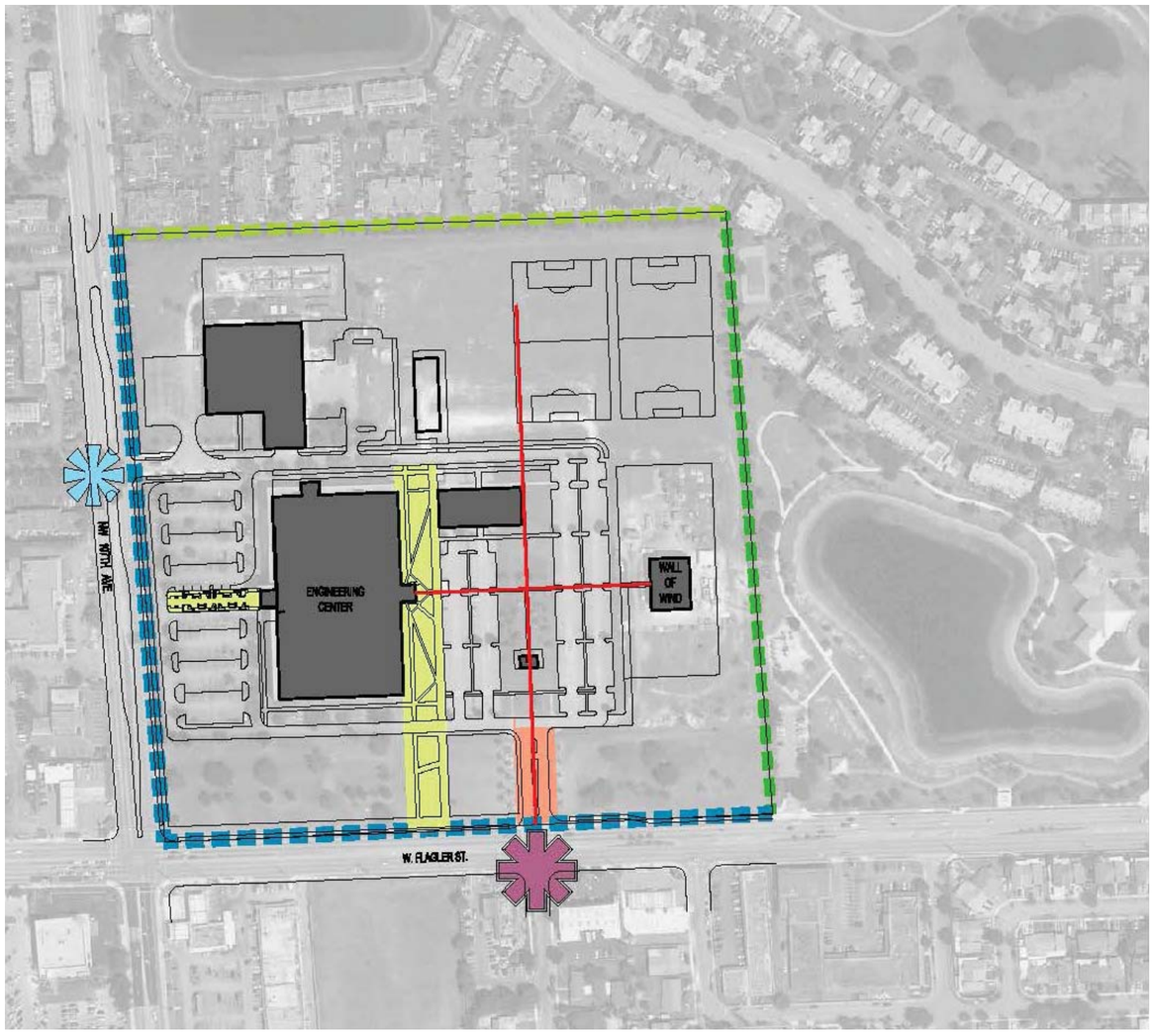

Figure 1.9 Engineering Center Urban Design

Figure 1.10 Biscayne Bay Campus Urban Design

4.0 FUTURE LAND USE

With expanding enrollment, on-campus housing and partnerships, additional facilities are needed to support growing academic, student life and outreach programs. FIU's biggest challenge is accommodating expansion within limited developable land resources. Given the highly urbanized context of the campuses, future growth must avoid creating conflicts with surrounding host communities while simultaneously addressing rising sea levels, storm surges, and preservation of environmental resources. The Future Land Use Element represents existing and proposed development patterns within the campus boundaries to be coordinated with adjacent areas planned by Miami-Dade County, the City of Sweetwater and the City of North Miami.

Modesto A. Maidique Campus

The overall goal for development and growth at Modesto A. Maidique Campus is to move towards a more mixed-use and efficient urban-scaled campus. To do so, several strategies have been established to effectively guide development. Increasing building heights for academic, support and student housing facilities allows for academic programs to expand logically inside the campus core, and maintain critical existing adjacencies. The redistribution of parking to multi-story, multi-purpose structures at the campus periphery allows for additional development in the campus core and the development of the academic health sciences district. In addition, compact development is encouraged to preserve and strengthen open space and pedestrian corridors. With limited undeveloped land suitable for facility expansion, the University is exploring partnerships with the county to utilize the Miami-Dade Youth Fair and Exposition property.

Engineering Center

There is opportunity to accommodate outreach and partnerships that benefit from adjacency to either FIU academic programs, research or surrounding land uses. While maintaining an academic core, multi-purpose facilities can be developed at the perimeter of the property. Sufficient setbacks and buffers from the Wall of Wind research facility should be maintained. Future development should mimic the patterns found at Modesto A. Maidique Campus; future facilities should support a central open space. Open land should be utilized for the creation of additional recreational facilities that can be used by MMC students.

Biscayne Bay Campus

Development at Biscayne Bay Campus should capitalize on the proximity to water and bay views, while strengthening opportunities for partners to locate facilities near key FIU programs. Partnership facilities should be organized along the perimeter of the campus. The campus core should be reserved for academic programs and support adjacencies to related programs. Academic and research facilities should utilize existing quadrangles and ponds to organize campus infill. Flexible open space and environmental research programs should have priority along Biscayne Bay. Preserving open space, enhancing walkability, and following the overall FIU guiding principles, will create a consistent and unifying design vocabulary.

To support the strategic development of on-campus partnerships, a larger multi-purpose zone should emerge at Biscayne Bay. North and south of the academic core, proposed uses such as the Royal Caribbean Cruise Line Training Center, Magnet School, Academic Health Center, Wildlife Center, student housing, and recreational facilities should create a unified mixed-use zone.

