

1.0 ACADEMIC MISSION OF THE UNIVERSITY ELEMENT

“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.”

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 12 colleges and schools, FIU offers more than 200 different baccalaureate, masters and doctoral degree programs and conducts basic and applied research (per FIU’s Annual Accountability Report to the Board of Governors 2011-2012). As of 2012, the University had a headcount of 42,928 students (or 23,367 FTEs), 6,289 faculty and staff (or 5,349 FTEs), and 169,000 alumni, making it the largest public university in South Florida (per FIU supplied data).

University Service Areas:

Located in South Florida, the State’s major population center, the University serves a population of over 4.3 million. South Florida is one of the most dynamic, artistically expressive, ethnically diverse and cosmopolitan regions in the United States. As the gateway for Central America, the Caribbean and South America, it is a global center for trade, finance, health care, tourism and manufacturing. To meet its consumer’s needs, FIU has two main campuses – the 342.2-acre Modesto A. Maidique Campus, in western Miami-Dade County and the 198.6-acre Biscayne Bay Campus, on Biscayne Bay in northeast Miami-Dade County. In addition to the two main campuses, Modesto A. Maidique Campus also encompasses the Engineering Center, a 36 acre site located North of the City of Sweetwater. Faculty, staff and the student body mirror the area’s ethnic diversity with 77% of student enrollment from minority groups. As of 2012, approximately seven (7) percent (or 3,018 students) of enrollment was from International Students.

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.
- Honesty, integrity, and truth.
- 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.

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
- 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.

FIU's Institutional Goals:

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

1. To educate undergraduate students

- Who become critical thinkers empowered to learn and to integrate their understanding in a variety of areas of knowledge, creativity, entrepreneurship, and accomplishment;
- Who possess the intellectual and personal competencies needed to excel in their fields throughout the world;
- Who understand their culture and the cultures of others and appreciate the complexities and diversity of our global society;
- Who understand and commit to their civic responsibilities.

2. To educate graduate and professional students

- Who demonstrate an ability to synthesize knowledge and practice in ways that produce new insights;
- Who add to the existing body of knowledge in their disciplines;
- Who understand the obligation of the holders of advanced degrees to apply their knowledge and critical intellectual abilities in an ethical manner.

3. To build a distinguished faculty and staff

- Who create a learning environment for students and each other;
- Who give students a foundation of knowledge and understanding that will lead to success in their chosen fields and their lives;
- Who give students the habits of mind of life-long learning and responsible global citizenship;
- Who generate research results and creative contributions recognized both nationally and internationally;
- Who collaborate with each other and with community leaders to explore creative solutions to local, regional, national, and global problems;
- Who pursue research activities and provide additional federal and corporate research funding to the university.

4. To build an excellent student support system

- That provides academic, personal, and financial support;
- That adopts best practices across all services;
- That creates a culture of clear and consistent communication across all internal constituencies.

5. To build an excellent financial base

- That maximizes impact by carefully stewarding and enhancing resources;
- That applies information technology to enhance and streamline operations;
- That encourages external contracts and grants funding;
- That benefits from alumni and community support;
- That increases the university endowment.

6. To build an excellent physical and technological infrastructure

- That is student-centered and conducive to learning;
- That is appropriate to FIU's size and aspirations to research excellence;
- That is accessible and sustainable;
- That applies technology efficiently to conserve resources.

7. To build collaborative university/community relationships

- That employ the intellectual capital of the university to solve community problems;
- That encourage alumni to continue their association with and contribution to the university;
- That create university affinity and social well-being through cultural programming and athletic events;
- That enhance the intellectual development of the community through life-long learning opportunities.

Goal 1: Florida International University (FIU) is a top public, 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 Maintain College/School Missions:
The mission of each individual college and school shall be reviewed annually and modified to support FIU's mission 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 The Academic Mission, Strategic Themes and Institutional Goals of FIU shall reflect both the recent and planned substantial growth in research activity.

Policy 1.1.4 The Campus Master Plan shall be updated and refined every five (5) years to reflect any revisions or modifications to the missions of individual colleges and schools.

**Objective 1.2 Maintain Current University Mission:
The University Mission shall be modified every five (5) years and reviewed and approved as part of the Florida Board of Education, 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 updated and refined every five (5) years to reflect any revisions or modifications to the University's mission statement.

**Objective 1.3 Maintain an Up-to-Date Master Plan:
The University shall participate in the periodic updating of the adopted campus master plan in accordance with the Florida Board of Education**

Policy 1.3.1 FIU shall submit to the Florida Board of Education every 5 years 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 every 5 years an updated plan which incorporates the findings and recommendations contained in the evaluation and appraisal report; contains updated baseline data and projections; and confirms 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 continuously expanding array of educational opportunities for the more than 40,000 students enrolled in academic degree programs. The majority of students take classes at Modesto A. Maidique, although a significant percentage of students enroll on-line and/or take classes at more than one campus due to convenience, fully enrolled courses, or scheduling conflicts on the campus of their choice.

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 international partnerships and the use of on-line delivery continues to expand, more students are expected to enroll in these types of programs.

The full time equivalent (FTE) and headcount (HC) projections provided in this element are based on enrollment data from the Fall of 2011. Below is a list of the colleges and schools at FIU as of Fall 2011. In addition to these colleges, FIU's Honor College contains students from each of these colleges.

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

Within the University structure, there are more than 200 baccalaureate, masters, and doctoral majors and more than 190 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.

Since its creation in 2006, the College of Medicine at FIU has been accredited as the very first public medical school in South Florida and the fifth allopathic program in the State. This FIU initiative continues to integrate health and medical science programs into interdisciplinary teaching and research. It also continues to drive partnerships with health service providers in the community. FIU is partnering with Miami-Dade County and others to develop a 40-acre Academic Health Center at the northeast corner of Modesto A. Maidique. FIU's Master Plan has been amended to include and accommodate space for this evolving Academic Health Center and its medical partnerships.

In accordance with the University mission, FIU has committed itself to providing a quality education to the South Florida area by offering life-long learning programs at locations both on and off campus. University out-reach delivers these programs to 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 to maximize access and value. University Out-Reach's customer-driven professional team incorporates leading edge technologies to achieve their goals.

GOAL 1: Develop and maintain academic programs that reflect and implement both the overall Mission of FIU and its individual schools and colleges.

**Objective 1.1 Support projected Enrollment, Program Growth and Campus Distributions:
Plan for and support student enrollments of 29,935 FTE and 49,692 HC by the end of the 2020.**

Policy 1.1.1 Integrate incremental enrollment projections shown on Table 2.8: and Table 2.9 of the Campus Master Plan: Inventory and Analysis. Factor FIU's market share projections and college level strategic planning into the methodology for enrollment projections.

**Objective 1.2 Support Planned and Proposed Academic Programs:
Locate academic programs to support the academic mission and sustainable levels of enrollment at the Modesto A. Maidique and Biscayne Bay Campus through 2020.**

Policy 1.2.1 Locate the academic programs of the following colleges and schools at the Modesto A. Maidique through 2020. Review campus and program enrollments annually to assure that the University is meeting its goals for each location.

Architecture and Arts
Arts and Sciences
Business
Education
Engineering and Computer Science (also offered at EC)
Honors College
Law
Medicine
Nursing and Health Sciences
Hospitality and Tourism Management
Journalism and Mass Communication
Public Health and Social Work

- Policy 1.2.2 Locate academic programs of the following colleges and schools at Biscayne Bay Campus through 2020. Review campus and program enrollments annually to assure that the university is meeting its goals for each location.
- Architecture and Arts
Arts and Sciences
Business
Education
Medicine
Nursing and Health Sciences
Hospitality and Tourism Management
Journalism and Mass Communication
Public Health and Social Work
- Policy 1.2.3 Provide the specific academic programs within each college that are shown in Table 2.4 and Table 2.7 in the Campus Master Plan: Inventory and Analysis.
- Policy 1.2.4 Offer off-campus and on-line programs based on market demand and monitor the number of programs that are created.
- Policy 1.2.5 Reflect 2020 Priorities for new academic programs documented by the Florida Board of Education that are included in Table 2.7 of the Campus Master Plan: Inventory and Analysis.
- Policy 1.2.6 Distributed funding based on a pro rata basis to existing academic programs based on existing and projected enrollments
- Policy 1.2.7 Prioritize new academic programs based on the following criteria;
- Local, regional, national and international need
 - Potential enrollment
 - Maturity of program being modified
- Policy 1.2.8 Review and prioritize unforeseen potential academic program elements and grant opportunities with the Office of Sponsored Research Administration (OSRA). Apply the following criteria:
- Compliance with State and Federal regulations
 - Appropriateness to Academic Program and Mission
 - Capacity of physical and administrative infrastructure

Policy 1.2.9

Amend the Campus Master Plan to include any approved unforeseen program elements.

3.0 URBAN DESIGN ELEMENT

This Comprehensive Master Plan Update reflects the University's commitment to the refinement and extension of the base concepts earlier master planning efforts have created. FIU proposes enhancements to its urban design character by: creating a sequence of memorable Campus Spaces; creating identifiable Campus Streets and entrances; developing Campus Edges; increasing density that enhances the connection and aesthetic appeal of the University to the community; and establishing focal elements within the internal campus along significant axes.

There are five comprehensive goals that inform the Urban Design element at FIU. They are:

- Incorporate research and teaching opportunities into the campus environment. The incorporation of research areas, the inclusion of outdoor teaching rooms and the integration of visible and innovative stormwater management within the campus landscape reinforce the academic mission of the University.
- Focus on improving walkability by providing comfortable, shaded and direct circulation opportunities that act as a framework for a comprehensive wayfinding strategy. As FIU continues to grow, and parking is concentrated at the periphery of each campus, improving walkability will be a critical component.
- Maximize the positive impact that public art has on the campus environment. Many installations are the focal point within several significant campus spaces and gateways, often providing the first impression of the campus to visitors. This impact is a reminder that FIU is a world class international research university.
- Incorporate sustainable strategies with measurable performance-based results. Sustainable site strategies should include increasing the campus density through the use of a more compact urban pattern to maximize the efficiency of developed land, the use of integrated stormwater approach that utilizes natural systems to reduce infrastructure costs, reducing impervious surfaces and increasing the tree canopy to reduce the heat island effect generated by the campus.
- Increase the amount and quality of outdoor student spaces as a fundamental component of the physical environment. For many students, learning happens outside the classroom, engaging with fellow students, staff and the surrounding community in active dialogue. These exterior spaces can take the form of courtyards within or between buildings, terraces, plazas, gardens or lawn areas accommodating both large gatherings and small intimate study spaces.

FIU's campuses have historically been insulated from off-campus land use influences. Modesto A. Maidique Campus and Engineering Center are surrounded by major road corridors along with large vacant areas of lawn and surface parking lots. These have acted as barriers, disconnecting FIU from the surrounding neighborhoods. Biscayne Bay Campus is also isolated from its surrounding community by Oleta State Park and

surrounding waterfront. With FIU's expected increase in enrollment and continual challenge of attracting and retaining the best students and faculty, this physical separation from the surrounding neighborhoods must change. This shift has already begun with the Academic Health Center, Tiger Grant pedestrian bridge and the new ACC building that will define the edges of Modesto A. Maidique Campus in a more urban way, engaging the surrounding community along the northeast edge of the campus.

New development at Modesto A. Maidique Campus should continue to encourage a more compact, urban pattern within the academic core and along its eastern edge. Building upon the existing campus geometry, FIU should continue its emphasis on axial patterns as an organizing element for the spatial sequences of campus open spaces such as quads, parks and courtyards to define the future development framework. In addition, the campus loop road should continue as a complete street. It should define the limits of the traditional academic campus core while providing access throughout the growing campus. Surface parking lots should be strategically replaced with parking structures placed along the edges of the campus. This will allow the expansion of academic buildings within the academic core that define the a clear and compelling sequence of open spaces and pedestrian corridors.