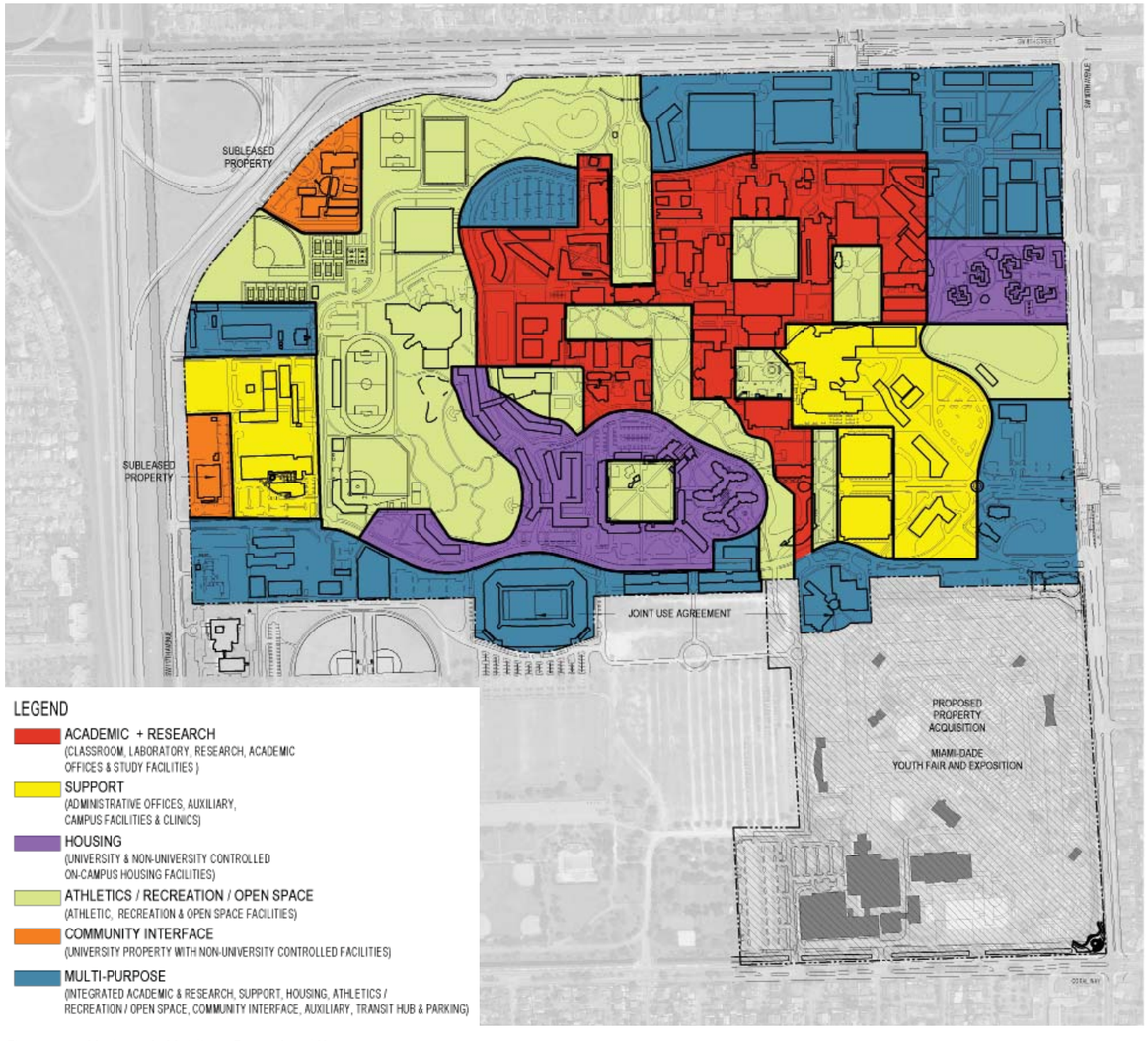

Figure 1.11 Modesto A. Maidique Future Land Use

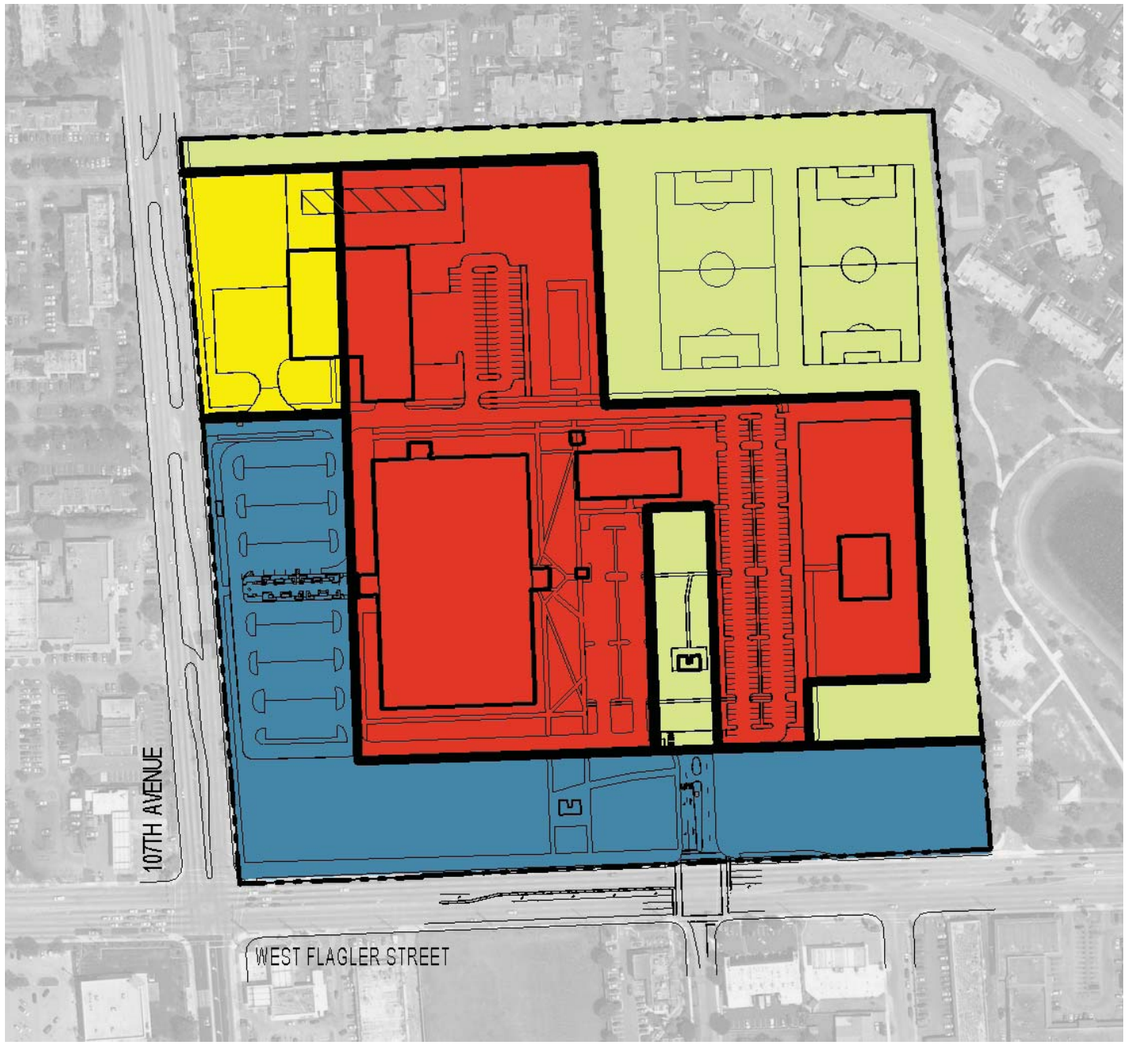

Figure 1.12 Engineering Center Future Land Use

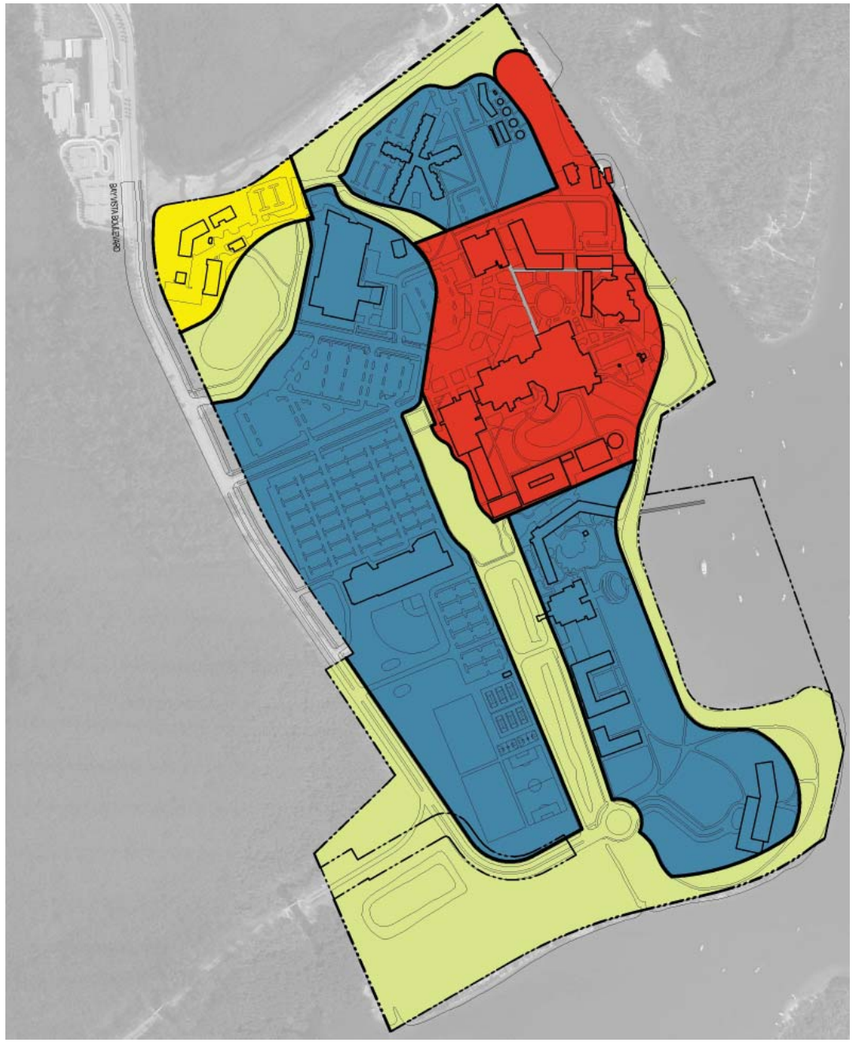

Figure 1.13 Biscayne Bay Campus Future Land Use

5.0 ACADEMIC & RESEARCH FACILITIES

Additional academic and research facilities are required to support both projected enrollment growth and the new College of Medicine. As a result of dwindling land resources, FIU should develop an efficient and compact academic core and build upon adjacencies to existing academic and research facilities. This will create the added benefit of strengthening departmental synergies and promoting cross-disciplinary activity across colleges. To optimize this potential, future facilities should reserve the first floor within multi-story footprints to incorporate student support and team learning space to the greatest extent possible.

By 2020, FIU plans future academic and research facility development in the following increments by location:

	Currently Underway	2015	2020
MMC & EC	378,686	496,712	900,131 GSF
BBC	126,170	81,330	71,641 GSF
Total	**504,856 GSF**	**578,042 GSF**	**971,772 GSF**

Facilities include classrooms, teaching labs, study areas, and research labs. The square footages account for new facilities, renovations, and expansion of existing structures; and are based on projects included in the 2010-2020 CIP.

Modesto A. Maidique Campus

Academic and research infill sites are located within close proximity to similar facilities that reinforce each other in use. The northeast corner of the campus should be reserved for laboratory, research and clinical facilities to create a quadrangle defined primarily by academic health center facilities. Additional building sites, for primarily classroom use, surround the Avenue of the Professions. In addition, building sites for the Colleges of Business, Law, Education and other professional programs are located north of Rafael Diaz-Balart Hall.

Engineering Center

Future academic and research facilities should be located between the existing building and the Wall of Wind to form a central quadrangle.

Biscayne Bay Campus

Future FIU classroom, laboratory and research facilities should be sited south of Academic Two. Aligned with the existing Marine Biology building, the future facilities should enclose an academic quadrangle focused around the existing pond. Located to the north and south of the academic core, the proposed RCCL training facility, Academic Health Center, Wildlife Center, and Magnet School will create on-campus academic partnership opportunities.

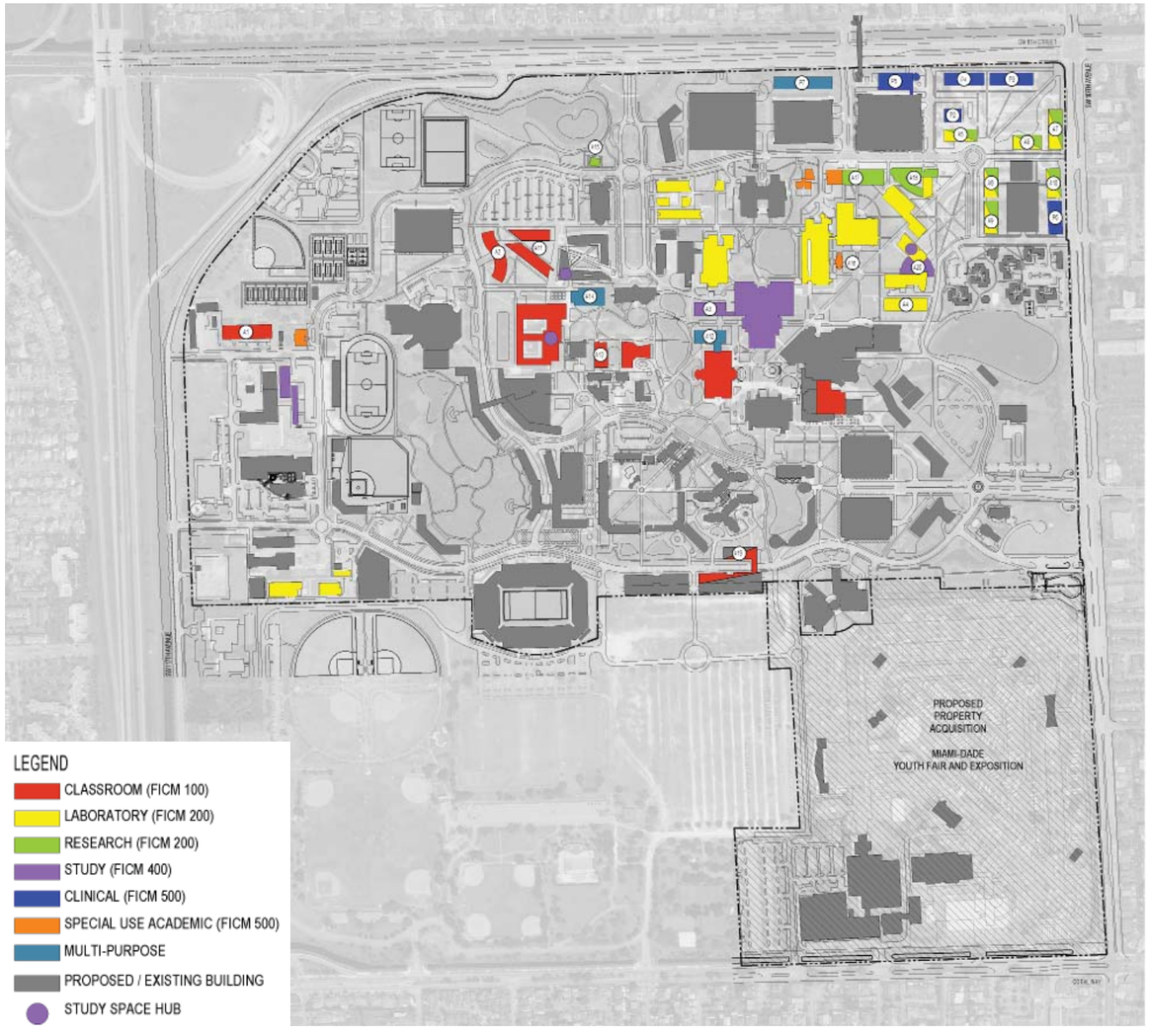

Figure 1.14 Modesto A. Maidique Academic and Research Facilities

Figure 1.15 Engineering Center Academic and Research Facilities

Figure 1.16 Biscayne Bay Campus Academic and Research Facilities

6.0 SUPPORT FACILITIES

Additional support facilities are needed on each FIU campus to meet the demand generated by both existing and anticipated enrollment growth. The majority of these needs are found in office space for faculty, staff and students. However, additional facility needs are required to support active learning, team-based learning, student life programs, flexible dining and gathering, and facility operations and maintenance.

As development pressures continue to impact campus open space, student housing on-campus increases, and student success programs evolve to recognize student desires for physical activity, FIU must steward the limited land available for sports and recreation. In an effort to provide adequate recreational facilities, the University should pursue expanded partnerships and joint use agreements for sports facilities with Miami-Dade County.

By 2020, FIU should plan for needed support facility development in the following increments by location:

	Currently Underway	2015	2020
MMC & EC	146,029	360,399	420,078 GSF
BBC	N/A	8,360	21,600 GSF
Total	**146,029 GSF**	**368,759 GSF**	**441,678 GSF**

Modesto A. Maidique Campus

Future support facilities should benefit from existing adjacencies. General use and student auxiliary support space should be located near the Graham Center, while predominantly administrative and academic offices should be located adjacent to Primera Casa. Throughout campus, support spaces that promote student organization, advising, meeting, interdisciplinary discussions, and team-based learning should be incorporated into the first floor of all new student housing and academic facilities. Facility support will remain in the southwest corner of campus.

Engineering Center

Support services should be incorporated into the first floor of the proposed academic building. The first floor of the existing building should be enclosed and renovated to provide needed, highly accessible and visible support space in the form of student outreach, advising, and study space. Attractive dining and targeted retail space to serve faculty staff and students is also lacking at this location and should be provided in cooperation with local businesses.

Biscayne Bay Campus

Similar to Modesto A. Maidique Campus, support space should be incorporated into the first floor of new facilities. This is also a strategy to respond to resiliency requirements in a coastal location. Flexible, informal, office and meeting space is the most appropriate facility investment on sites that are subject to storm surges and sea-level rise. The other appropriate use for these sites is the construction of needed recreation fields and facilities. Campus facility support should continue to be located in the northwest corner of campus.

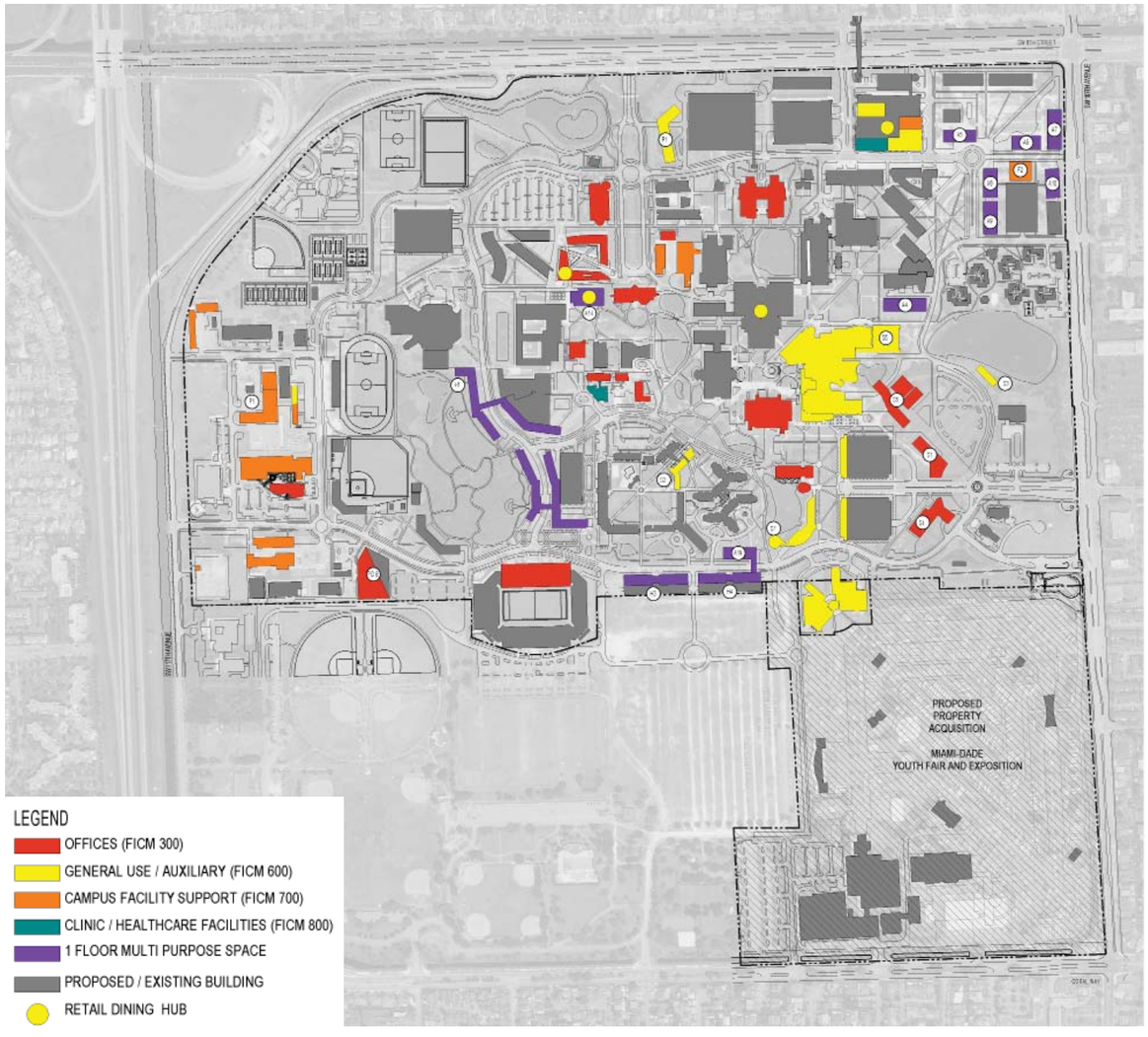

Figure 1.17 Modesto A. Maidique Campus Support Facilities

Figure 1.18 Engineering Center Support Facilities

Figure 1.19 Biscayne Bay Campus Support Facilities

7.0 HOUSING

As FIU's enrollment continues to grow and diversify, on-campus housing must adapt to both changing student needs and preferences, as well as the proximity of new off-campus, developer-provided housing that targets FIU faculty, staff and students. In order to support student success - and the amenities that a 24/7 resident population brings to all students, whether commuting or virtual - FIU is committed to providing a variety of housing types and styles. The University has established a goal to house 20% of its fully-enrolled students on-campus. In addition, FIU will work with the City of Sweetwater, other host community redevelopment advocates and local developers to ensure that an adequate supply of off-campus housing is located within easy walking distance and close to transit connections. The partnership with Sweetwater to provide the TIGER Grant Pedestrian Bridge (and parking on campus) connecting to new apartments north of 8th Street is an important example of this new model for collaboration.

In addition to increasing the quantity of student housing, FIU will provide high quality alternatives to traditional dormitories. New semi-suites, suites, apartments, Honors College Housing and Greek Housing will reflect student preferences and support FIU recruitment and retention goals for undergraduates, graduate students, international students, researchers, married students and members of fraternities and sororities. Housing facilities on each campus should promote sustainable site standards, living-learning communities, and walkability. New facilities should be multi-purpose and multi-story - incorporating student support and parking facilities. The completion of Parkview Housing provides a precedent on how new facilities can be designed to achieve this level of integration and flexibility.

Modesto A. Maidique Campus

Student housing should continue to be distributed throughout the campus – creating distinct student neighborhoods that meet the needs of adjacent academic precincts. Undergraduate housing should be expanded in the district centered on Panther Village. Honors College housing should be explored at the crossroads between the proposed campus GreenWay and SW 17th Street – where it can benefit from a landmark location between academic and student life facilities, as well as serve as a gateway to campus expansion to the south. An alternate location for Honors Housing exists in the northwest corner of the campus, adjacent to Business, Education and Law programs. In the short term, Greek housing should continue to be located at the southeast corner of campus. Future fraternity and sorority housing should be sited at the corner of the Preserve, near Panther athletic venues and Parkview Housing and its amenities. Graduate housing should remain at the eastern edge of campus. As the existing University Apartments are replaced over time, new housing that integrates researchers within the Academic Health Center should be considered.

FIU plans to provide a total of 5,026 beds by 2020, contingent on demand. The beds will be distributed generally as follows:

Existing Fall 2011:	**2,586 beds**
Planned (under construction + CIP):	**620 beds**
Planned Demolition:	**240 beds**
(University Park Apartment-4 Units)	
Future Housing Development	**1,380 beds**
(Parkview II and SW17th Street)	
Honors Housing:	**350 beds**
Future Greek Housing:	**330 beds**
Planned Capacity	**5,026 beds**
Projected 20% FTE Goal	**5,205 beds**
Difference (Unmet Need)	**179 beds**

Biscayne Bay Campus

New student housing at Biscayne Bay will be located adjacent to the Kovens Center, south of the main campus development. This new location should promote connectivity back to the academic core, new partners, expanding student amenities at the Wolff Center, and open space along the waterfront. It should also shape useful and human-scaled exterior gathering space. In an effort to build upon on-campus partnerships, the existing residence hall will be made available to the Royal Caribbean Cruise Line to provide housing for staff at their adjacent training facility.

FIU plans to provide at least 725 beds by 2020, contingent on demand. The beds will be distributed generally as follows:

Existing Fall 2011:	**271 beds**
Planned Transfer of Bay Vista housing to RCCL:	**271 beds**
Planned Capacity	**725 beds**
Projected 20% FTE Goal:	**781 beds**
Difference (Unmet Need)	**56 beds**

Figure 1.20 New and existing student housing facilities at Florida International University: Lakeview Hall (top) and Parkview Housing (bottom)

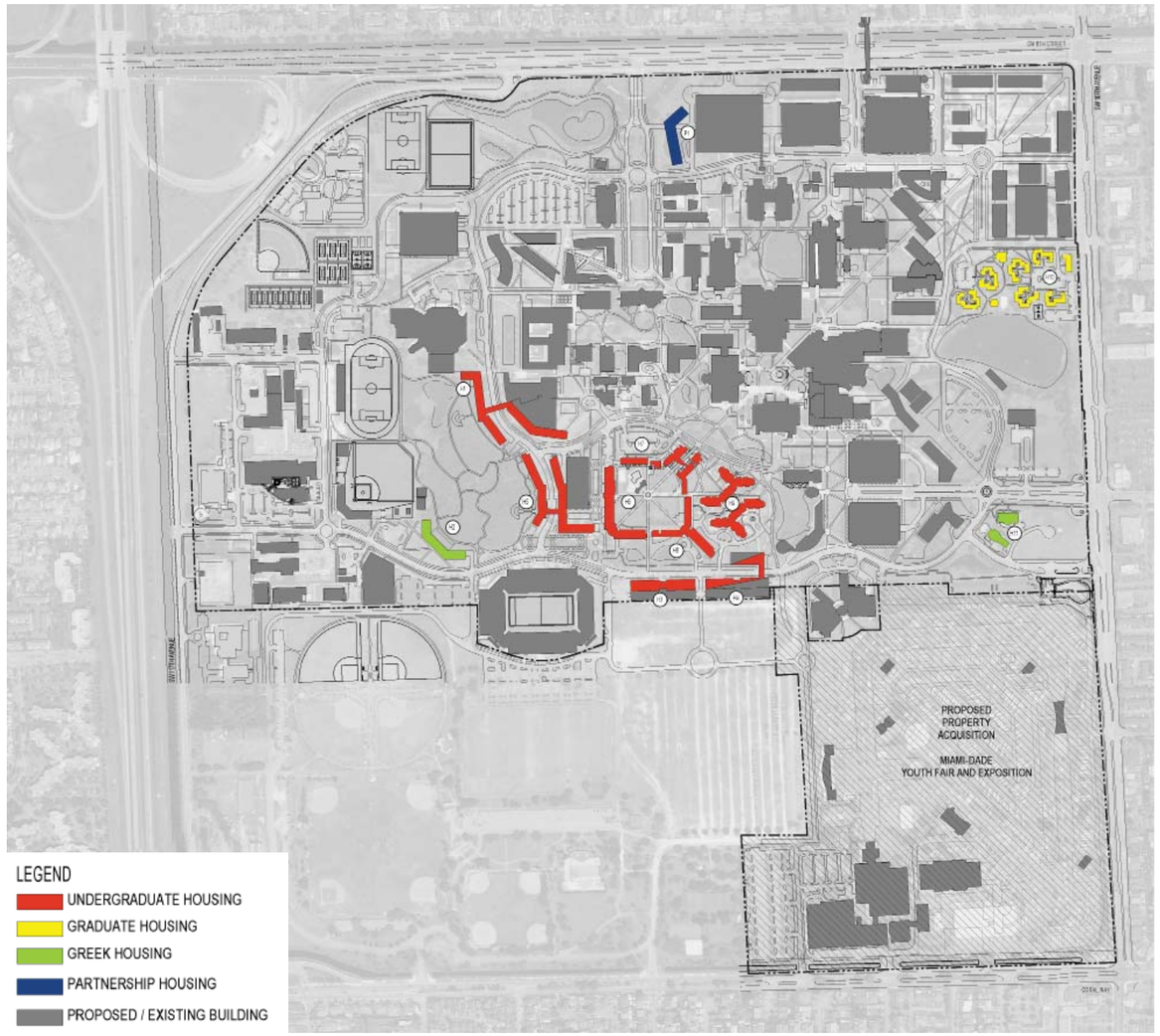

Figure 1.21 Modesto A. Maidique Campus Housing Facilities

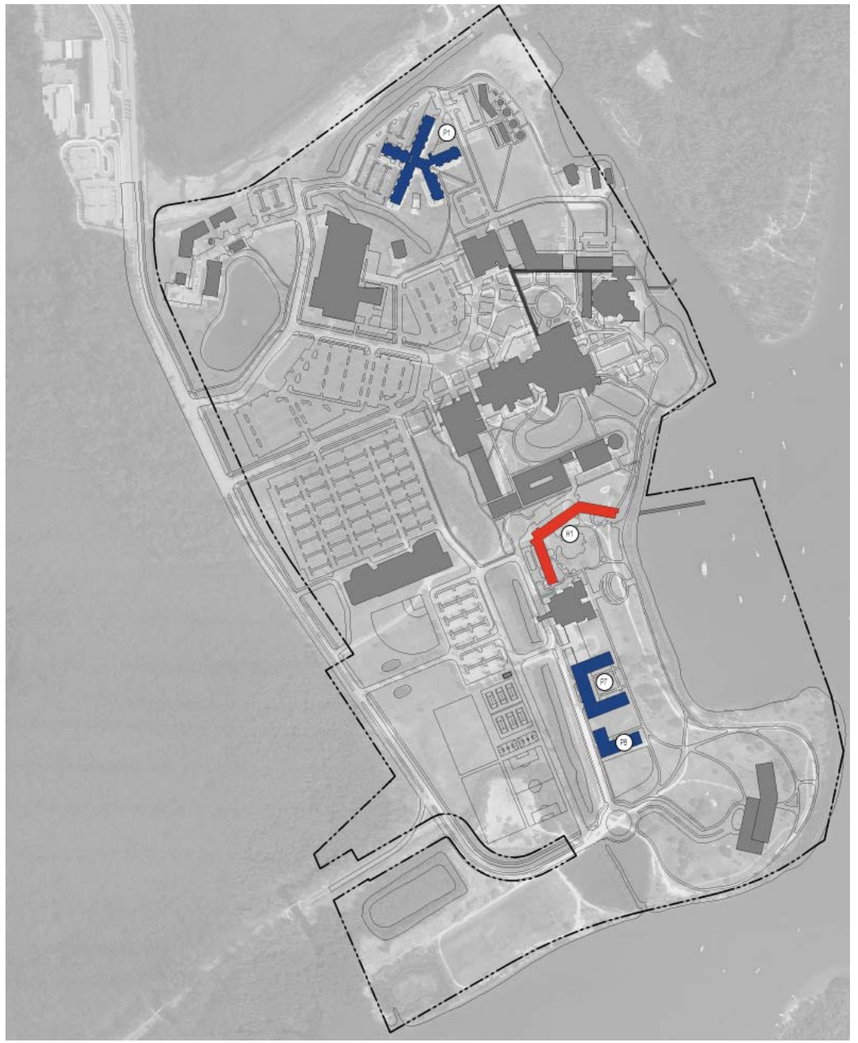

Figure 1.22 Biscayne Bay Campus Housing Facilities

8.0 RECREATION AND OPEN SPACE

Six categories of open space have been identified in the master plan including: multi-purpose open space, athletics, special purpose landscape, recreational open space, courtyard/plaza, and campus gateways. Each one of these categories is an integral component to the open space framework for each campus. Development on campus that encroaches on these areas is discouraged.

The need for additional on-campus recreation facilities – as well as the preservation of passive and active open space - has surfaced as an area of student and staff concern. The Modesto A. Maidique campus, in particular, faces the threat of open space being utilized for facility development. Both the Engineering Center and Biscayne Bay have ample space to develop additional open space, fields and facilities that can be utilized by all FIU students. Available land should be capitalized on to create needed facilities. If additional land is required, FIU should seek partnerships with Miami-Dade County for joint use of nearby facilities. These efforts should be used to ensure adequate open space and recreational facilities are available to support FIU's goals for student engagement, success and wellness.

Modesto A. Maidique Campus

The majority of current recreational facilities are located at the western edge of campus. These areas are experiencing increasing pressure – both from high student demand for open space and as potential development sites for needed university facilities. FIU should continue to explore expanded utilization of Tamiami Park – which it already relies upon for student use - and property acquisition opportunities of the Miami-Dade Youth Fair and Exposition. These properties are key for satisfying demand for both recreational and academic/research facilities. In addition to active recreation, improved open space that promotes easy access and campus movement is critical. The creation of the GreenWay extending from Wertheim Performing Arts to the Preserve enhances on-campus pedestrian movement, while anticipating the potential for expansion and connections south of campus. Enhanced streetscapes with bicycle lanes throughout campus and at campus edges, should be incorporated into new and improved roadways to strengthen connections to public transit and the adjacent community.

Engineering Center

Undeveloped land in the northeast corner of campus should be utilized for the creation of recreation fields. In addition, improved streetscaping and gateways should be created along 107TH Avenue and West Flagler Street to create an improved public image and identity.

Biscayne Bay Campus

In the short term, existing recreational facilities should be improved at the northeast corner of campus. Over time, the southern portion of campus should be developed as multi-purpose open space with additional recreational fields and facilities. Campus gateways and improved streetscapes should be utilized along Bay Vista Boulevard to create memorable entry points into the campus. Pedestrian and bicycle paths along the waterfront should be preserved and expanded to connect to the surrounding community.