The Engineering Center, although visually separated from Modesto A. Maidique Campus, should maintain its connectivity to the main campus through design consistency in the form of enhanced pedestrian corridors, edge conditions and gateway treatments. Improved building to open space relationships, pedestrian movement, activity nodes, parking and landscaping are crucial to strengthening its character and appeal of this campus.

At Biscayne Bay Campus the key challenges are to preserve the existing open space and views that support the campus sustainability goals and rising sea level ramifications while consolidating a compact academic core, increasing student services and improving on-campus housing options. This campus is unique. While Modesto A. Maidique Campus and Engineering Center are located within an existing urban fabric, Biscayne Bay Campus is surrounded by a state park. If the campus is to be truly sustainable while still being attractive to potential students, the campus must function more as a small town than an isolated campus. Creating pedestrian and bicycle connections to the adjacent Miami Dade County Public Schools and the developing Biscayne Landing development are crucial. Increasing services, providing quality housing, establishing a sense of place and enhancing connections to the Biscayne Bay waterfront, will all highlight the distinct features of this campus.

3.0 URBAN DESIGN ELEMENT

GOAL: Florida International University shall create high quality, memorable campus environments suited to education and a sense of collegiality, comprising a dense, compact development pattern within a rich outdoor tropical environment (Figure 3.1).

Objective 1.1 Develop, enhance and preserve existing and proposed Regulating Axes (visual corridors) on campus. All future development shall place buildings and landscape features so as to preserve and reinforce the significance of each visual corridor's significance.

MODESTO A. MAIDIQUE CAMPUS

Policy 1.1.1 Primary Axes

East-West Axis 1 (Avenue of the Professions): The "Avenue of the Professions" connects the Rafael Diaz-Balart Hall, through the Green Library to the Earnest R. Graham Center and onto SW 107th Avenue. Future buildings along this avenue shall be oriented and configured in a manner to reinforce the axis.

East-West Axis 2 (Avenue of the Students): The "Avenue of the Students" extends from the west facade of Owa Ehan at the northern end of the building west to the Panther Parking Deck. This axis bisects several significant spaces including the Ryder Quad, College of Education and the developing Business School district.

North-South Axis 1 (Avenue of the Arts): The "Avenue of the Arts" pedestrian corridor connects the Graham Center to the Wertheim Performing Arts Center. This axis is well defined with Parking Garage Gold & Blue to the east and the Art Museum and the Advanced Research Building to the west.

Diagonal Axis 1 (Avenue of the Sciences): The "Avenue of the Sciences" links a sequence of spaces extending from the Panther Village quadrangle through the Foundation Court northeast to the emerging Academic Health Center, terminating at the intersection of SW 8th Street and SW 107th Avenue.

East-West Axis 3 (107th Avenue Main Vehicular Entrance): One of two established signature campus gateways to FIU, this visual corridor connects the SW 107th Avenue entrance to the Management and Advanced Research Center along the Avenue of the Arts.

North-South Axis 2 (8th Street Main Entrance): The second established signature campus gateway provides a visual corridor from SW 8th Street to the Ryder Business Administration.

Policy 1.1.2

Secondary Axes

North-South Axis 3 (Connecting the Stadium to the Avenue of the Professions): Develop a pedestrian circulation corridor from the eastern side of FIU Community Stadium north to the Avenue of Professions.

North-South Axis 4 (8th Street Secondary Entrance): Continue to develop the visual and pedestrian corridor from SW 8th St. through the Science Building to the Graham Center.

East-West Axis 4 (117th Main Vehicular Entrance): Develop an enhanced visual and vehicular corridor from SW 117th Avenue through the campus support area that connects to the Campus GreenBelt.

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Policy 1.1.3

East-West Axis (107th to Wall of Wind): Develop a pedestrian focused corridor from SW 107th Avenue east through the existing Engineering Center connecting to the Wall of Wind.

BISCAYNE BAY CAMPUS

Policy 1.1.4

East-West Axis 1: Remove portions of the existing surface parking lots and develop an east-west axis north of Academic One and Two. As the academic core of the campus expands and defines the limits of the northern quad, the axis will become the framework for the future development of the quad.

Policy 1.1.5

East-West Axis 2: Develop an east-west axis that defines the visual corridor of the southern quad. Centered on the academic buildings to the west, the axis shall preserve the view to Biscayne Bay.

Policy 1.1.6

North-South Axis 1: Develop an enhanced visual and pedestrian connection extending from the North Quad south to the Koven's Conference Center, along the existing mangrove stand.

Objective 1.2 **Develop, protect and enhance Campus Spaces as a sequence of distinct interconnected open spaces. Place future buildings and landscape features to preserve and reinforce the open space network of quadrangles, plazas, promenades, courtyards and special purpose landscape areas.**

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Policy 1.2.1 Establish a Design Review Process that ensures all future buildings are sited to avoid encroachments upon designated open spaces, axes, pedestrian corridors and view corridors.

Policy 1.2.2 Secure funding for new and enhanced open spaces by:
1. Allocating proportional costs to future building programs and budgets.
2. Establishing funding line items for open space enhancements.

Policy 1.2.3 Identify and name Campus Spaces as a way to identify and relate each space to its location and proximity to uses or buildings. The naming of spaces, such as the Foundation Court, will strengthen the brand of the University and its broader wayfinding strategy.

Four types of Campus Spaces have been identified throughout the three campuses. Variations of each are dependent on the connection to the surrounding context, building engagement and the use of the spaces within the campus:

Quad: A quadrangle is a green space that is usually square or rectangular in plan. The sides are entirely or mainly defined by buildings and reinforced by the landscape design. The single most important aspect of a quadrangle is clear spatial definition. The specific qualities of each quad vary with size, purpose and context but all are primarily informal articulated spaces, characterized by open usable green space with a combination of shade trees planted in asymmetrical groups and paths configured to provide direct pedestrian access to key buildings and spaces beyond. Quads should have significant areas shaded and protected from rain by structures. These should be used for individual and group interaction and study.

Courtyard: Courtyards are spaces between or within buildings but are more compact than quads. They offer either private or semi-private spaces providing immediately accessible opportunities for informal outdoor gathering, studying and collaborating. Courtyards are predominately hardscape spaces with landscape material along its edges or as a central focal point.

Promenade: Promenades are public places for walking that directly connect one point to another. More than just a wide sidewalk or trail, a promenade is of significant importance with distinct hardscape materials, lighting, pedestrian seating and formal canopy plantings. Promenades may define one edge or bisect a larger space. The space is characterized by pedestrian-friendly features and a clearly defined architectural volume that can allow for congregation as well as settings for small group study areas. Promenades should have continuous areas shaded and/or protected from the rain by structures.

Plaza: Plazas occur at points of entry or gateways to the campus, various districts and key buildings throughout the Campus. The specific qualities of each may vary but all will be primarily characterized by hardscape elements and architectural character with canopy trees reinforcing the spatial geometry of the space. Plazas should incorporate significant spaces shaded by and protected from the rain by structures, ample pedestrian seating and aesthetic features such as art.

Objective 1.3 **Preserve and enhance Special Purpose Landscapes within the Florida International University campuses to serve as areas for teaching, research, recreation, social gatherings and community engagement. Each has a unique and focused purpose that enhances the pedagogical environment of the campuses.**

Policy 1.3.0 **MODESTO. A MAIDIQUE CAMPUS**
Hennington Island
Preserve the teaching and research environment of Hennington Island. Establish a no-build zone.

Policy 1.3.1 **The Preserve**
Preserve the teaching and research environment of the Preserve. Establish a no-build zone to ensure the space will remain open for passive recreational use.

Policy 1.3.2 **President's Garden**
Preserve and expand the President's Garden to preserve the valuable inspirational, ceremonial and celebratory open space for the University and surrounding community.

Policy 1.3.3 **Palm Collection**
Preserve and enhance the existing palm tree collection in the Green Library Quad to ensure continued teaching and research opportunities.

Policy 1.3.4 The GreenWay
Create a signature pedestrian corridor and informal landscape that provides a critical stormwater infrastructure function, opportunities for research and teach and connectivity from the Wertheim Performing Arts Center north to Hennington Island and west along the existing service road to the Preserve. Position the GreenWay to be expanded south into the Miami Dade Youth Fair.

BISCAYNE BAY CAMPUS

Policy 1.3.5 The GreenSpine
Continue the restoration and preservation of the existing mangroves from the southern portion of the campus north to the North Quad.

Policy 1.3.6 The BayWalk
Continue to develop the coastline as a BayWalk. With over a mile of undeveloped bay-front exposure, providing unequalled connectivity to water and research and teaching opportunities, the BayWalk provides an amenity that is unequalled by most university campuses.

Objective 1.4 Enhance the internal vehicular circulation of Campus Streets within the FIU campuses to become a binding element within the Campus as well as a means of circulation for visitors, service and emergency access.

MODESTO A. MAIDIQUE CAMPUS

Policy 1.4.1 **Campus GreenBelt – Parkway**

Continue to develop the existing ring road into a complete street multi-purpose circulation corridor that defines the limits of the central academic core. This Parkway should be distinguishable from other internal vehicular streets by enhancing its aesthetic character through a well-defined landscape and hardscape palate. A minimum of 80 ft. from building face to building face should be reserved for the Parkway.

Policy 1.4.2 **Campus GreenBelt - Main Street**

Develop a more urban condition along the Campus GreenBelt in key student areas and within the Academic Health Center. This “main street” will be similar in character to that of other commercial streets adjacent to traditional universities set in an urban environment, such Georgia Tech’s Technology Square or MIT’s University Park. A minimum of 80 ft. from building face to building face should be reserved for the Main Street.

Policy 1.4.3

Secondary Streets

There are several variations of secondary streets within the Modesto A. Maidique Campus. The type is determined by the adjacent building orientation, concentration of activity and adjacent community context.

- Typical – Varies in number of vehicular travel lanes but is primarily utilized as building service or parking access corridors. Sidewalks are separated from the travel lanes and enhanced with shade trees.
- Urban – Located within the Academic Health Center and similar to a city streetscape, these streets vary in width but are pedestrian friendly with wide sidewalks, active ground floor building uses, shade trees and street furniture evenly spaced and buildings engaging the streets. Urban streets are often the first impression of the campus for students, staff and visitors.

Policy 1.4.4

Gateways

There are three primary gateways to the Modesto A. Maidique campus with each intersecting the Campus GreenBelt. The 107th Avenue and 8th Street main entrances are key ceremonial spaces defined by towers and arched walls on each side and formal landscape treatments. The western entrance from SW 117th Avenue should be enhanced to the level of the other two ceremonial entrances. This includes widening the existing drive to allow for a landscaped median with a landscape zone and sidewalks to each side.

The remaining entrances to the campus are secondary gateways. While primarily associated with service access streets to parking structures, these gateways are often the first impression of the campus to many visitors, students, faculty and staff. These streets should be enhanced to include pedestrian friendly elements such as wide sidewalks, canopy trees and campus wayfinding elements.

Policy 1.4.5

Traffic Circle

Traffic Circles allow for a sense of arrival to various districts within the campus as well as traffic-calming device. Too often, traffic circles are difficult for pedestrian crossings at high volume vehicular and/or pedestrian locations. Future traffic circles should be limited to significant vehicular intersections along the Campus GreenBelt.

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- Policy 1.4.6 Enhance the entrance from West Flagler Street with materials similar to Modesto A. Maidique Campus. Visually link the two campuses.
- Policy 1.4.7 Provide better internal circulation. Develop an internal vehicular street that extends main entrance from Flagler Street to the entry drive from SW 107th Avenue.

BISCAYNE BAY CAMPUS

- Policy 1.4.8 Develop a secondary internal vehicular street connection between the academic campus to the north and the conference center to the south west of the existing mangroves to increase campus connectivity.

- Objective 1.5** Define and enhance Campus Edges to create a welcome and aesthetically pleasing interaction with the surrounding community through the appropriate placement of buildings, massing, and scale based on the existing or proposed character of the surrounding community. Provide an enhanced ground level character and access to existing or proposed transit while still clearly delineating the boundaries of the campus.