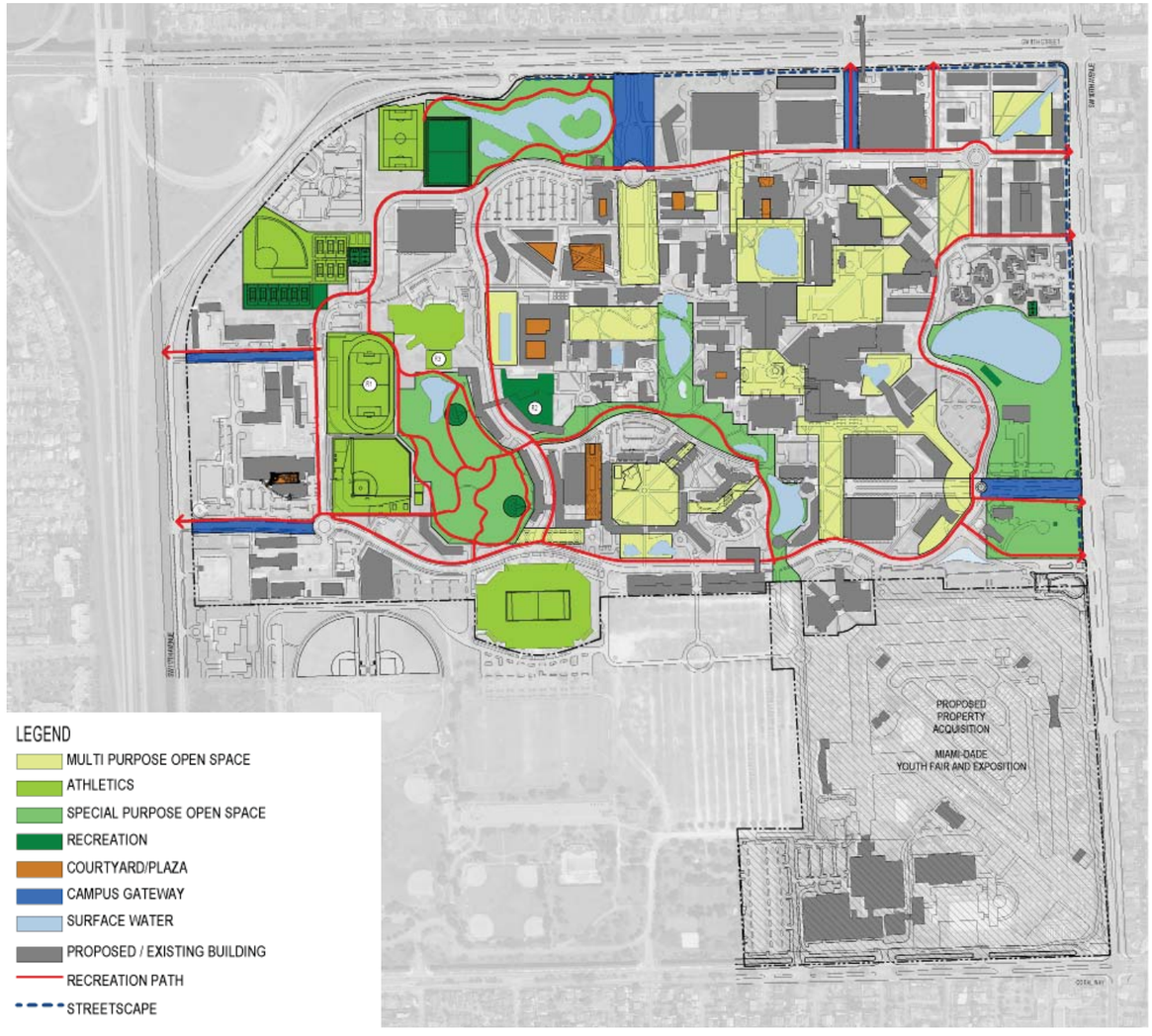

Figure 1.23 Modesto A. Maidique Campus Recreation and Open Space

Figure 1.24 Engineering Center Recreation and Open Space

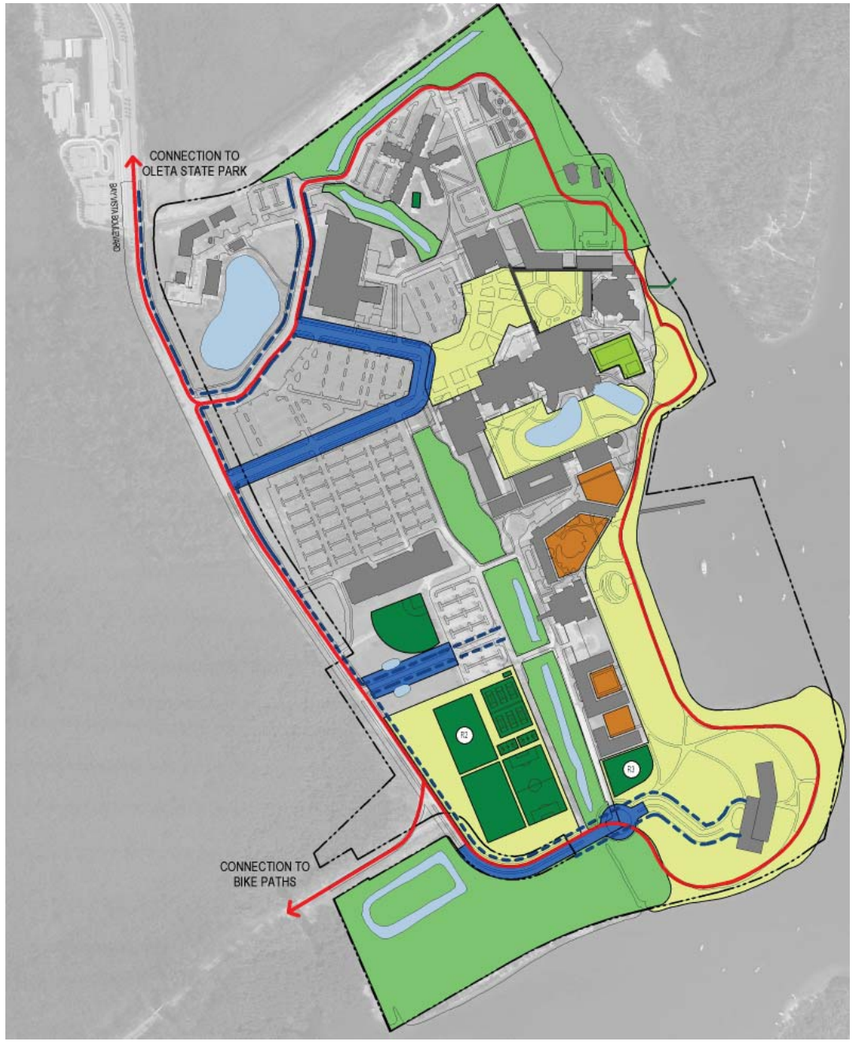

Figure 1.25 Biscayne Bay Campus Recreation and Open Space

9.0 GENERAL INFRASTRUCTURE

The Campus Master Plan ensures coordinated provision of public infrastructure facilities and services required to meet both current and future needs of the growing university. Development is consistent with current efforts to address sustainability issues on campus and the university-driven direction that all new facilities meet United States Green Building Council (USGBC) standards and be LEED certified.

Stormwater Management

FIU's stormwater management plan incorporates best management practices to minimize the impacts of development. Utilizing a variety of techniques that encourage and promote on-site infiltration and storage will protect and improve ground and surface water quality, while lessening the demand placed on existing infrastructure. A combination of percolation, overland flow, exfiltration systems and positive drainage systems with outfalls into existing on-site lakes will all be utilized to implement sustainable practices. FIU will also address stormwater management issues in the design and review process for each building project. Each project will meet the County's criteria and be submitted to the County for review.

Water

Potable water for the University is provided by both Miami-Dade Water and Sewer Department (WASD) and North Miami Public Works Department at Biscayne Bay. Coordination with these organizations is essential for meeting level of service standards and plan review of alterations made to potable water infrastructure. In addition to coordination with these agencies, FIU will ensure that its operational initiatives promote water conservation by implementing sustainable practices such as water efficient plumbing and landscaping techniques that utilize reclaimed water and native vegetative species.

Sewer

The majority of sanitary sewer systems throughout FIU'S campuses consist of gravity sewer lines that ultimately transmit waste to Miami-Dade Water and Sewer Department's off-site system. As additional sanitary sewer system infrastructure is needed, FIU will place emphasis on maintaining existing sewer systems, expanding systems contingent on development and correcting damaged or deficient infrastructure.

Solid Waste

Solid waste collection and disposal is accomplished at Modesto A. Maidique Campus, Engineering Center, and Biscayne Bay Campus by utilizing a combination of University staff, private contractors and public entities. Upon collection, the solid waste material is either recycled or sent to the landfill for disposal. In coordination with meeting USGBC certification and campus interest, FIU will continue to expand its recycling efforts to reduce or reuse campus waste.

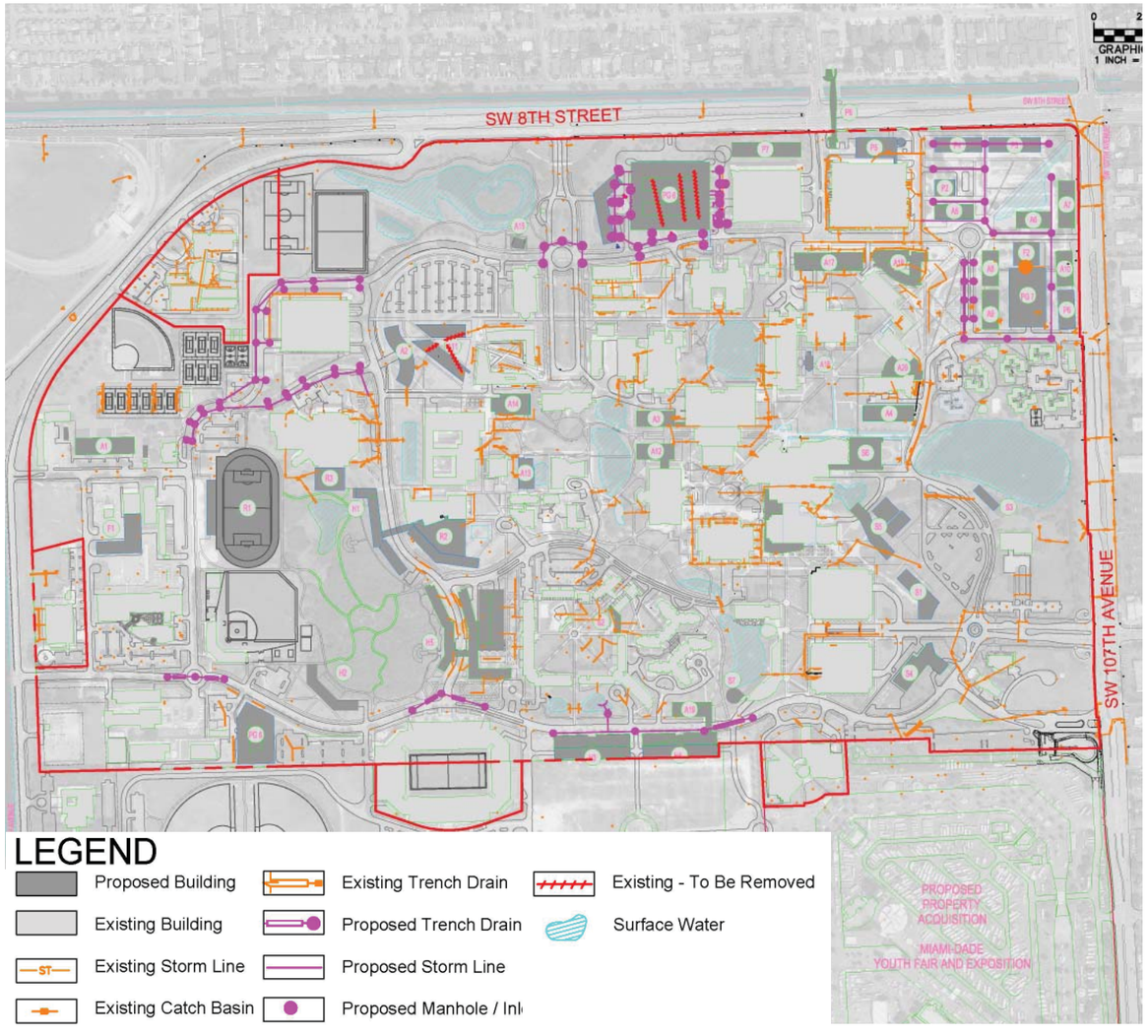

Figure 1.26 Modesto A. Maidique Stormwater

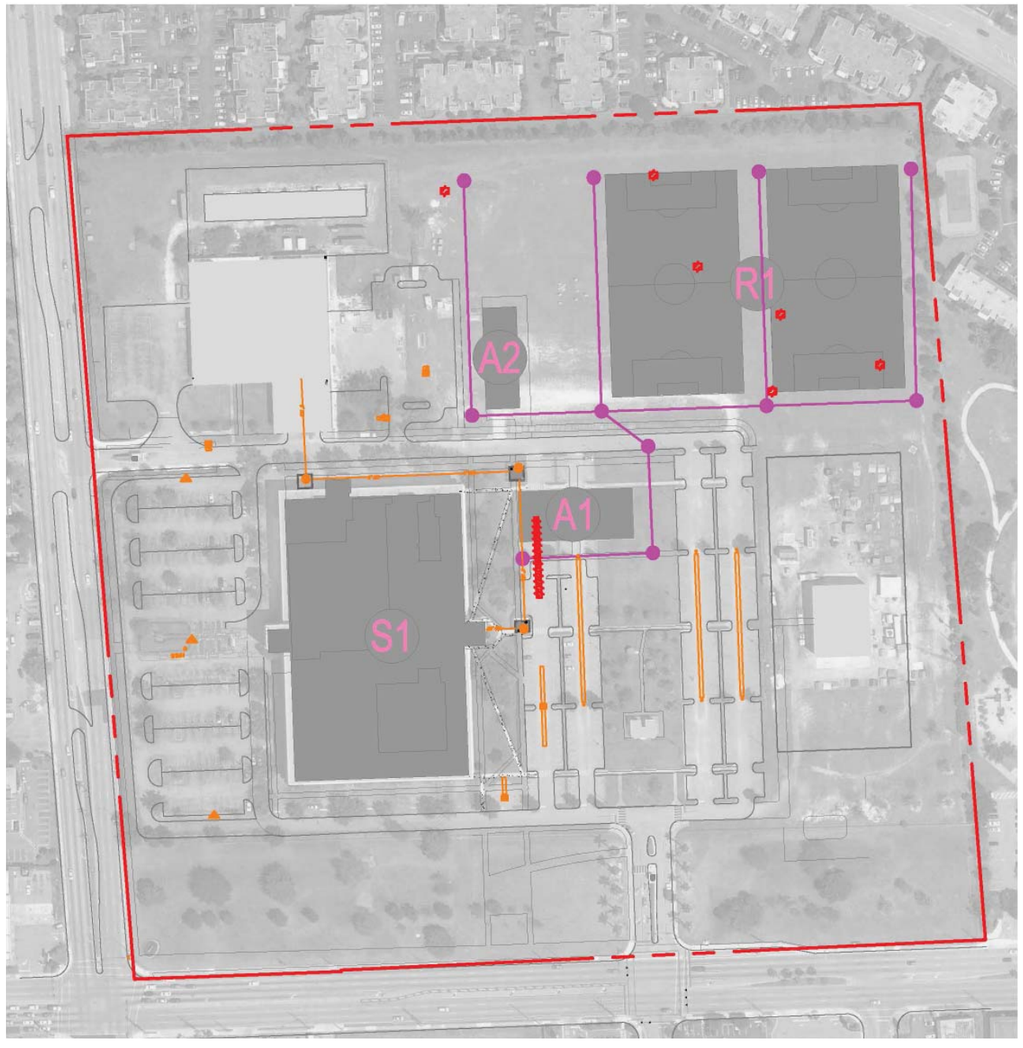

Figure 1.27 Engineering Center Stormwater

Figure 1.28 Biscayne Bay Campus Stormwater

10.0 UTILITIES

The Campus Master Plan ensures that adequate utility services are provided to meet both current and future needs of the University. Procedures, practices and protocol strategically align with current efforts to address sustainability on campus - including FIU's Climate Action Plan (a responsibility as a signatory of the American College and University Presidents Climate Commitment) and FIU's commitment that new facilities meet United States Green Building Council (USGBC) standards and are LEED certified.

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.

Chilled Water

Supplying chilled water to meet the demands generated by a growing university must occur on three levels. First, as development ensues, the Campus Master Plan ensures that all existing distribution systems are not in conflict with future development and are coordinated with the Campus Master Plan. Secondly, deficiencies have been identified to ensure an adequate supply of water, optimal operational efficiency, and reduced energy costs. Lastly, new infrastructure has been identified to supply the increased demand generated by new facilities.

Electrical Power

Florida International University's energy is provided by Florida Power and Light (FP&L). The utility provider has master planned their facilities to satisfy all campus expansion. FIU will continue to coordinate closely with them to ensure that an adequate supply of electrical power is supplied to all new and existing facilities. Incentive programs provided by FP&L should be utilized by the University to aid in and improve the energy consumption of their lighting and chiller systems.

Telecommunications

The expansion of university facilities, increased reliance on eLearning and Hybrid instruction, and rising student expectations, have all generated higher telecommunication demands. Existing telecommunication grids are already heavily used at the Modesto A. Maidique Campus, which has created the need for a second feed. At each campus, new ductbanks should be added to reinforce the existing grid and provide needed service to all new buildings.

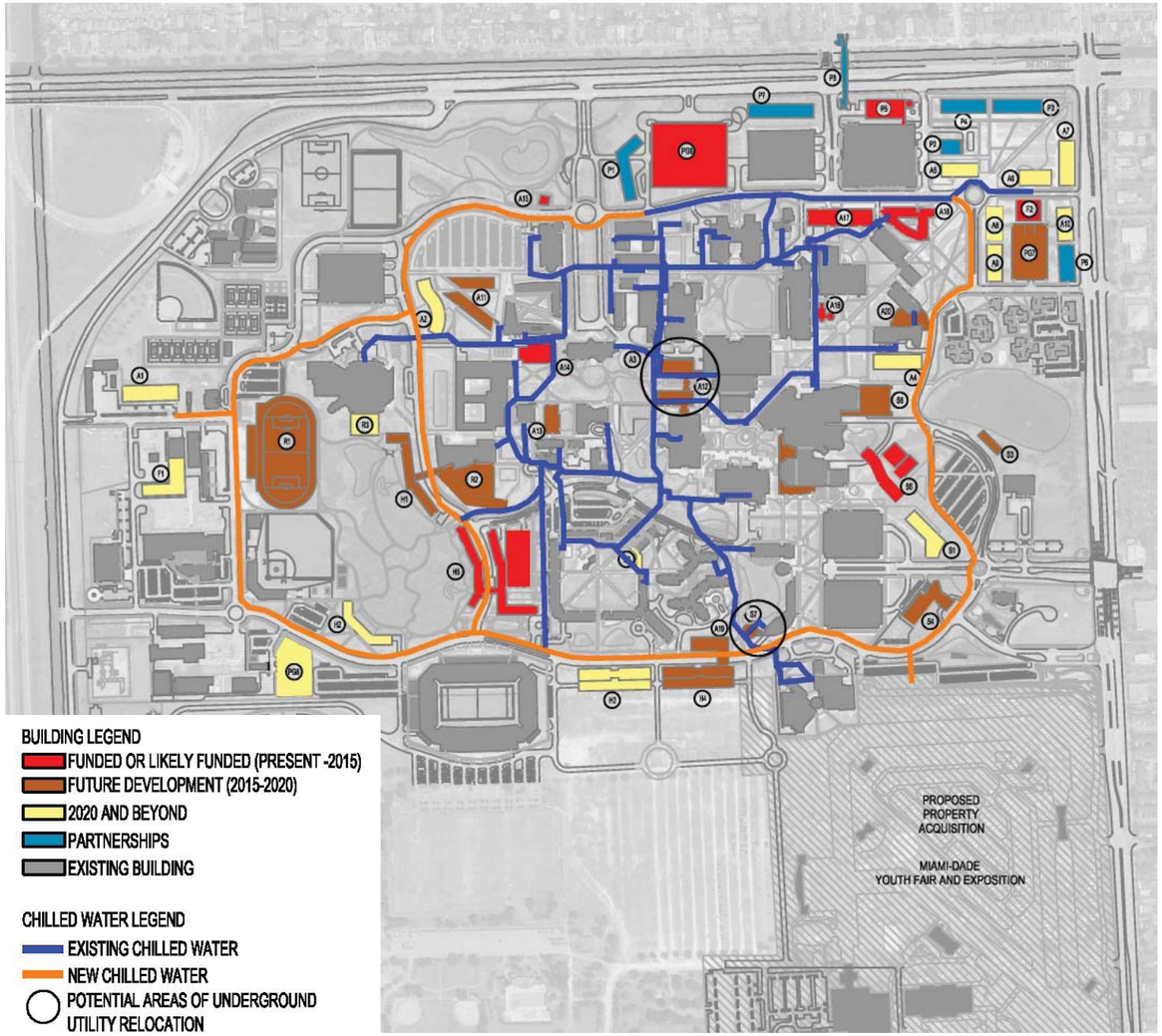

Figure 1.29 Modesto A. Maidique Campus Chilled Water

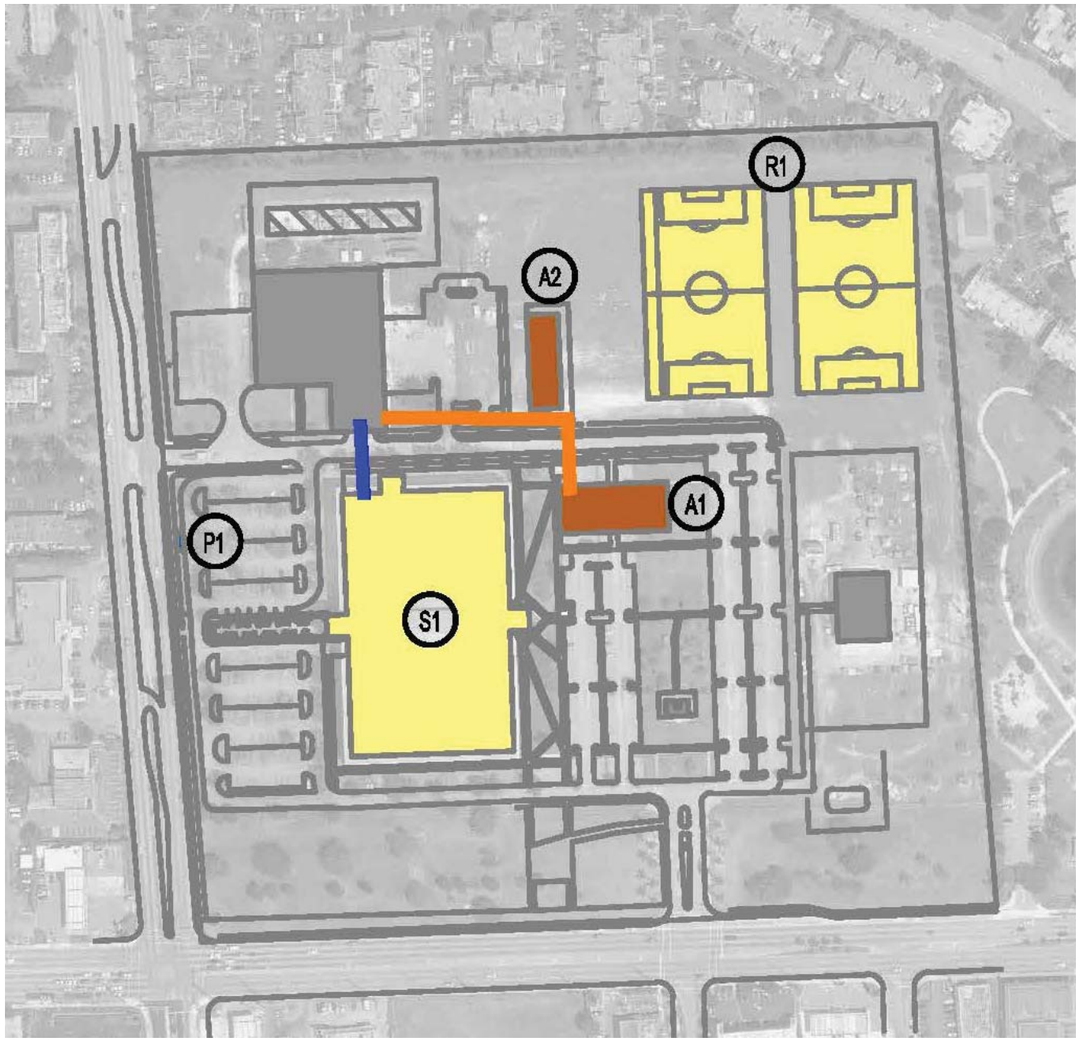

Figure 1.30 Engineering Center Chilled Water

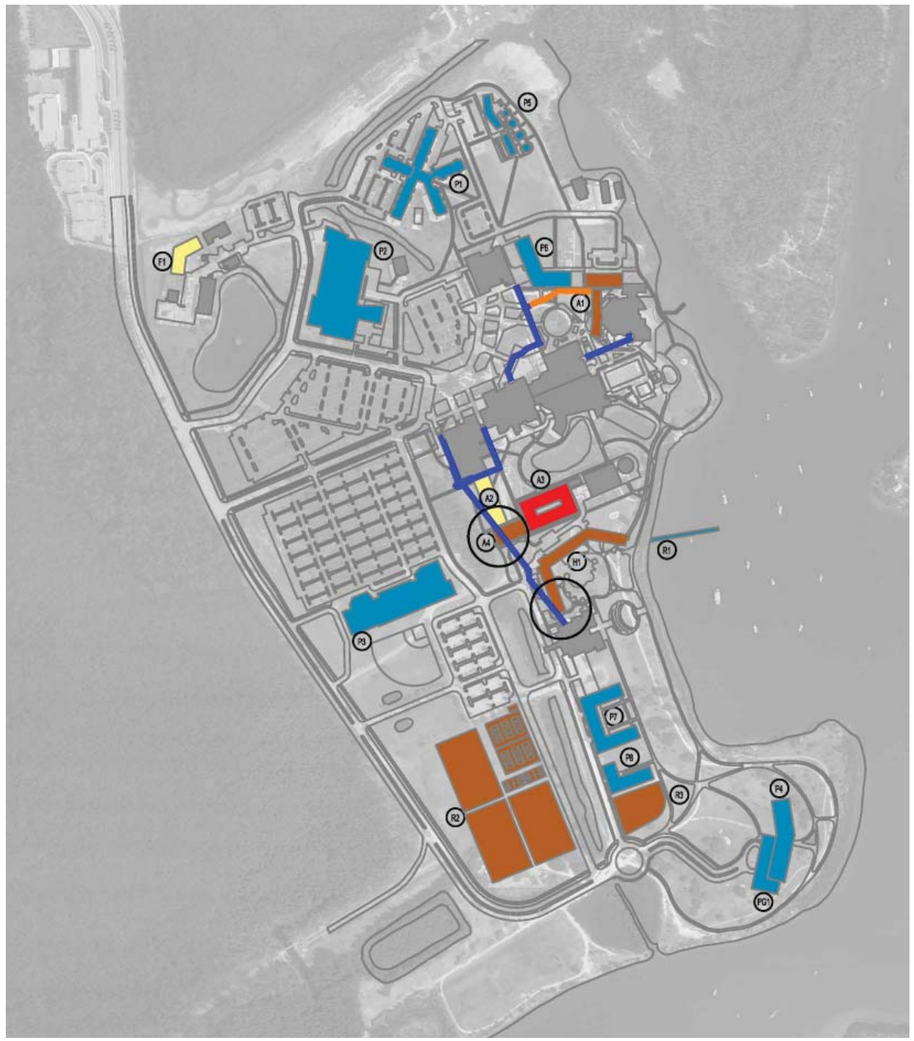

Figure 1.31 Biscayne Bay Campus Chilled Water

11.0 TRANSPORTATION

At each of its locations, Florida International University's goal is to increase multimodal access. With growing student enrollment, FIU will continue to place planning emphasis on providing safe, sustainable and adequate access to students, faculty, staff and visitors alike. Utilizing a variety of strategies, FIU aims to increase accessibility, mobility, and carbon reduction to accommodate future growth on each campus.

Transit

Florida International University will continue to coordinate with its respective host communities and Miami-Dade Transit to create additional opportunities for improved and frequent public transportation, additional bus stops near campus, and enhanced bus stops with amenities such as covered shelters and landscaping. Both Modesto A. Maidique Campus and the Engineering Center will provide major transit hubs and bus stops for evolving bus rapid transit programs to serve the university and local community.

Traffic Circulation

Improvements to existing infrastructure are needed to alleviate the demand placed on roadways with the current university population as well as accommodate future growth. Intersections and lane improvements adjacent to each campus have been identified. Coordination with Miami-Dade County and FDOT is needed to ensure proper and successful execution of these recommended improvements. In addition, the incorporation of safe and efficient bicycle lanes for commuting students is required both off and on campus. Realignment of streetscape improvements to perimeter streets, access drives and campus roads are required to promote a safe, secure and comfortable pedestrian oriented environment to complement the street network.

Parking

Parking demand and availability continues to be a challenge for FIU. While both Engineering Center and Biscayne Bay Campus have adequate available land for additional parking facilities, Modesto A. Maidique Campus has limited available land and road capacity. This lack of capacity has led to the creation of multi-purpose parking structures at the campus edge to reserve land within the academic core. In order to manage parking demand and reduce the need for additional parking facilities, FIU will continue to promote alternatives to traditional commuting such as improved transit, carpooling, additional on-campus student housing, new off-campus housing with campus connectivity, eLearning and hybrid class modules, and flexible work schedules.

Pedestrian and Non-Vehicular Circulation

Pedestrian circulation remains a major planning concern. FIU should expand its network of safe pedestrian walkways – with adequate widths for the volume - from the perimeter of campus to core academic and student life facilities. In tandem, it should expand and strengthen identifiable crosswalks at strategic locations where students move from parking garages and surface lots into the campus core. Signage and lighting will be key supporting components for these improvements. Safe movement for all users should be a paramount concern when locating and designing new facilities and their supporting pedestrian corridors. Vistas, cover from sun and rain, seating areas, and public art should be coordinated along pedestrian axes making way-finding easier, enjoyable and more intuitive. The proposed 8th Street TIGER Grant Pedestrian Bridge will provide a new landmark in safety, connectivity and campus/community branding.