UNIVERSITY-WIDE

- Policy 1.5.1 Continue active dialogue with the 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.

- Policy 1.5.2 Four types of Campus Edges have been identified throughout the three campuses. Variations of each are dependent on the connection to the surrounding context and the use of the spaces within the campus:

Active Major: An active major edge is similar to that of a downtown city streetscape with wide sidewalks, large canopy street trees and building placement that engages the street with appropriate active ground floor façade articulation. While final building placement shall be specific to place, a comfortable distance between building and the curb is between 20 ft. to 30 ft. The distance should remain relatively consistent in order to create a pedestrian friendly condition.

Active Minor: An active minor edge has few if any buildings adjacent to the boundary. The edge is delineated by open landscape that

separates but maintains visibility and permeability with buildings generally placed between 40 ft. to 60 ft. from the curb.

Passive Major: A passive major edge is similar to a traditional public park, generally a large open space with canopy trees, minimal hardscape and a clear understory of lawn or meadow. It has limited permeability, generally screening views into the campus.

Passive Minor: A passive minor edge clearly delineates the boundary between the public realm and the campus through the use of dense vegetation and site elements such as decorative walls and fencing. It enhances the visual perception of the University as well as providing buffer element that screens maintenance yards or service areas from the adjacent properties.

MODESTO A. MAIDIQUE CAMPUS

Policy 1.5.2 SW 107th Avenue – North: Develop the edge along SW 107th Avenue from the 8th Street intersection to the north edge of the lake as an active major edge.

Policy 1.5.3 SW 107th Avenue – South: Develop the edge along SW 107th Avenue at the President’s Garden from the north edge of the lake to the SW 17th Street entry as an active minor edge.

Policy 1.5.4 SW 8th Street – East: Develop the edge along SW 8th Street from the intersection of SW 107th Avenue west to the SW 112th Avenue main entrance as an active minor edge.

Policy 1.5.5 SW 8th Street – West: Develop the edge along SW 8th Street from the eastern limits of the Carlos J. Finlay Elementary School east to the existing SW 112th Avenue main entrance incorporating the Hennington Island special purpose landscape as a passive major edge.

Policy 1.5.6 SW 117th Ave: Continue to develop the edge along SW 117th Avenue as a minor passive edge.

ENGINEERING CENTER

Policy 1.5.7 NW 107th Avenue: Develop the edge along NW 107th Avenue as an active major edge.

Policy 1.5.8 West Flagler Street: Develop the edge along West Flagler Street as an active major edge.

Policy 1.5.9 Women’s Park: Continue to develop the edge along Women’s Park

as a passive major edge.

Policy 1.5.10 Continue to develop the north edge of the Engineering Center along the residential neighborhood as a minor passive edge.

BISCAYNE BAY CAMPUS

Policy 1.5.11 Develop an edge along Bay Vista Boulevard as a passive major edge.

Objective 1.6 Preserve and enhance Campus Landmarks throughout the university as branded, wayfinding and ceremonial elements on campus.

UNIVERSITY-WIDE

Policy 1.6.1 Locate public and environmental art throughout the campus as landmarks within campus spaces. Site art installations focal points within a Campus Spaces.

MODESTO A. MAIDIQUE CAMPUS

Policy 1.6.2 Redevelop the Bridge at the Central Quad as a significant landmark element that represents the University. The Bridge has special symbolic meaning to the students, faculty, staff and alumni of the campus. The stature of the Bridge should reflect that significance.

Objective 1.7 Maintain and enhance functional Campus Linkages between major campus activity centers.

UNIVERSITY-WIDE

Policy 1.7.1 Create effective and continuous pedestrian and visual linkages with strong axial orientations. Enhance these linkages with canopy trees, building placement and articulation, varying landscape features and strategically located art pieces.

Policy 1.7.2 Create a system of interconnected covered walkways, both architectural and landscape, where appropriate to link facilities. There are four types of covered walkways (Figure 3.2- 3.5):

- Type A – Arcade: The covered walkway is integrated into the massing of the building.
- Type B – Attached Architectural Walkway: The Covered walkway is attached to the building.
- Type C – Detached Architectural Walkway: The covered

walkway is a free standing architectural structure.

- Type D – Landscape: Shade trees and/or palms provide concentrated shade.

Funding will be allocated from building construction budget for the creation of covered walkways.

Policy 1.7.3 Continue to invest in the internal campus transit system.

Policy 1.7.4 Cluster academic and support functions with buildings and academic neighborhoods that are characterized by compactness, compatibility of use, continuous pedestrian corridors and covered walkways.

MODESTO A. MAIDIQUE CAMPUS

Policy 1.7.5 Distribute campus parking outside the academic core to minimize pedestrian-vehicular conflicts, walking distances, and promote a pedestrian-oriented campus.

Policy 1.7.6 Prioritize the improvement of the pedestrian elements of Regulating Axes to establish a hierarchy of pedestrian movement, wayfinding, and institutional significance on campus.

Policy 1.7.7 Prioritize the improvements of the pedestrian elements of the Campus GreenWay and GreenBelt to provide a consistency in function and appearance.

Policy 1.7.8 Develop a pedestrian connection in the form of a boardwalk or promenade through the Preserve from the Recreation Center to the baseball and track stadiums to safely connect the central campus to the athletic areas of campus.

ENGINEERING CENTER

Policy 1.7.9 Complete a pedestrian connection from the western building entrance of Engineering Center to NW 107th Avenue. This connection will allow a shorter route for students to the adjacent commercial corridor as well as placing a pedestrian connection in proximity to the proposed transit station plaza.

BISCAYNE BAY CAMPUS

Policy 1.7.10 Develop a new primary campus entry drive with enhanced landscape materials, bike lanes and minimal parking lot access points to create a heightened campus entry experience.

Policy 1.7.11 Construct an enhanced drop-off adjacent to the Academic Two building with the proposed quad expansion to enhance the sense of

arrival. Improve with additional landscape, signage, furnishings and lighting to provide a quality formalized urban space.

Policy 1.7.12 Reconfigure parking lots as needed for greater ease of travel while developing covered pedestrian corridors to the academic core of the campus.

Policy 1.7.13 Reconfigure the existing entry drive as a secondary access to the campus with enhanced landscaping, signage and lighting to promote better wayfinding and a sense of arrival to the campus.

Policy 1.7.14 Improve the entry drive at the Kovens Conference Center with additional planting, lighting and sidewalks.

Objective 1.8 Organize and place service and loading functions to avoid pedestrian conflicts and minimize visibility from the campus open space system.

UNIVERSITY-WIDE

Policy 1.8.1 Cluster service and loading areas to minimize service drives and geographic dispersion of service functions.

Policy 1.8.2 Place service functions in areas screened from major open spaces, with minimum crossing of open spaces by service drives.

Policy 1.8.3 Screen Service and loading areas with visual and acoustical structures or landscape enclosures that incorporate critical elements for crime prevention based on Environmental Design Principles.

Objective 1.9 Provide campus buildings and facilities which are energy efficient.

UNIVERSITY-WIDE

Policy 1.9.1 Establish the following design criteria as part of the architectural design and siting criteria for all future buildings:

- 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 1.10 Monitor conformance of future developments with the urban design guidelines referenced herein.

UNIVERSITY-WIDE

Policy 1.10.1 Establish a Design Review Board to review and provide written recommendations for all new and exterior renovation architectural projects and all new landscape projects.

Policy 1.10.2 Review future development compliance with urban design criteria, integrated with the review of architectural and landscape design characteristics.

Objective 1.11 Develop of the campus spatial environment in coordination with the development and phasing of future buildings and landscape improvements.

UNIVERSITY-WIDE

Policy 1.11.1 Timing and priorities for development of the spatial environment of the University shall reflect the timing and priorities for future buildings landscape and open space development.

Policy 1.11.2 “Landscaping improvements” as described in Section 16.1 shall create 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.