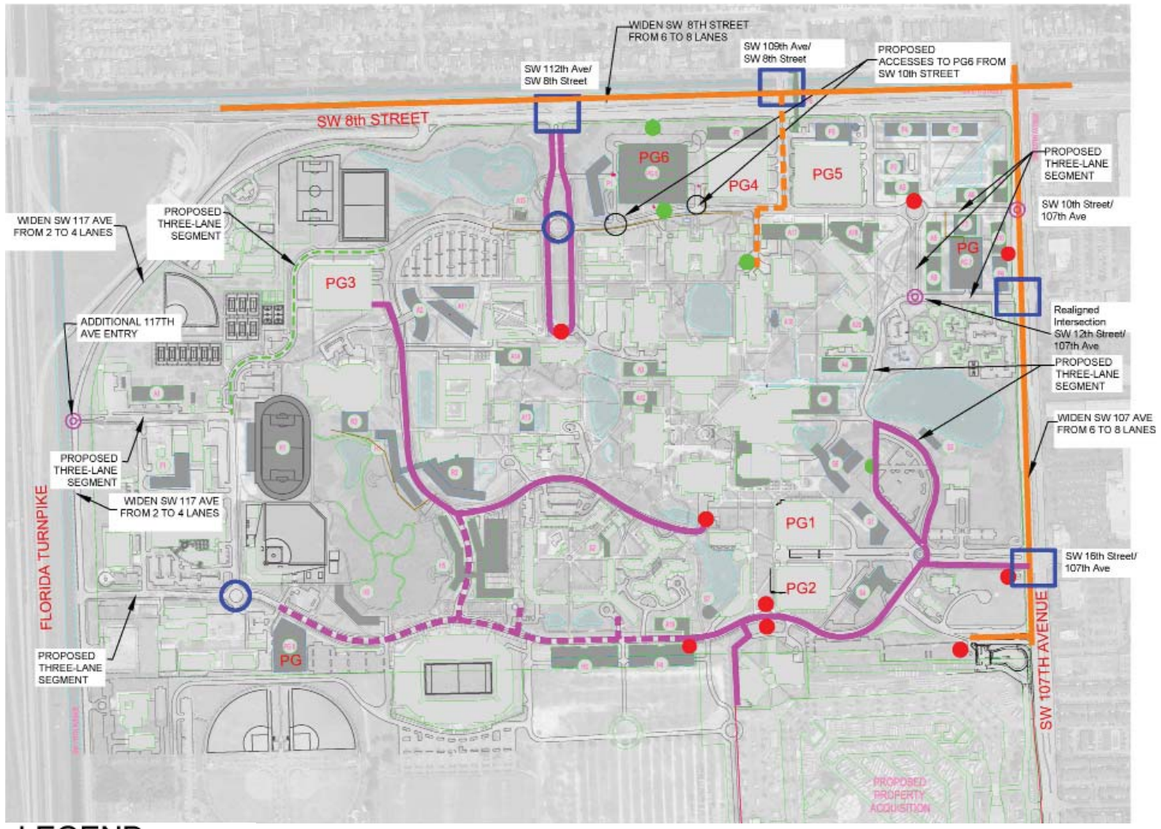

Figure 1.32 Modesto A. Maidique Campus Transit, Circulation and Parking

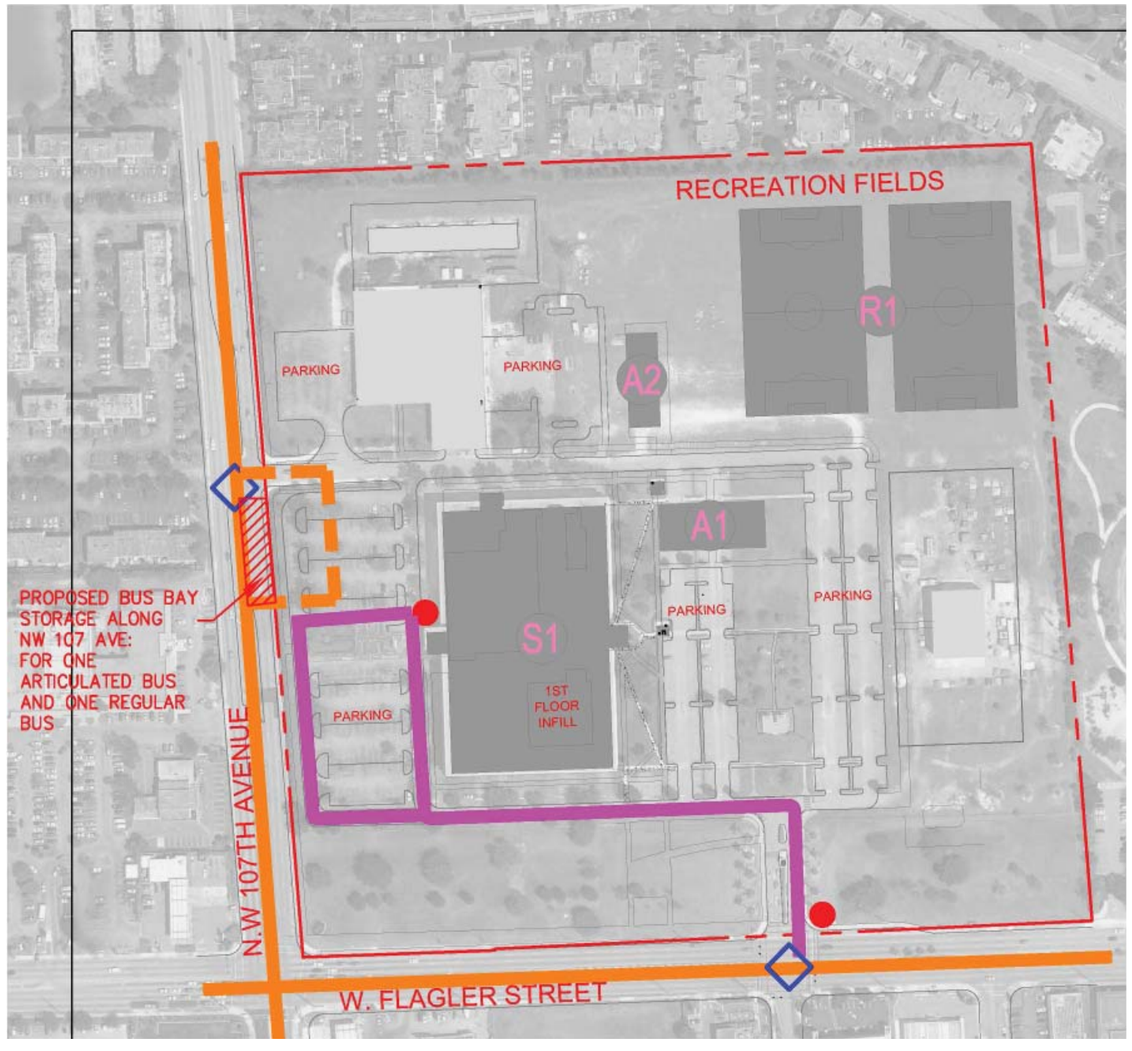

Figure 1.33 Engineering Center Transit, Circulation and Parking

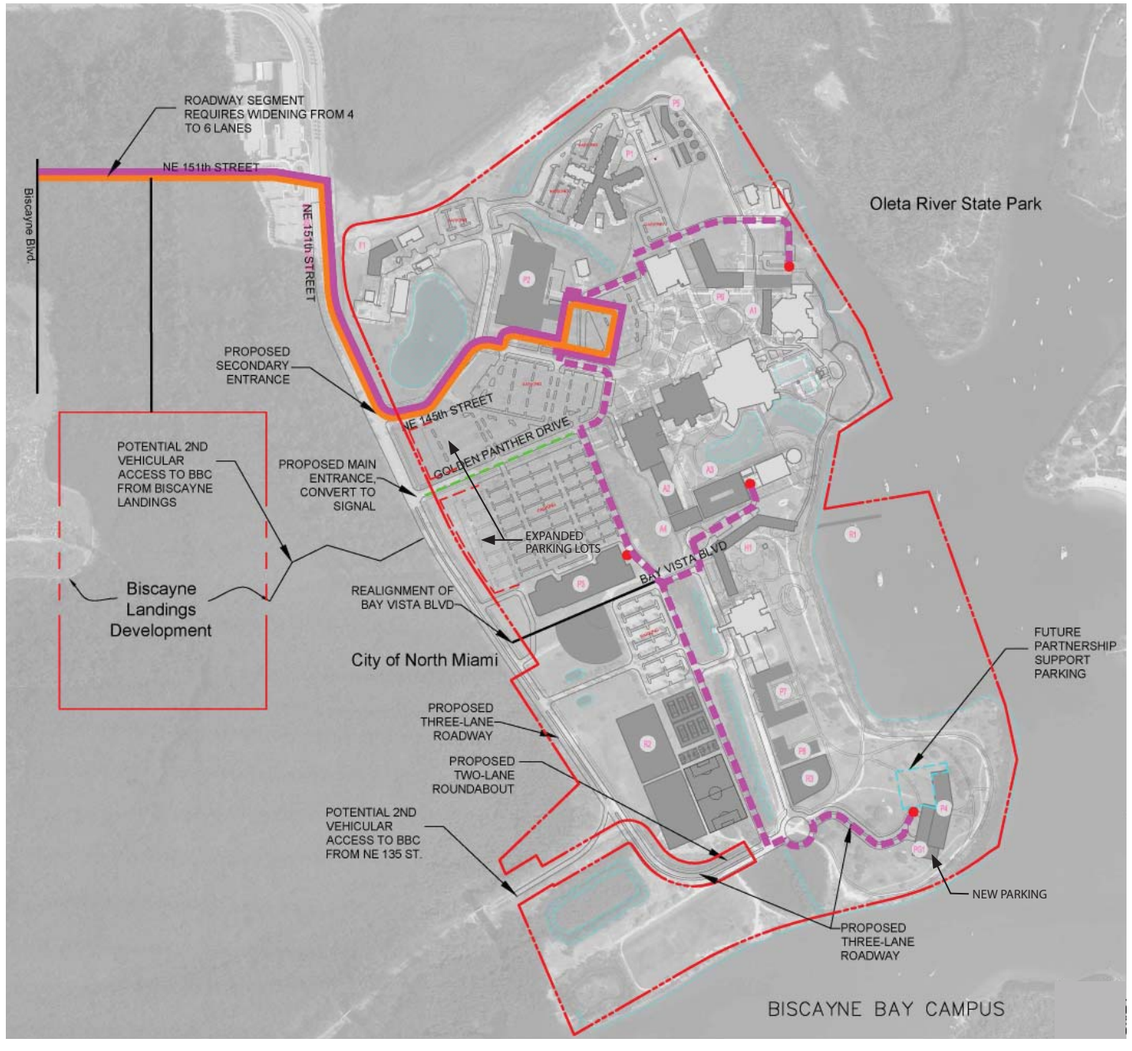

Figure 1.34 Biscayne Bay Campus Transit, Circulation and Parking

12.0 INTERGOVERNMENTAL COORDINATION

Florida International University's comprehensive planning process reflects and responds to the interaction between its people, programs, and amenities and vital elements of its surrounding host communities, concerned jurisdictions, and governmental agencies. The most important success factors for FIU in its relationships are cooperation, consideration, and coordination. The Campus Master Plan supports lasting and collaborative relationships with Miami-Dade County, the City of North Miami and the City of Sweetwater.

Cooperation

The Campus Master Plan recognizes the importance of the existing regulatory structure at the local, state and federal levels of government. Throughout the Campus 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. Existing programs, new areas of study, work-based learning opportunities for area businesses, and evolving student life amenities all rely on cooperation and communication between FIU, Sweetwater, and Miami-Dade business and economic development agencies. The current Sweetwater "University" Initiative and successful TIGER Grant application are important examples of this potential. These partnership opportunities and relationships have been structured into relevant elements of the Campus Master Plan.

Consideration

FIU recognizes that it is a large economic and development force within each host community. University projects have the potential to affect planning, resources, development patterns, and surrounding land uses. Similarly, community land use and development around each campus have the potential to enhance or detract from the FIU's unique academic environment. The Campus Master Plan supports the highest and best use of FIU property and development in consideration of its impact on the quality of life for neighboring businesses, residents, and land holders.

Coordination

The goal of intergovernmental coordination is the joint process for collaborative planning, decision making, and development review by governmental agencies. The Campus Master Plan identifies issues which, because of their unique circumstances, require intergovernmental coordination above and beyond that which routinely occurs in day-to-day university operations. FIU's planning goals, objectives and policies facilitate coordination and communication with local government and service providers. If there are conflicts that arise, these mechanisms will be used to resolve the conflicts while working toward achievement of FIU's planning implementation.

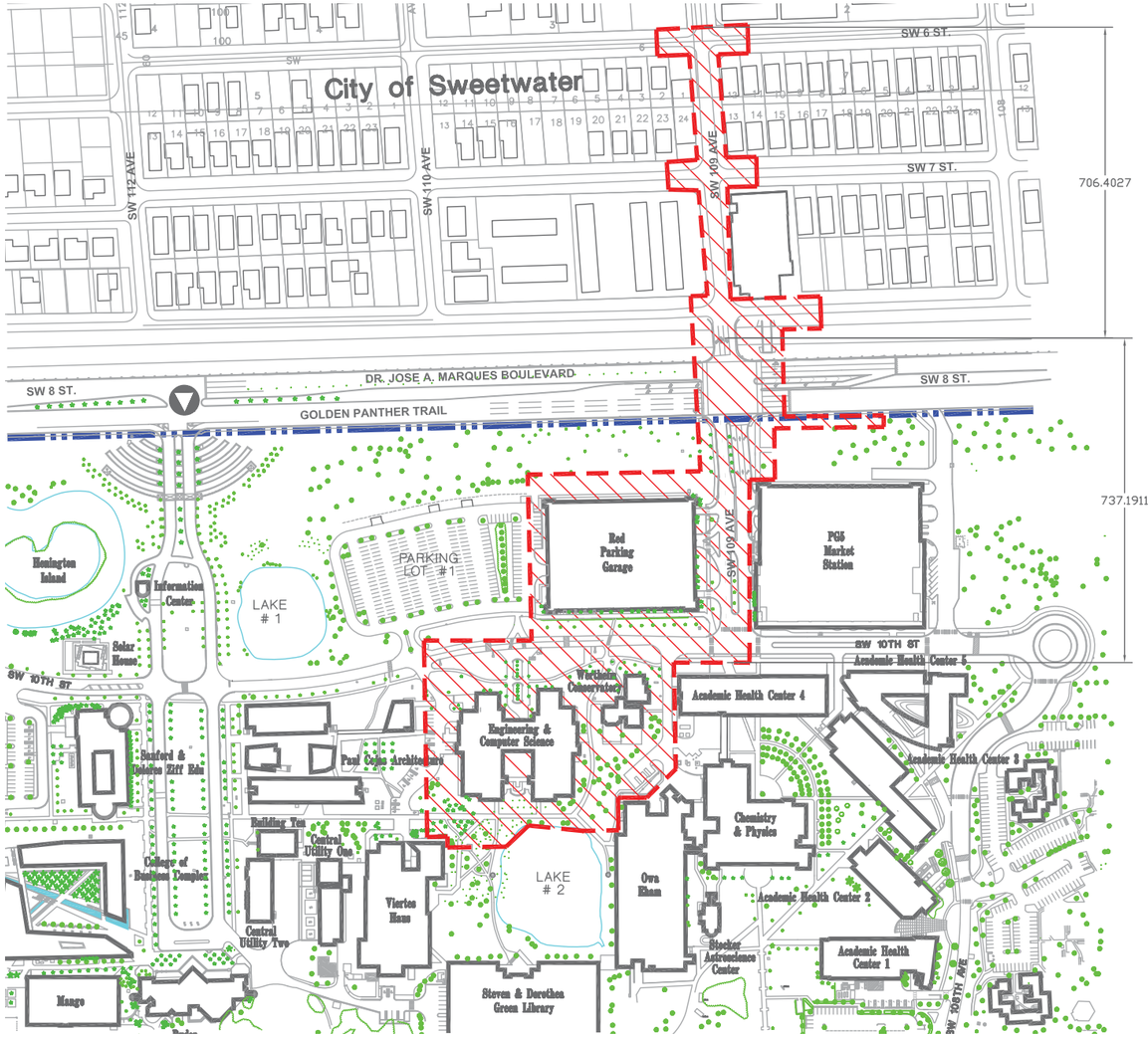

Figure 1.35 UniversityCity Prosperity Project

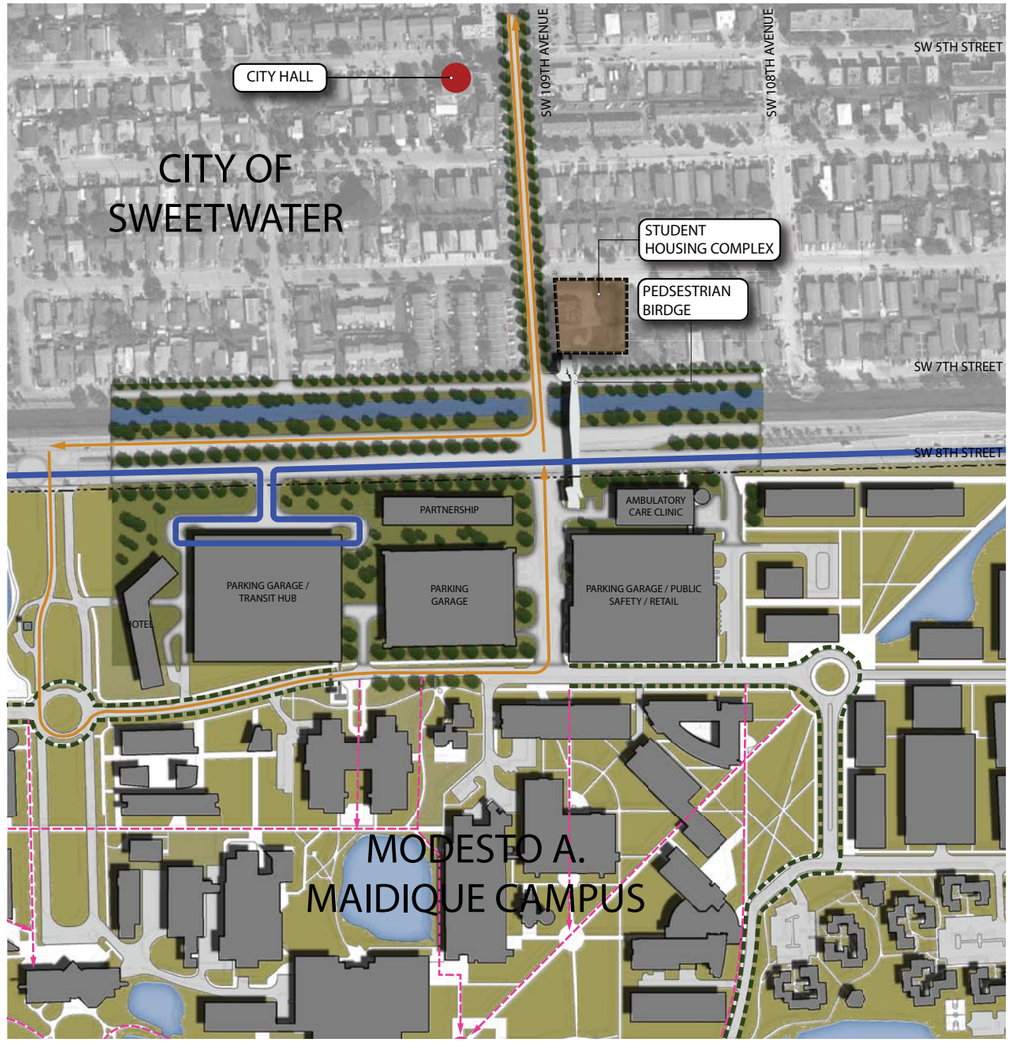

Figure 1.36 TIGER Grant Pedestrian Bridge

13.0 CONSERVATION

The overall goal of the Campus Master Plan is to allow for development that avoids negatively impacting existing natural resources or the environment. With future expansion planned to occur on each of Florida International University's campuses, development must be sensitive to energy and water use as well as adverse impacts on native vegetative communities, wildlife habitats and ecosystems. All planning goals, objectives, and policies are consistent with the FIU Climate Action Plan, support USGBC standards for LEED Silver certification for New Construction, adhere to local, state and federal regulations, and comply with various agency guidelines and policies. Florida International University will partner with appropriate agencies, resources, and University faculty and staff to ensure all development is completed with minimal negative impacts.

In addition to conserving natural resources, FIU's operational initiatives and procedures should minimize impacts to the environment. The overall energy, water, and waste footprint of the campus (and its growing student body) should be minimized by creating best practices that maintain high air and water quality, conserve water and energy, use non-hazardous materials, and promote campus-wide reuse and recycling. The Campus Master Plan recommendations support USGBC standards for LEED Silver certification for Existing Building Operations and Management.

Figure 1.37 The Preserve at Modesto A. Maidique Campus (top) & the BayWalk at Biscayne Bay Campus (bottom)

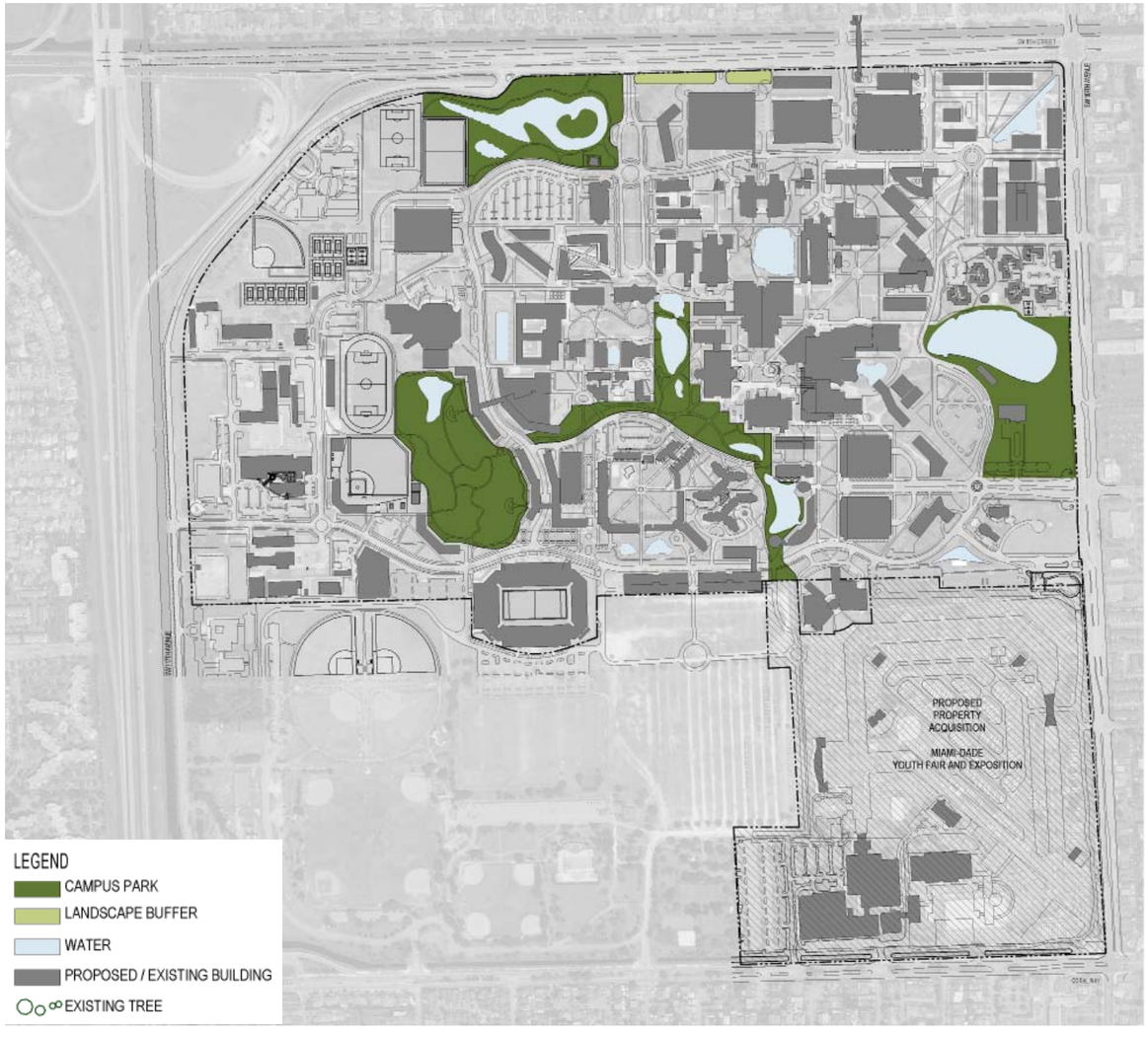

Figure 1.38 Modesto A. Maidique Conservation

Figure 1.39 Engineering Center Conservation

Figure 1.40 Biscayne Bay Campus Conservation

14.0 CAPITAL IMPROVEMENTS

Given the anticipated renovation, repurposing, new construction, and redevelopment needed to accommodate projected future growth at Florida International University, identifying and supporting funding mechanisms required for program and enrollment expansion is one of the most critical outcomes of the Campus Master Plan process. Implementation of the Campus Master Plan is contingent upon the application and efficient use of State University System (SUS) monies, FIU funds, collected revenues from public partnerships and private investments, and alumni and donor support. To supplement these sources of funding, more creative methods of gaining financial support must be explored should additional funds be needed.

The Campus Master Plan outlines both current projects as well as those that are scheduled for completion later in the 2020 planning period. While more immediate future projects have funding allocated to them, projects further down the timeline may not. Unforeseen funding and phasing complexities may evolve. As a result, the Master Plan serves as a flexible framework that can adapt to changes in the discreet timing of individual projects. Its effectiveness can be enhanced by continually monitoring and updating implementation as it proceeds. These updates should occur on an annual basis. The goals, objectives and policies of the Capital Improvements Element identify procedures and strategies to implement the Campus Master Plan in the most efficient and fiscally sound manner.

Figure 1.41 Planned projects at Modesto A. Maidique Campus and Biscayne Bay Campus include MANGO (top) and the Wildlife Center (bottom)