Figure 3.1. Campus Spaces

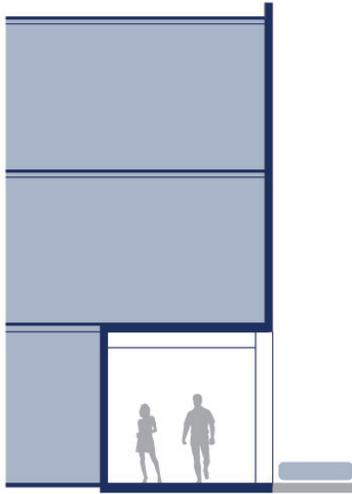


Figure 3.2. Walkability - Type A

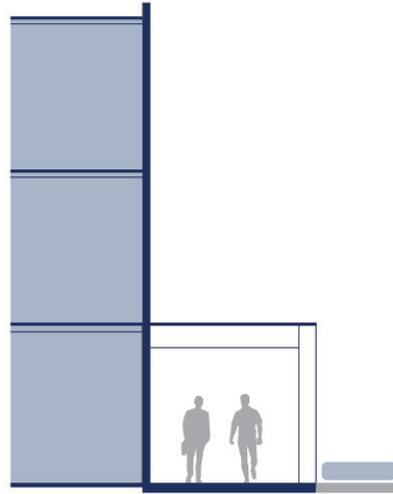


Figure 3.3. Walkability - Type B



Figure 3.4. Walkability - Type C

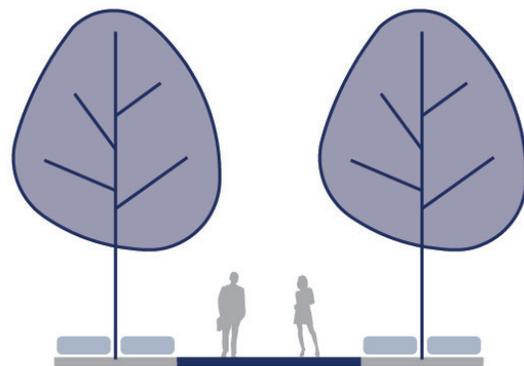
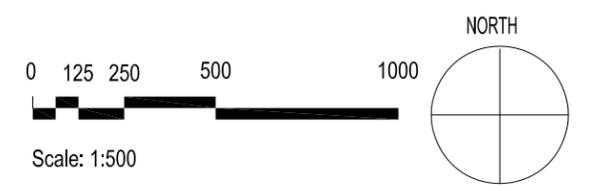
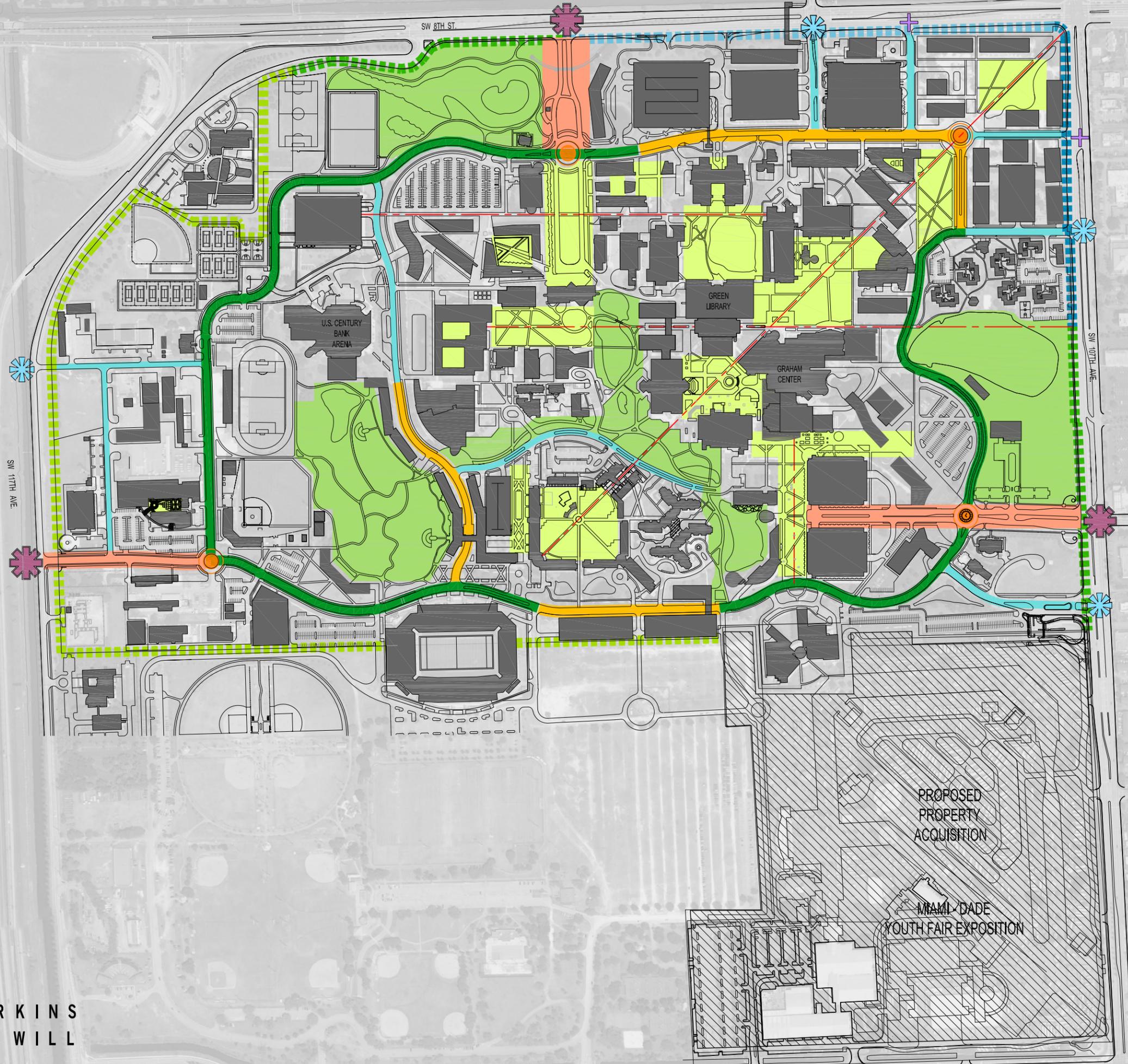
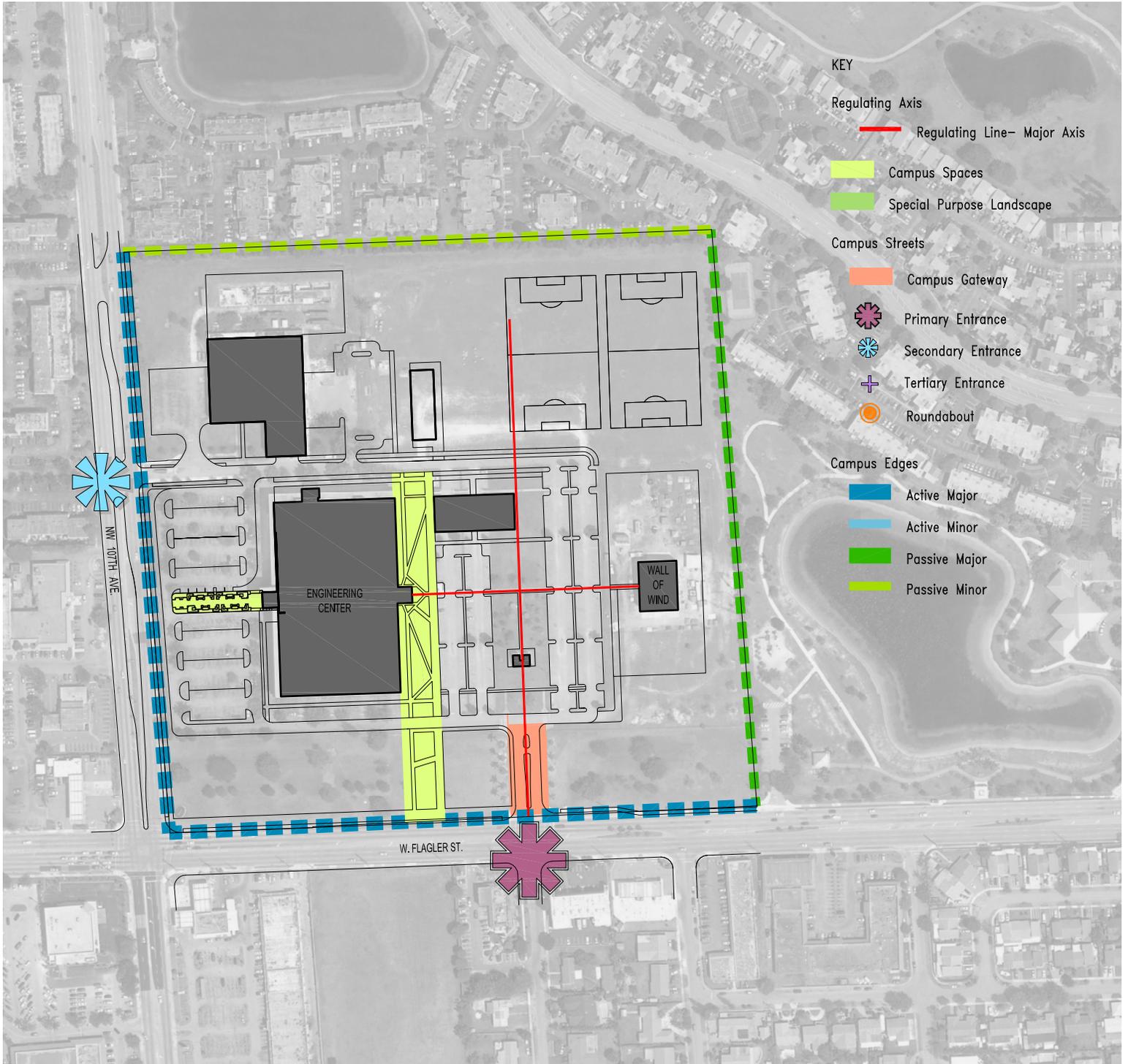


Figure 3.5. Walkability - Type D

KEY

- Regulating Axis**
- Regulating Line- Major Axis
- Campus Spaces**
- Campus Spaces
 - Special Purpose Landscape
- Campus Streets**
- Campus Gateway
 - Campus Greenbelt
 - Main Street
 - Secondary Street
- Entrances**
- ✱ Primary Entrance
 - ✱ Secondary Entrance
 - + Tertiary Entrance
 - Roundabout
- Campus Edges**
- Active Major
 - Active Minor
 - Passive Major
 - Passive Minor





- KEY
- Regulating Axis
 - Regulating Line- Major Axis
 - Campus Spaces
 - Special Purpose Landscape
 - Campus Streets
 - Campus Gateway
 - Primary Entrance
 - Secondary Entrance
 - Tertiary Entrance
 - Roundabout
 - Campus Edges
 - Active Major
 - Active Minor
 - Passive Major
 - Passive Minor

ELEMENT 3.2: URBAN DESIGN
ENGINEERING CENTER



- KEY**
- Regulating Axis**
 - Regulating Line- Major Axis
 - Campus Spaces**
 - Special Purpose Landscape**
 - Pedestrian / Bike Link**
 - Campus Streets**
 - Campus Gateway
 - Primary Entrance
 - Secondary Entrance
 - Tertiary Entrance
 - Roundabout
 - Campus Edges**
 - Active Major
 - Active Minor
 - Passive Major
 - Passive Minor

**ELEMENT 3.3: URBAN DESIGN
BISCAYNE BAY CAMPUS**

4.0 FUTURE LAND USE ELEMENT

Florida International University faces no greater challenge than to accommodate its future expansion needs while facing dwindling land resources; preparing for sea level rise and storm surges; preserving important environmental resources; and managing complex development influences exerted by Florida's largest urban metropolitan area.

At Modesto A. Maidique, five strategies are used to accommodate future expansion needs. First, surface parking from the northeast corner of the site is relocated to create an expansion zone for academic health science programs and medical arts partnerships. The building sites in this zone are clustered near the existing facilities serving health and life science programs. Second, infill sites are identified that build upon adjacencies with academic or student life functions. Third, infill and building sites are shaped to preserve and strengthen existing open spaces and pedestrian corridor axes. Fourth, infill and new building sites are positioned to engage the Sweetwater community to create a 'University'. Fifth, circulation infill and new building sites are positioned to promote expansion or partnership development with the Miami-Dade Youth Fair and Exposition property.

At Modesto A. Maidique, the goal is to move toward a more compact, efficient urban scale of development. This can be accomplished by increasing allowable heights for new construction. The master plan recommends a six-story minimum height for potential academic and research, a seven story minimum height for housing and a four story minimum height for student support. Moreover, by planning for the best and highest use of land, academic facilities will dominate the campus core. More efficient, multi-purpose structured parking garages will be located at the periphery, reducing vehicular and pedestrian conflicts and creating a safer, more fluid environment for users (see Element 4.1A and 4.1B).

Engineering Center will remain a preferred location for expanding outreach and partnership opportunities for specific uses that benefit from either proximity to the Wall of Wind, the "University" commercial crossroads of Flagler and 107th, or existing engineering, applied sciences and technology programs. The majority of the campus is positioned for redevelopment. New recreational open space is located in the northeast corner of the site. Building sites between the existing building and the Wall of Wind will accommodate new academic facilities and shape central open space development. The central open space reflects the landscape structure of the Modesto A. Maidique Campus which includes buildings organized around open space quadrangles and shared axes (See Element 4.2A and 4.2B).

Proposed development at Biscayne Bay Campus places renewed emphasis on partnerships, embraces the unique value of the bayfront and consolidates a highly fragmented development pattern. Similar to the Modesto A. Maidique Campus, this is accomplished by creating open space quadrangles that extend east-west, enhancing a sense of community and views to the bay. These quads are organizing elements for infill university development including academic, research and student life facilities. Future

partnership sites are located at the perimeter of the quadrangles, adjacent to appropriate academic, student life or outreach facilities.

To take advantage of land values and bay views, land on the south half of the campus has been reserved for potential partnerships that can provide a hotel, housing and healthcare facilities. On the north half of campus, additional potential partnership facilities include a Magnet School, Wildlife Center and a practice facility for Royal Caribbean Cruise Lines. RCCL would also take over the use and maintenance of the existing residence hall. A multi-purpose emphasis will emerge over time throughout the campus. As at the Engineering Campus, the organization of land use, identified building sites and open space structure borrows from the precedents and patterns established at the Modesto A. Maidique Campus, creating a shared physical identity among the three disparate properties (See Elements 4.3A and 4.3B)

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, coordinates with land use policies of the host communities, and addresses the exigencies of global climate change and impacts in this region.

Objective 1.1 Protect Natural, Historic and Archeological 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. Ensure that future campus development projects identified within historic and archeological resources are consistent with federal, state and local requirements.

Policy 1.1.1 Maintain information 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 campus development complies 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 and significant upland resources are anticipated.

- Where potential impacts on historical or archaeological resources are anticipated consult with the County, State Historic Preservation Officer and City staff to identify mitigation measures, as appropriate.
- Prior to siting unanticipated new academic and support uses on campus, contact City and County staff in order to calculate land requirements for buildings and parking to ensure that sufficient land resources remain to accommodate academic facility and support requirements through 2020 and maintain consistency with the City and County's Comprehensive Plan and Land Development Regulations.
- Discourage development of any additional facility not directly related to the academic mission of the University, except for planned partnerships and joint use facilities with the Miami-Dade Youth Fair and Exposition and Tamiami Park.
- Include information related to the internal review of each capital improvement project and compliance with applicable regulatory requirements in the building program of each development project.

Policy 1.1.3 While no buildings currently on campus meet the age requirement to be considered historic, shortly after 2020 some will. Once reaching fifty (50) years in age buildings can be considered historic. Upon meeting this criteria FIU should follow the guidelines outlined below. Coordinate with State, City and local historic preservation officials, maintain an information file which identifies and evaluates portions of the Modesto A. Maidique 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 1.1.4 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 1.1.5 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 1.1.6 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 1.2 Maintain Land Use Compatibility with the Host Communities: Coordinate with Miami-Dade County, the City of Sweetwater, the City of North Miami, the City of Miami Beach and other entities within the context area to eliminate or minimize present land use conflicts, avoid future land use compatibility problems and ensure that future construction is consistent with height limits established in respective comprehensive plans.

Policy 1.2.1 Monitor land use planning activity, development regulations, and proposed developments by Miami-Dade County, Sweetwater, the City of North Miami and other entities within the context area of Modesto A. Maidique and Biscayne Bay Campus.

Policy 1.2.2 Evaluate the impact of off-campus land use on all on-campus University development activity and document findings as part of the land management review process.

Policy 1.2.3 Evaluate the impact of on-campus land use on neighboring facilities to minimize conflicts.

Policy 1.2.4 Evaluate the impact of on-campus building heights on neighboring land uses to minimize conflicts. Although the University is located on State of Florida land and is not required to comply with city regulations, FIU will adhere to city regulations to the greatest extent possible. The University will ensure that all future land uses and structure heights comply with all applicable Federal, State and local aviation regulations including the Code of Miami-Dade County, Chapter 33, Airport Zoning.

Objective 1.3 Optimize Land Use and Promote Compatible Adjacencies: Develop Modesto A. Maidique, Engineering Campus and Biscayne Bay Campus to ensure compatibility of academic, support and service functions.

Policy 1.3.1

MODESTO A. MAIDIQUE

As depicted in future land use map, Figure 4.1A, implement the following land use patterns:

- Concentrate partnership opportunities along 8th Street that supports corresponding development in Sweetwater.
- 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.
- Concentrate future academic health science, research and clinical facilities to the northeast corner of the campus, adjacent to similar existing facilities.
- Locate additional housing in the southwest corner of campus adjacent to the Preserve, Panther Village, the Stadium and Performing Arts Center.
- Redistribute surface parking within multi-purpose garages at the campus perimeter to accommodate critical academic facility development within the campus loop road.
- Expand student support facilities adjacent to Graham Center to create a student support core at the main entrance from 107th Street.
- Provide major support, service and outdoor recreational activities along the west and southwest perimeter of the campus outside of the loop road.
- Develop the southern campus edge with programs that promote joint use and partnerships with the Miami-Dade Youth Fair and Exposition property and Tamiami Park.

Policy 1.3.2

ENGINEERING CENTER

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

- Provide adequate space along SW 107th Avenue to create an identifiable “public realm” and enhanced transit stop that will not interfere with internal campus roads and traffic.
- Provide adequate open space along Flagler Street to create an identifiable “public realm” and connections to the adjacent Women’s Park.

- Create an identifiable pedestrian corridor from Flagler Street to interior facilities.
- Locate recreation open space at the northeast corner.
- Concentrate new facility construction next to the existing building to reinforce the pedestrian corridor.
- Maintain fenced open space around the Wall of Wind to protect adjacent facilities from damage.
- Maintain support facilities in the northwest corner of the property, screened from public view and under controlled access.

Policy 1.3.3

BISCAYNE BAY CAMPUS

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

- Site future facilities to strengthen and protect key open space quadrangles.
- Locate new high density student housing south of the main academic quadrangle adjacent to the Kovens Center.
- Locate high density, multi-purpose and partnership facilities, such as the Magnet School, Hotel, Academic Health Center and Academic Health Center Housing, to the south of the academic core.
- Locate low density, multi-purpose and partnership facilities, such as RCCL and the Wildlife Center, to the north of the academic core.
- Maintain a linear park along Biscayne Bay, with unobstructed bay views. Enhance with landscaping.
- Provide sports / recreation open space south of the Magnet School.
- Provide all parking to the west of the academic core to eliminate pedestrian vehicular conflicts.

- Maintain all support and service uses at the northwest corner of campus.
- Maintain conservation zones bordering Oleta State Park to the north, canals and plantings west of the Kovens Center and wetlands / native plant habitats at the southwest corner of the campus.
- Any future installation of facilities, open space or infrastructure, should avoid adverse impacts to the surrounding natural resources

Policies 1.3.4 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 criterion.
- 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 criterion.

Policy 1.3.5 As part of the "land management review process", coordinate land use, development decisions and the schedule of capital improvements (Table 14.1) with the approved campus plan. Revisions to land use, development policies and capital improvement decisions will be accompanied by an analysis of capital and community impacts prior to administrative approval and submission of State University System Florida Board of Governors, Division of Colleges and Universities facility funding requests.

Objective 1.4 Coordinate with Topographical and Soil Conditions: Ensure that future development on Modesto A. Maidique and Biscayne Bay Campus is consistent with the limitations imposed by topographic and soil conditions.

Policy 1.4.1 Maintain information of existing topographic and soil conditions, updated with as-built and survey data developed for future construction projects.

- Policy 1.4.2 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 “design and construction process”.
- Policy 1.4.3 In anticipation of climate driven sea level rise, locate facilities as much as possible outside of immediate affected areas. Concentrate future development in upland sites that are least susceptible to future sea level rise. Ground level uses of new development should be planned with sea level rise in mind. Uses that will suffer critical damage due to flooding should not be placed on ground level.
- Policy 1.4.4 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 by using temporary ground cover on cleared areas if construction is not imminent
 - Maintaining vegetative cover on areas of high soil erosion (e.g., banks of streams, steep or long slopes, conveyances, etc.).
- Objective 1.5 Coordinate future development with the availability of facilities and services:
Maintain coordination with off-campus utility and service providers to ensure adequacy of services and facilities.**
- Policy 1.5.1 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 1.5.2 Participate with Miami-Dade County, the City of Sweetwater, the City of Miami Beach and the City of North Miami in the reciprocal review of plans and development proposals, consistent with policies supporting Intergovernmental Coordination Element.

Objective 1.6 **Provide for the long term growth of Modesto A. Maidique enrollment by anticipating and planning for the expansion of the campus after 2020.**

Policy 1.6.1 FIU will continue to pursue an agreement with Miami-Dade County for joint use and development of student recreational and sports activities, parking and other joint uses.

Policy 1.6.2 FIU will pursue additional off campus land acquisition for academic, housing and recreational facility development at the Miami-Dade Youth Fair and Exposition property.

Objective 1.7 **Minimize Off Campus Constraints/Context Area Conflicts: Off-campus constraints and impacts of campus development are anticipated and ameliorated.**

Policy 1.7.1 FIU shall, in coordination with Miami-Dade County, the City of Sweetwater, the City of North Miami, 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 1.8 **Promote compact, efficient and environmentally sensitive land use planning:**

Policy 1.8.1 Develop campus land uses to maximum densities and intensities applying building height recommendations and gross Floor Area Ratio (total building area divided by total (gross) land area) standards.

Policy 1.8.2 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.

Objective 1.9 **Coordinate On-Campus Utility Requirements: Ensure the adequate provision of long range infrastructure improvements are consistent with development of a climate action plan - as a signatory of the American College and**

University Presidents Climate Commitment (ACUPCC) - and the university-driven direction that all new facilities meet United States Green Building Council (USGBC) standards and be LEED certified.

Policy 1.9.1 As part of the land management review process, review and evaluate all construction projects to ensure adequate provisions for long range infrastructure needs and resource conservation by documenting:

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

Policy 1.9.2 Maintain an up-to-date file of campus utility systems, updated with as-built survey data from future construction projects.

Policy 1.9.3 Specify in future Five Year Capital Improvement Plans infrastructure improvements, conservation measures and associated costs necessary to support long-range facility needs.

Policy 1.9.4 Encourage and assist the State University System and State Legislative funding procedures to ensure efficient and timely construction and expansion of utility improvements and resource conservation.

Policy 1.9.5 Install instrumentation to record actual utility usage to permit optimum utilization of available resources.

Policy 1.9.6 **BISCAYNE BAY CAMPUS**
Conduct a survey for all infrastructure, especially chilled water, to ascertain if it remains adequate for future FIU development. All partnership facilities will be developed with their own stand-alone MEP systems.

- Any future installation of facilities or infrastructure should avoid adverse impacts to natural resources

**Objective 1.10 Develop Consistent and Transparent Administration Procedures to Amend Master Plan:
Ensure that 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 exceed the threshold contained in 1013.30 Florida Statutes must be reviewed and approved in accordance with 1013.30155 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.1013.30F.S., shall be consolidated into a single annual submission and submitted to the FIU Board of Trustees, 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 FIU Board of Trustees, Division of Colleges and Universities. FIU shall also inform Miami-Dade County, City of North Miami and the State of Florida Department of Economic Opportunity about alterations, modifications or additions to the master plan - outlining current, concluded and anticipated development activity. FIU will also inform Miami-Dade County, City of North Miami and the State of Florida Department of Economic Opportunity if no changes have occurred since adoption of initial plan.
- FIU is encouraged to include submerged vegetation at Biscayne Bay Campus in their planned assessment to determine adverse impacts of proposed plan modifications.

Policy 1.10.3

Proposed amendments to the adopted campus master plan which do not exceed the thresholds established in s.1013.30, 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

SUBLEASED PROPERTY

SUBLEASED PROPERTY

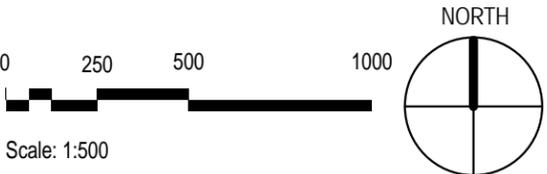
JOINT USE AGREEMENT

PROPOSED PROPERTY ACQUISITION
MIAMI-DADE YOUTH FAIR AND EXPOSITION

LEGEND

- ACADEMIC + RESEARCH**
(CLASSROOM, LABORATORY, RESEARCH, ACADEMIC OFFICES & STUDY FACILITIES)
- SUPPORT**
(ADMINISTRATIVE OFFICES, AUXILIARY, CAMPUS FACILITIES & CLINICS)
- HOUSING**
(UNIVERSITY & NON-UNIVERSITY CONTROLLED ON-CAMPUS HOUSING FACILITIES)
- ATHLETICS / RECREATION / OPEN SPACE**
(ATHLETIC, RECREATION & OPEN SPACE FACILITIES)
- COMMUNITY INTERFACE**
(UNIVERSITY PROPERTY WITH NON-UNIVERSITY CONTROLLED FACILITIES)
- MULTI-PURPOSE**
(INTEGRATED ACADEMIC & RESEARCH, SUPPORT, HOUSING, ATHLETICS / RECREATION / OPEN SPACE, COMMUNITY INTERFACE, AUXILIARY, TRANSIT HUB & PARKING)

**ELEMENT 4.1A: LAND USE
MODESTO A. MAIDIQUE CAMPUS**



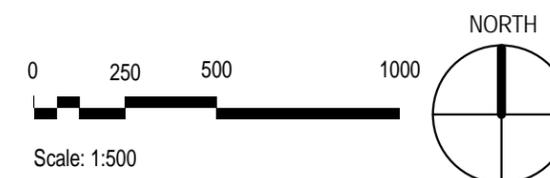
KEY

- A1. ACADEMIC 1
- A2. ACADEMIC 2
- A3. LIBRARY / STUDY ADDITION
- A4. ACADEMIC 4
- A5. ACADEMIC 5
- A6. ACADEMIC 6
- A7. ACADEMIC 7
- A8. ACADEMIC 8
- A9. ACADEMIC 9
- A10. ACADEMIC 10
- A11. ACADEMIC 11
- A12. SOCIAL STUDIES / HUMANITIES
- A13. SIPA II
- A14. MANGO
- A15. SOLAR HOUSE
- A16. STOCKER ASTROSCIENCE
- A17. SCIENCE CLASSROOM COMPLEX
- A18. ACADEMIC HEALTH CENTER 5
- A19. HONORS COLLEGE
- A20. ACADEMIC HEALTH CENTER LIBRARY ADDITION
- F1. FACILITIES 1
- F2. CENTRAL UTILITIES
- H1. PARKVIEW HOUSING 2
- H2. GREEK HOUSING
- H3. MAIN STREET HOUSING
- H4. HONORS COLLEGE HOUSING
- H5. PARKVIEW HOUSING
- P1. HOTEL
- P2. MEDICAL ARTS PAVILION 4
- P3. MEDICAL ARTS PAVILION 2
- P4. MEDICAL ARTS PAVILION 3
- P5. AMBULATORY CARE CENTER
- P6. MEDICAL ARTS PAVILION 1
- P7. PARTNERSHIP
- P8. SWEETWATER PEDESTRIAN BRIDGE
- PG6. PARKING GARAGE 6 / TRANSIT HUB
- PG7. FACILITY SUPPORT
- PG8. FACILITY SUPPORT
- R1. TRACK AND FIELD
- R2. REC CENTER ADDITION
- R3. TRAINING FACILITY ADDITION
- S1. SUPPORT 1
- S2. SUPPORT 2
- S3. CHAPEL / PRESIDENT'S PARK PAVILION
- S4. ALUMNI CENTER
- S5. STUDENT ACADEMIC SUPPORT CENTER
- S6. GRAHAM CENTER ADDITION
- S7. FROST MUSEUM ADDITION