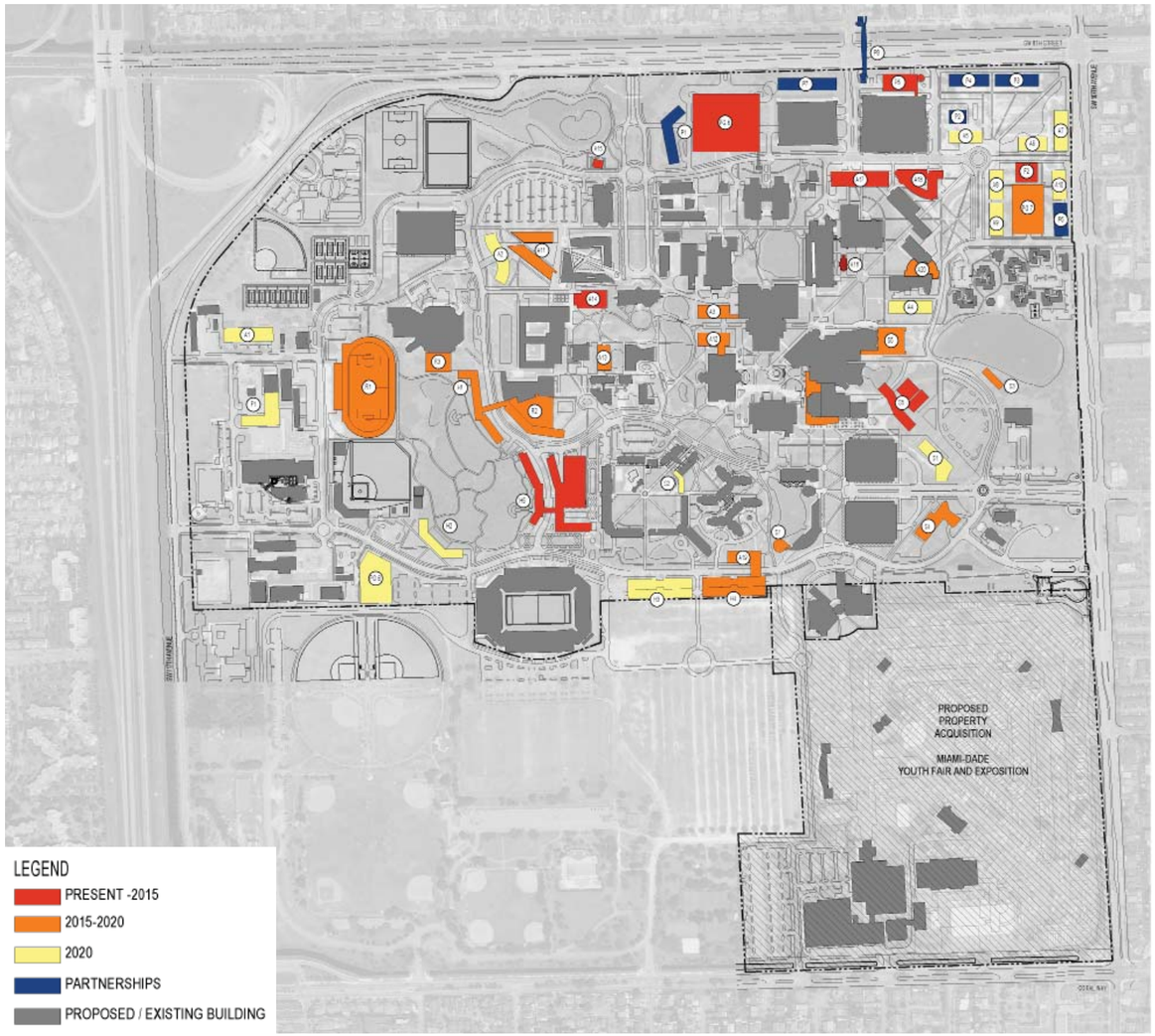

Figure 1.42 Modesto A. Maidique Campus Capital Improvements

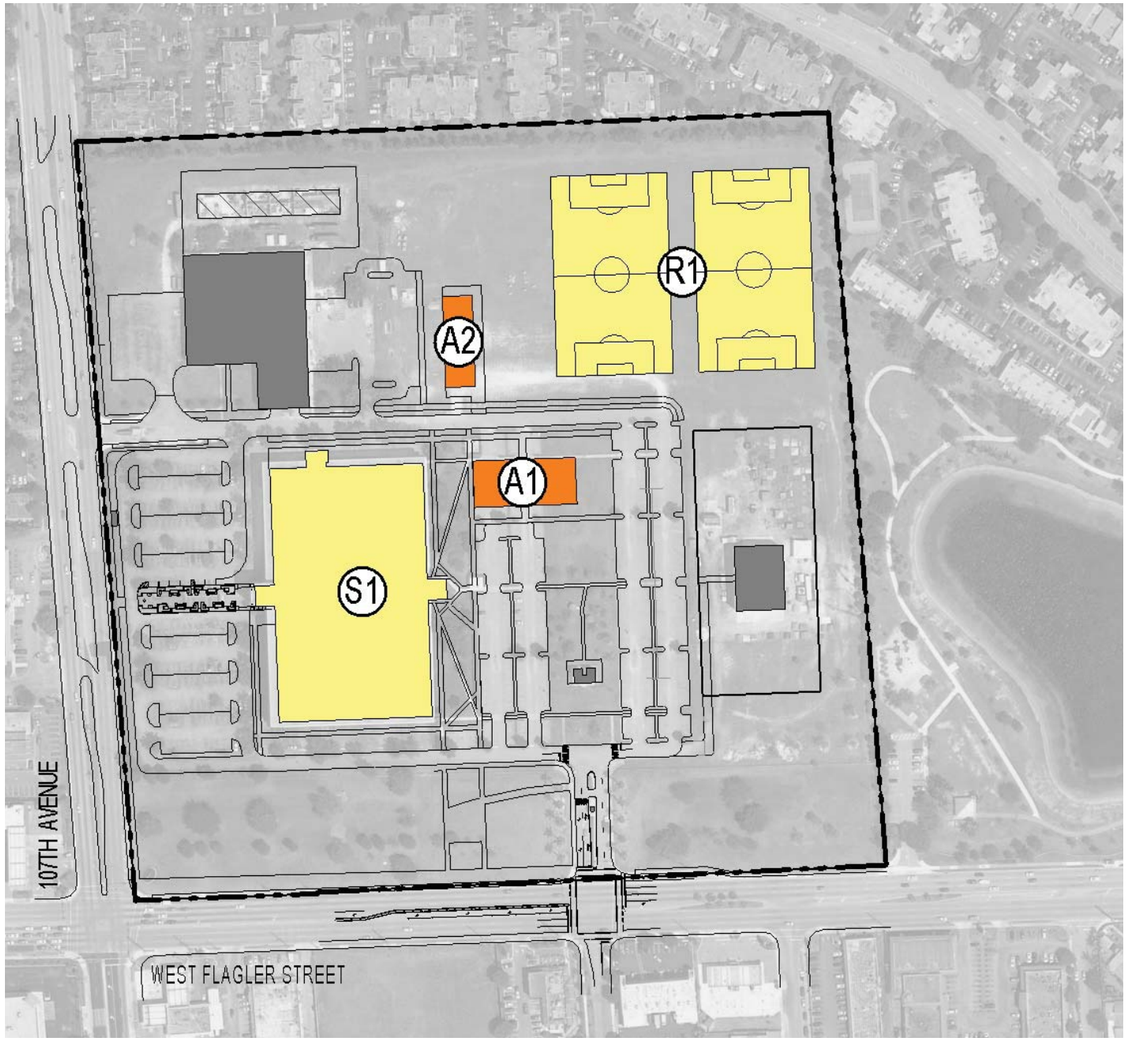

Figure 1.43 Engineering Center Capital Improvements

Figure 1.44 Biscayne Bay Campus Capital Improvements

15.0 ARCHITECTURAL DESIGN GUIDELINES

The Architectural Design Guidelines outline protocol and procedures for the development and design of university-based facilities that consider more than just the exterior walls, but strive to meet both programmatic and aesthetic benchmarks. Emphasis is placed on creating facilities that are sensitive to their local environment and context, while utilizing sustainable construction materials and construction techniques.

Five comprehensive goals, outlined below, have been developed to inform the Architectural Design Element at FIU. These goals are used to develop buildings that preserve and enhance the image of higher education. They have been the base concept for past design and should serve as the foundation for future development of FIU facilities that stem from the Comprehensive Master Plan. The urban design guidelines, landscape design, and architectural design guidelines must work in conjunction to assure that future development supports the overall mission and vision of FIU and creates a cohesive campus fabric.

Highlights of Architectural Design Guidelines include the following:

- Incorporating a Project Responsibility Checklist, to assist in the process of following all necessary guidelines during the design and development of projects.

- Establishing Sustainable Design Guidelines and goals to help elevate the standards of energy efficiency and performance for all new buildings, as well as specifying principles and design drivers that will enhance pedestrian and outdoor environments.

- Outline the frame work for an Integrated Design Process, to assure successful implementation of all campus master plan guidelines.

- Establish the FIU Design Review Process, that will provide reviews and approvals of all designs within existing Campuses. This will ensure that all guidelines and goals established within the FIU Master Plan document are followed and achieved.

- Establish Architectural Guidelines and Components to reinforce and work in partnership with the Urban and Landscape Design guidelines, the FIU Building Standards, and the Office of Sustainability Guidelines.

Figure 1.45 Building styles, materials, public art and design used throughout Florida International University's campuses

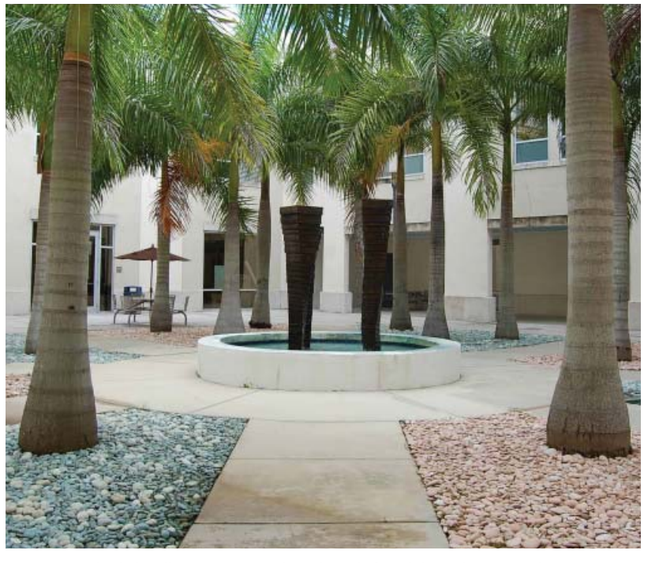

Figure 1.46 Shaded walkways, courtyards and quads found throughout FIU's three campuses

16.0 LANDSCAPE DESIGN GUIDELINES

As the campuses at Florida International University continue to develop, ensuring adequate, high quality open space distributed throughout campus is an integral part of the Campus Master Plan. The Landscape Design Guidelines outline the procedures and framework needed for the creation, improvement and maintenance of existing and new outdoor spaces to aesthetically unify geographically separated campuses and showcase their unique natural environment. Emphasis is placed on reinforcing sustainable design practices as outlined by USGBC standards for LEED certification, American Society of Landscape Architects Sustainable Sites Initiative (SSI), and Florida Friendly Landscaping Principles.

The use of regulating axes, a hierarchy of outdoor spaces, and special purpose landscapes act as organizing elements that guide future on-campus development. Gathering spaces and main circulation routes should be reinforced with identifiable landscape treatments. Pedestrian corridors linking academic cores within campus should continue to be identified. As the overall character of the FIU campus continues to mature, various spaces will be defined following these guiding principles:

- Integrate 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 in conjunction with new facilities.

- Seek to develop new significant landscape features in association with campus growth, including campus spaces such as quads, plazas, campus streets and campus edges while enhancing the concept of the "Avenue of the Arts" and "Avenue of the Professions", "the Avenue of the Sciences", and the "Avenue of the Students".

- Blend 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 areas that integrate the buildings and site facilities into the landscape.

- Continue the initial style and character of the original campus plantings with emphasis on transitioning and reflecting the natural formation of plantings.

- Maintain a selective palette of indigenous and site-adaptive plant species that express the subtropical environment, as well as those plants that promote Xeriscape principles.

17.0 FACILITIES MAINTENANCE

The Florida International University campuses boast a variety of original buildings – some dating back to its origins as the original Miami-Dade airport. The core facilities stem from the founding concrete facilities of the 1970's; recent construction has included an era of innovative new buildings that are based on very different materials and design vocabulary. This wide array of buildings from different eras and with different architectural components displays the dynamic evolution of FIU. While finding ways to appropriately harmonize building systems, components and materials, equal attention should be given to all facilities to ensure proper maintenance and infrastructure changes.

FIU currently utilizes an Integrated Facility Maintenance Program. Priorities are assigned to address facility deficiencies based on explicit criteria and standards, with implementation limited by funding availability. The goals, objectives and policy outlined in the Campus Master Plan advocate for an expansion of the facilities maintenance program. A schedule for routine, preventative and deferred maintenance - along with strategic renovations and repurposing – will ensure that current and future facility needs are met.

Figure 1.47 Facilities incorporate a variety of materials and configurations accommodating an array of uses

Figure 1.48 Aerial view of the Biscayne Bay Campus

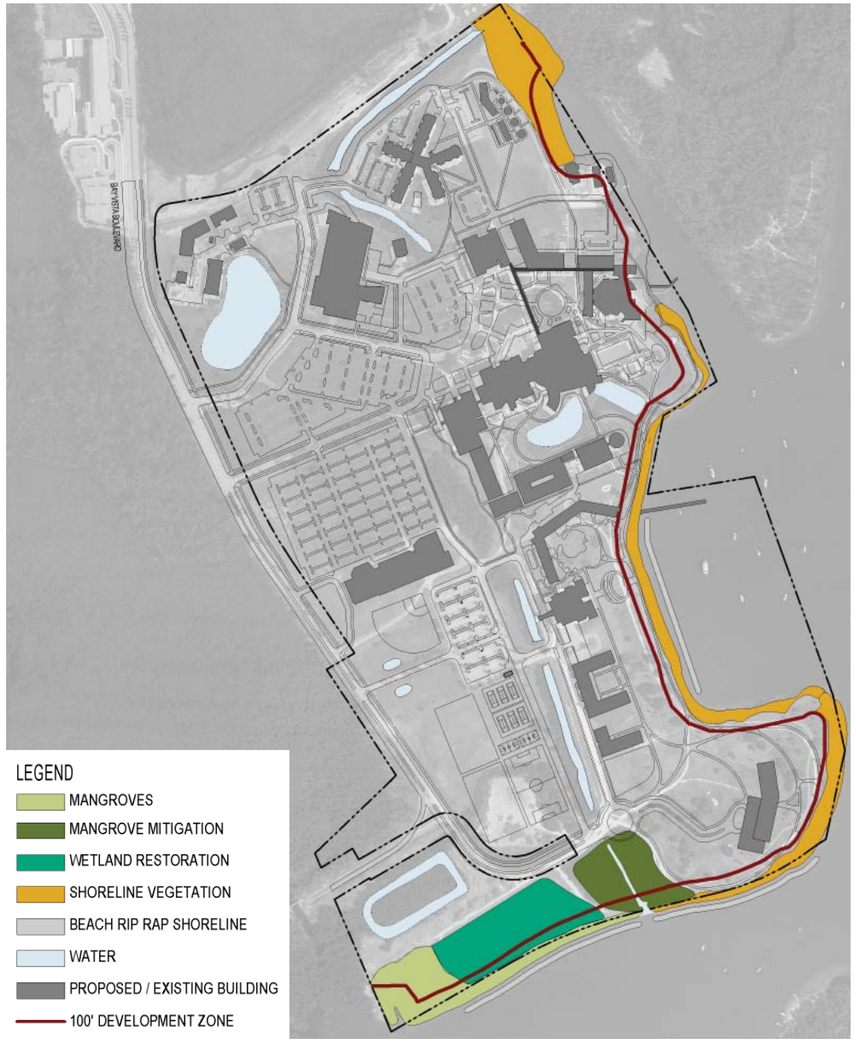

Figure 1.49 Biscayne Bay Campus Coastal Management

18.0 COASTAL MANAGEMENT

Biscayne Bay Campus boasts a location that few other universities can rival. The proximity to South Florida's Atlantic coastline creates a picturesque, sub-tropical setting. However, the proximity comes with both its advantages and disadvantages and creates many challenges in the campus master planning process. Development on the campus must strive to take advantage of the amenities provided by the location, but be sensitive to the delicate ecosystem and the threat of hurricanes, tropical storms and flooding. Due to the complexity of the environment, the Campus Master Plan has been coordinated with local agency requirements such as Miami-Dade Division of Environmental Resource Management in order to ensure responsible development.

In addition to housing academic facilities, the location of Biscayne Bay Campus must also double as a refuge for individuals seeking shelter during a disaster. Requirements established by the State University System requires Florida International University to assess its facility's capabilities to provide such shelter space when needed. 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 of the campus planning recommendations establish a framework for meeting these requirements.

FIU