LEGEND

- ACADEMIC: CLASSROOM, TEACHING LAB & STUDY
- RESEARCH
- SUPPORT: OFFICE, SPECIAL USE + GENERAL USE
- 1ST FLOOR SUPPORT: AUXILIARY, STUDY & STUDENT SERVICES
- HOUSING
- PARTNERSHIP
- SPORTS / RECREATION
- FACILITY SUPPORT
- EXISTING BUILDING

**ELEMENT 4.1B: FACILITY EXPANSION
MODESTO A. MAIDIQUE CAMPUS**



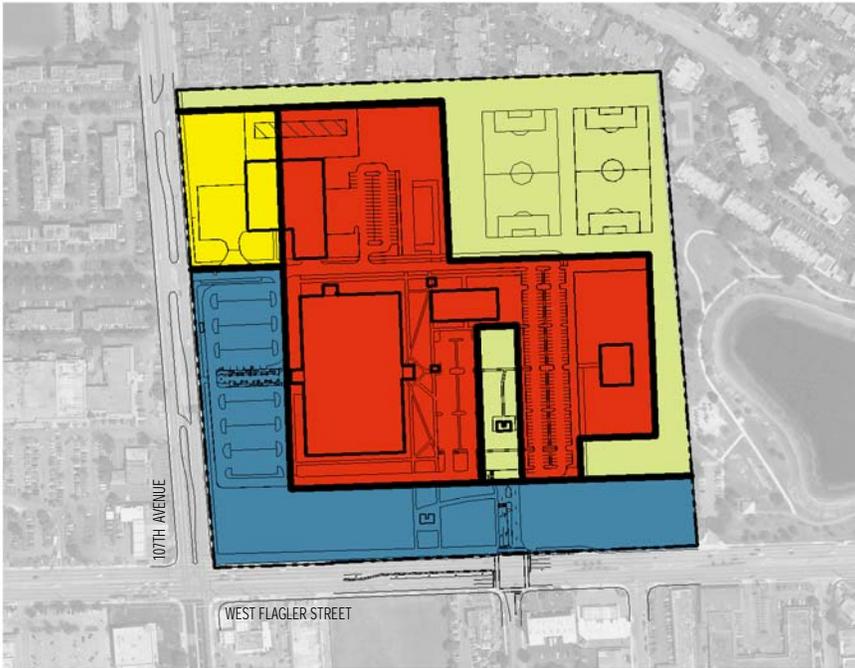
SW 117TH AVENUE

SW 8TH STREET

SW 10TH AVENUE

PROPOSED
PROPERTY
ACQUISITION

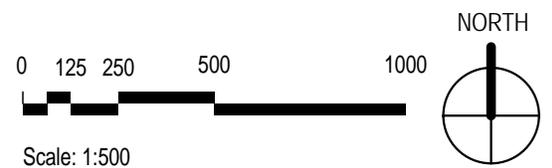
MIAMI-DADE
YOUTH FAIR AND EXPOSITION

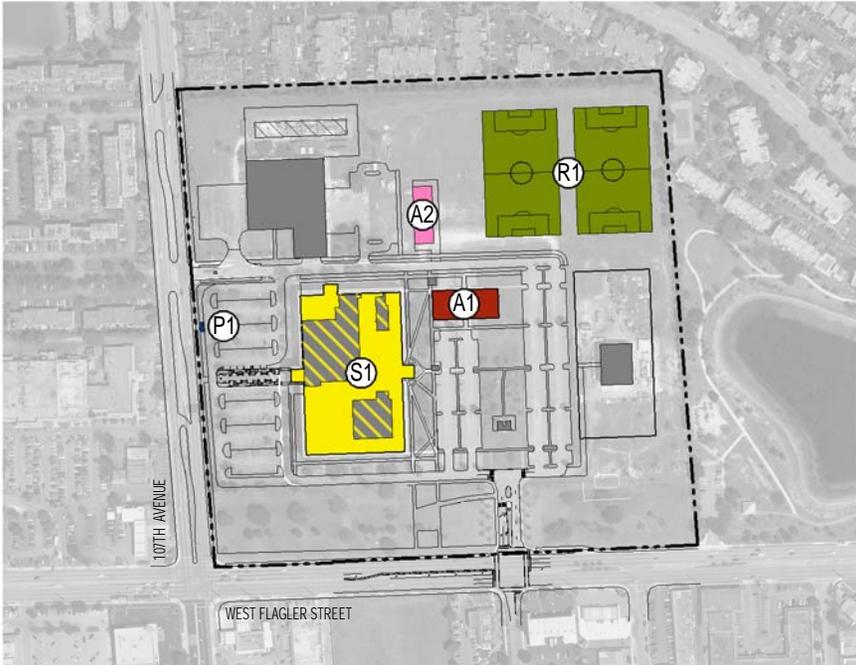


LEGEND

- ACADEMIC + RESEARCH**
(CLASSROOM, LABORATORY, RESEARCH, ACADEMIC OFFICES & STUDY FACILITIES)
- SUPPORT**
(ADMINISTRATIVE OFFICES, AUXILIARY, CAMPUS FACILITIES & CLINICS)
- HOUSING**
(UNIVERSITY & NON-UNIVERSITY CONTROLLED ON-CAMPUS HOUSING FACILITIES)
- ATHLETICS / RECREATION / OPEN SPACE**
(ATHLETIC, RECREATION & OPEN SPACE FACILITIES)
- COMMUNITY INTERFACE**
(UNIVERSITY PROPERTY WITH NON-UNIVERSITY CONTROLLED FACILITIES)
- MULTI-PURPOSE**
(INTEGRATED ACADEMIC & RESEARCH, SUPPORT, HOUSING, ATHLETICS / RECREATION / OPEN SPACE, COMMUNITY INTERFACE, AUXILIARY, TRANSIT HUB & PARKING)

**ELEMENT 4.2A: LAND USE
ENGINEERING CENTER**





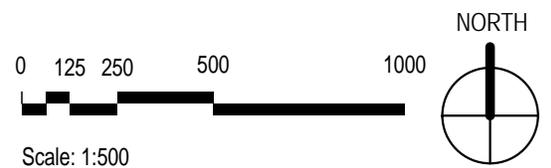
KEY

- A1. ENGINEERING BUILDING
- A2. RESEARCH FIELD
- P1. TRANSIT SHELTER
- R1. RECREATION FIELDS
- S1. FIRST FLOOR INFILL / RENOVATION

LEGEND

- ACADEMIC: CLASSROOM, TEACHING LAB & STUDY
- RESEARCH
- SUPPORT: OFFICE, SPECIAL USE + GENERAL USE
- 1ST FLOOR SUPPORT: AUXILIARY, STUDY & STUDENT SERVICES
- HOUSING
- PARTNERSHIP
- SPORTS / RECREATION
- FACILITY SUPPORT
- EXISTING BUILDING

ELEMENT 4.2B: FACILITY EXPANSION
ENGINEERING CENTER



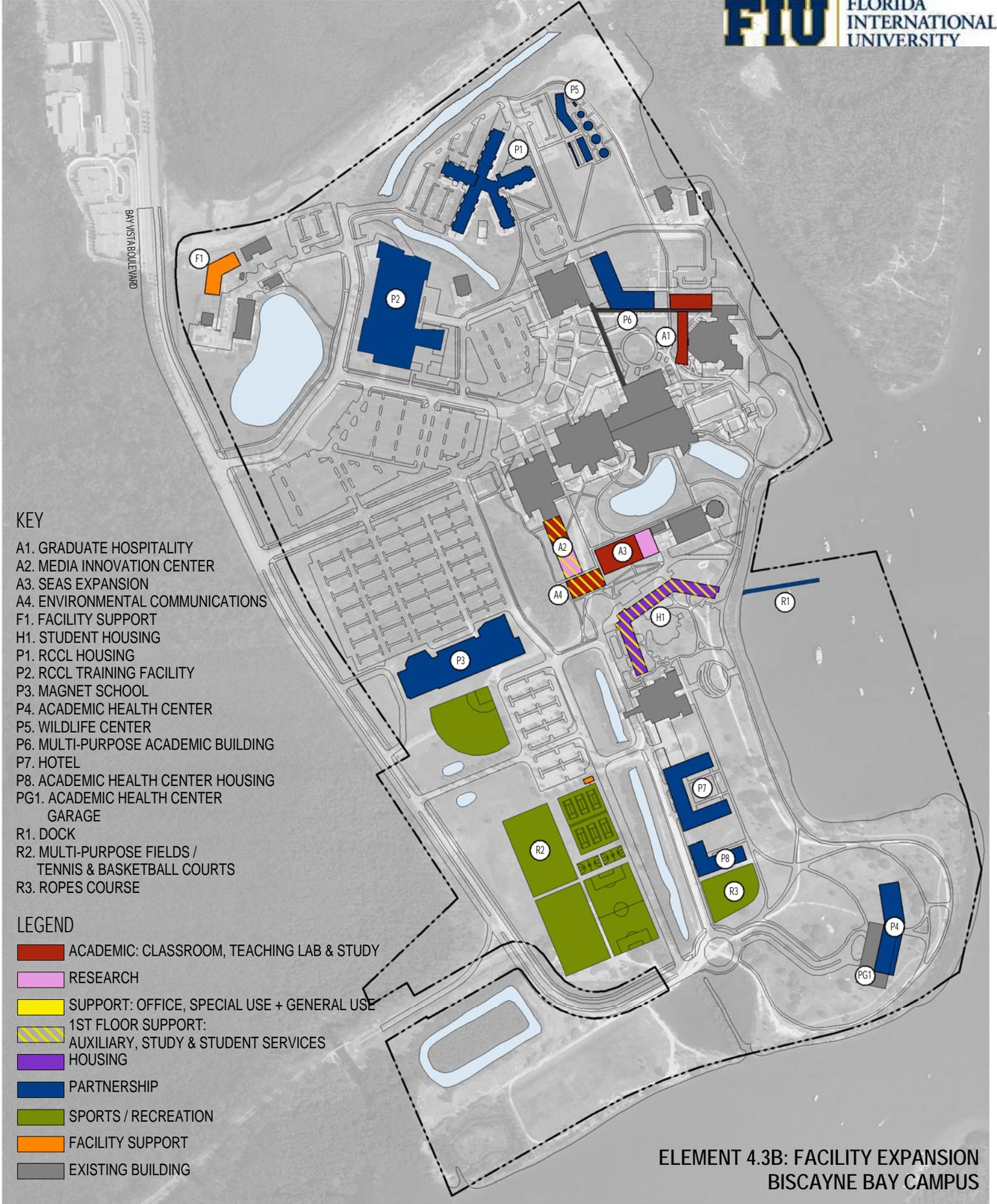
BAVISTIA BOULEVARD

LEGEND

- ACADEMIC + RESEARCH**
(CLASSROOM, LABORATORY, RESEARCH, ACADEMIC OFFICES & STUDY FACILITIES)
- SUPPORT**
(ADMINISTRATIVE OFFICES, AUXILIARY, CAMPUS FACILITIES & CLINICS)
- HOUSING**
(UNIVERSITY & NON-UNIVERSITY CONTROLLED ON-CAMPUS HOUSING FACILITIES)
- ATHLETICS / RECREATION / OPEN SPACE**
(ATHLETIC, RECREATION & OPEN SPACE FACILITIES)
- COMMUNITY INTERFACE**
(UNIVERSITY PROPERTY WITH NON-UNIVERSITY CONTROLLED FACILITIES)
- MULTI-PURPOSE**
(INTEGRATED ACADEMIC & RESEARCH, SUPPORT, HOUSING, ATHLETICS / RECREATION / OPEN SPACE, COMMUNITY INTERFACE, AUXILIARY, TRANSIT HUB & PARKING)

**ELEMENT 4.3A: LAND USE
BISCAYNE BAY CAMPUS**





**ELEMENT 4.3B: FACILITY EXPANSION
BISCAYNE BAY CAMPUS**

5.0 ACADEMIC & RESEARCH FACILITIES ELEMENT

Projected enrollment growth and the new College of Medicine are a catalyst for growth in academic and research facilities. 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 2020.

To ensure optimum departmental adjacencies, interdisciplinary research, and space utilization, as well conserve precious and declining reserves of buildable land – the master plan goals, objectives and policies call for the creation of a more compact "academic core" and the designation of flexible development areas for future academic facilities. (See Element 5.1A and Element 5.1B: Modesto A. Maidique Campus, Element 5.2A and Element 5.2B: Engineering Center and Element 5.3A and Element 5.3B: Biscayne Bay Campus for the location of academic & research facilities and associated college affiliations.) In response, future academic and research facilities are clustered near existing programs and facilities to strengthen departmental synergies, college identity, multi-disciplinary communities and "academic neighborhoods". Academic and research facility designations include the following: Classroom, Teaching Lab, Research Lab, Library and Study, Clinical, Special Use Academic and Multi-Purpose.

GOAL 1: Provide academic and research 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:
By 2020, FIU will initiate planning, programming, design or construction of future academic and research facility development in the following increments by location:**

	<u>MMC & EC</u>	<u>BBC</u>
Existing:	1,348,174 GSF	255,558 GSF
Currently Underway:	378,686 GSF	126,600 GSF
2015:	496,712 GSF	109,596 GSF
2020:	900,131 GSF	42,900 GSF
Total:	3,123,703 GSF	534,654 GSF

Includes classrooms, teaching labs, study areas, and research labs. Accounts for new facilities and renovation and expansion of existing structures.

Policy 1.1.1 Apply space use standards to determine future academic building programs and to plan 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 described in Capital Improvements Element Table 14.1. 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.
- When planning funds become available, prepare detailed space and use programs to coincide with facility requests and real space needs.

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. To encourage more efficient development, all new academic and research facilities should be multi-disciplinary, a minimum of six stories, and adhere to a minimum square footage of approximately one hundred thousand (100,000) square feet.

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 I status of the University, addressing fully all the special needs associated with research and scientific buildings.

Objective 1.2 **Locations:**
Locate future academic and research facilities to create and reinforce academic neighborhoods, college identity and to cluster related programs within a compact "academic core".

Policy 1.2.1

Implement the pattern of academic facility clusters, quadrangles and malls.

MODESTO A. MAIDIQUE CAMPUS

- Academic and research infill sites are located within close proximity to similar facilities that reinforce each other in use (see Element 5.1A & Element 5.1B Modesto A. Maidique Campus).
- The northeast corner of campus is reserved for facilities that house laboratory, research and clinical facilities. These future building sites form an academic neighborhood defined primarily by academic health science facilities.
- Additional building sites, for primarily classroom use, surround the Avenue of the Professions. These support Social Science and Arts and Science expansion sites and strengthen the edge of the quadrangle anchored by the Rafael Diaz-Balart Hall on the west and the Green Library on the east.
- Building sites for the Colleges of Business, Law, Education and other professional programs are located north of Rafael Diaz-Balart Hall. They reinforce the edge of a pedestrian corridor that runs parallel to the Avenue of the Professions, terminates at Owa Ehan and extends the Main Street created by Parkview Housing Phases I and II.

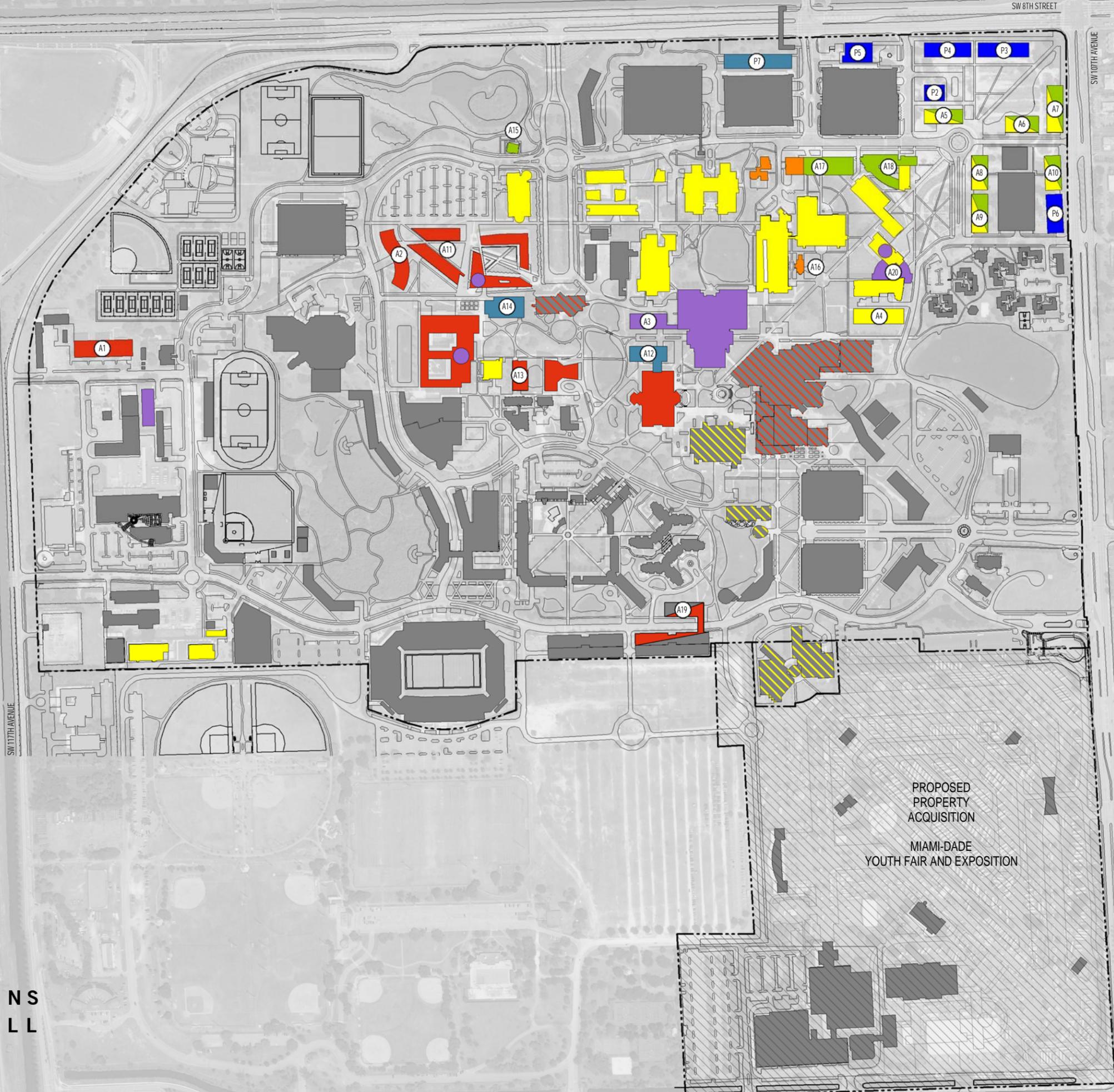
ENGINEERING CAMPUS

- A future academic and research facility is located adjacent to the existing building, defining a central quadrangle. (See Element 5.2A and Element 5.2B Engineering Campus)

BISCAYNE BAY CAMPUS

- Two future laboratory/research facilities are proposed to the south of Academic Two. Aligned with the existing Marine Biology building, the future facilities enclose an academic quadrangle focused around the existing pond. (See Element 5.3A and Element 5.3B Biscayne Bay Campus)
- An Academic Health Center housing clinical space should be located in the southeast corner of the site.
- The new RCCL training facility is located north of the academic core and adjacent to its associated housing.

- The Wildlife Center should be located north of the academic core in the north east corner of the campus.
- The Magnet School should be located west of the academic core and south of the existing, expanded surface parking lot.



KEY

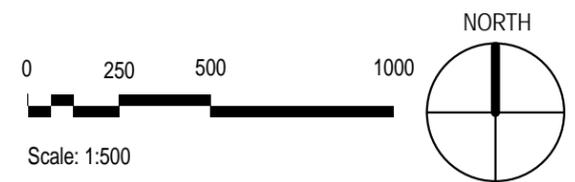
- A1. ACADEMIC 1
- A2. ACADEMIC 2
- A3. LIBRARY / STUDY ADDITION
- A4. ACADEMIC 4
- A5. ACADEMIC 5
- A6. ACADEMIC 6
- A7. ACADEMIC 7
- A8. ACADEMIC 8
- A9. ACADEMIC 9
- A10. ACADEMIC 10
- A11. ACADEMIC 11
- A12. SOCIAL SCIENCES / HUMANITIES
- A13. SIPA II
- A14. MANGO
- A15. SOLAR HOUSE
- A16. STOCKER ASTROSCIENCE
- A17. SCIENCE CLASSROOM COMPLEX
- A18. ACADEMIC HEALTH CENTER 5
- A19. HONORS COLLEGE
- A20. ACADEMIC HEALTH CENTER LIBRARY ADDITION
- P2. MEDICAL ARTS PAVILION 4
- P3. MEDICAL ARTS PAVILION 2
- P4. MEDICAL ARTS PAVILION 3
- P5. AMBULATORY CARE CENTER
- P6. MEDICAL ARTS PAVILION 1
- P7. PARTNERSHIP

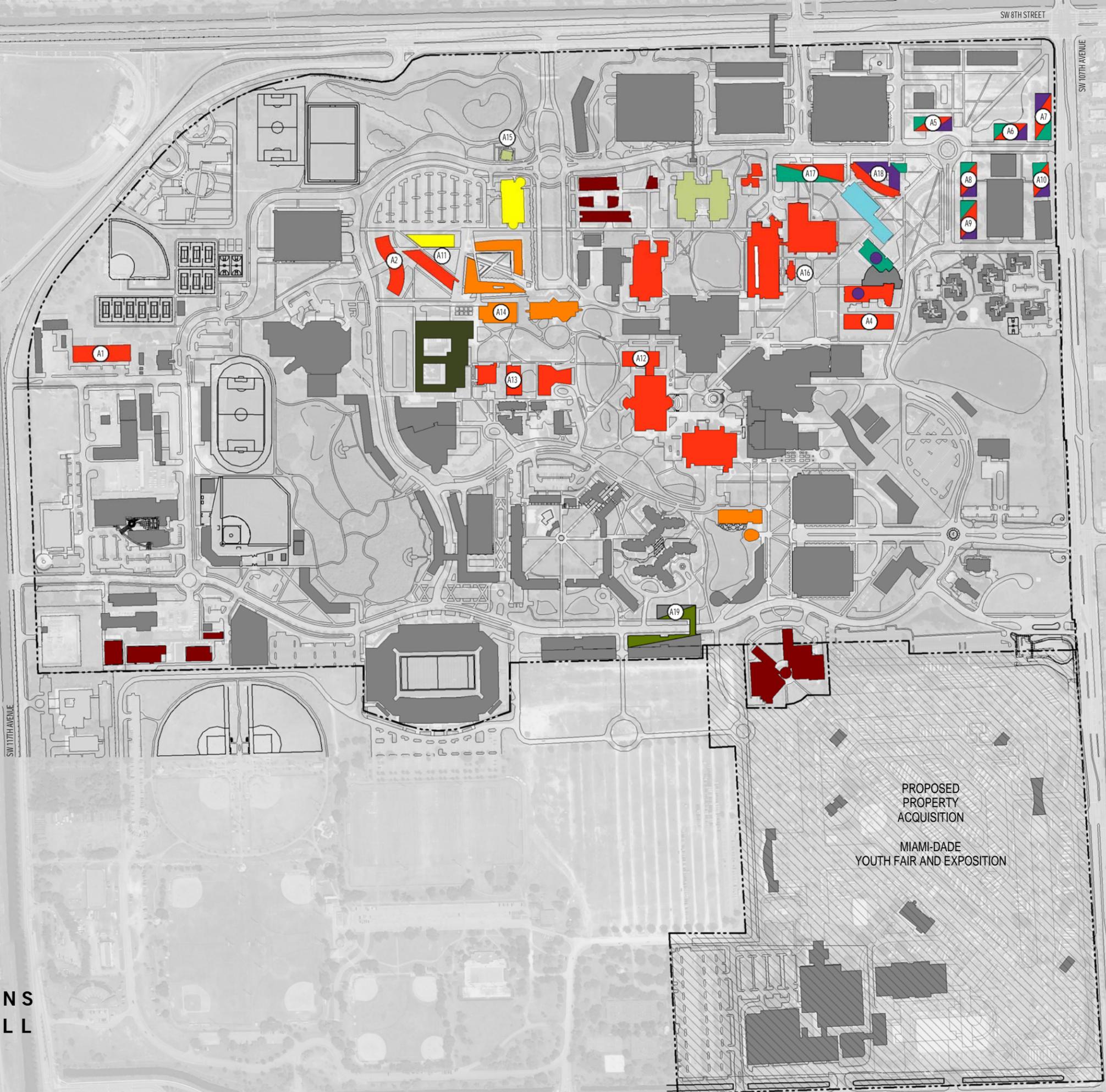
LEGEND

- CLASSROOM (FICM 100)
- LABORATORY (FICM 200)
- RESEARCH (FICM 200)
- STUDY (FICM 400)
- CLINICAL (FICM 500)
- SPECIAL USE ACADEMIC (FICM 500)
- MULTI-PURPOSE
- PROPOSED / EXISTING BUILDING
- STUDY SPACE HUB

HATCHED BUILDINGS REPRESENT ACADEMIC FUNCTIONS THAT OCCUPY LESS THAN HALF OF THE BUILDING

**ELEMENT 5.1A: ACADEMIC FACILITIES
MODESTO A. MAIDIQUE CAMPUS**





KEY

- A1. ACADEMIC 1
- A2. ACADEMIC 2
- A4. ACADEMIC 4
- A5. ACADEMIC 5
- A6. ACADEMIC 6
- A7. ACADEMIC 7
- A8. ACADEMIC 8
- A9. ACADEMIC 9
- A10. ACADEMIC 10
- A11. ACADEMIC 11
- A12. SOCIAL SCIENCES / HUMANITIES
- A13. SIPA II
- A14: MANGO
- A15: SOLAR HOUSE
- A16: STOCKER ASTROSCIENCE
- A17: SCIENCE CLASSROOM COMPLEX
- A18. ACADEMIC HEALTH CENTER 5
- A19. HONORS COLLEGE

LEGEND

- COLLEGE OF ARCHITECTURE AND THE ARTS
- COLLEGE OF ARTS AND SCIENCES
- COLLEGE OF BUSINESS
- COLLEGE OF EDUCATION
- COLLEGE OF ENGINEERING AND COMPUTING
- HONORS COLLEGE
- COLLEGE OF LAW
- COLLEGE OF MEDICINE
- COLLEGE OF NURSING AND HEALTH SCIENCES
- SCHOOL OF HOSPITALITY MANAGEMENT
- SCHOOL OF JOURNALISM AND MASS COMM.
- COLLEGE OF PUBLIC HEALTH AND SOCIAL WORK

**ELEMENT 5.1B: COLLEGE SPACE NEEDS
MODESTO A. MAIDIQUE CAMPUS**





KEY

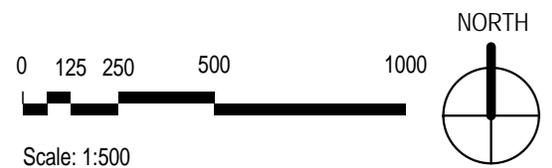
- A1. ENGINEERING BUILDING
- A2. RESEARCH FIELD

LEGEND

- CLASSROOM (FICM 100)
- LABORATORY (FICM 200)
- RESEARCH (FICM 200)
- STUDY (FICM 400)
- CLINICAL (FICM 500)
- SPECIAL USE ACADEMIC (FICM 500)
- MULTI-PURPOSE
- PROPOSED / EXISTING BUILDING
- STUDY SPACE HUB

HATCHED BUILDINGS REPRESENT ACADEMIC FUNCTIONS THAT OCCUPY LESS THAN HALF OF THE BUILDING

**ELEMENT 5.2A: ACADEMIC FACILITIES
ENGINEERING CENTER**





KEY

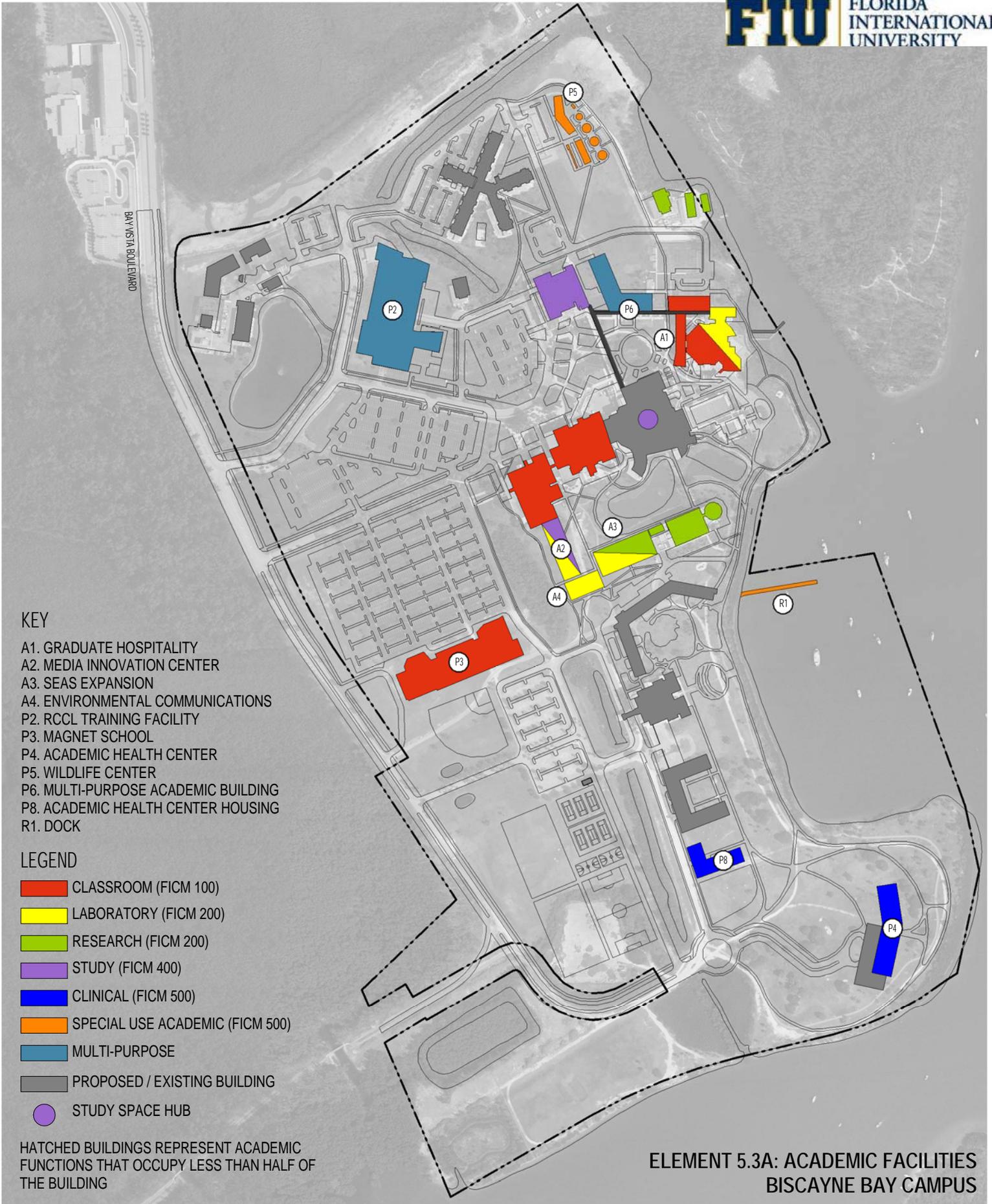
A1. ENGINEERING BUILDING

A2. RESEARCH FIELD

LEGEND

 COLLEGE OF ENGINEERING AND COMPUTING

**ELEMENT 5.2B COLLEGE SPACE NEEDS
ENGINEERING CENTER**



KEY

- A1. GRADUATE HOSPITALITY
- A2. MEDIA INNOVATION CENTER
- A3. SEAS EXPANSION
- A4. ENVIRONMENTAL COMMUNICATIONS
- P2. RCCL TRAINING FACILITY
- P3. MAGNET SCHOOL
- P4. ACADEMIC HEALTH CENTER
- P5. WILDLIFE CENTER
- P6. MULTI-PURPOSE ACADEMIC BUILDING
- P8. ACADEMIC HEALTH CENTER HOUSING
- R1. DOCK

LEGEND

- CLASSROOM (FICM 100)
- LABORATORY (FICM 200)
- RESEARCH (FICM 200)
- STUDY (FICM 400)
- CLINICAL (FICM 500)
- SPECIAL USE ACADEMIC (FICM 500)
- MULTI-PURPOSE
- PROPOSED / EXISTING BUILDING
- STUDY SPACE HUB

HATCHED BUILDINGS REPRESENT ACADEMIC FUNCTIONS THAT OCCUPY LESS THAN HALF OF THE BUILDING

**ELEMENT 5.3A: ACADEMIC FACILITIES
BISCAYNE BAY CAMPUS**

BAY VISTA BOULEVARD

KEY

- A1. GRADUATE HOSPITALITY
- A2. MEDIA INNOVATION CENTER
- A3. SEAS EXPANSION
- A4. ENVIRONMENTAL COMMUNICATIONS
- P2. RCCL TRAINING FACILITY
- P3. MAGNET SCHOOL
- P4. ACADEMIC HEALTH CENTER
- P5. WILDLIFE CENTER
- P6. MULTI-PURPOSE ACADEMIC BUILDING
- P7. HOTEL
- P8. ACADEMIC HEALTH CENTER HOUSING

LEGEND

- COLLEGE OF ARCHITECTURE AND THE ARTS
- COLLEGE OF ARTS AND SCIENCES
- COLLEGE OF BUSINESS
- COLLEGE OF EDUCATION
- HONORS COLLEGE
- COLLEGE OF MEDICINE
- COLLEGE OF NURSING AND HEALTH SCIENCES
- SCHOOL OF HOSPITALITY MANAGEMENT
- SCHOOL OF JOURNALISM AND MASS COMM.
- COLLEGE OF PUBLIC HEALTH AND SOCIAL WORK

**ELEMENT 5.3B: COLLEGE SPACE NEEDS
BISCAYNE BAY CAMPUS**



6.0 SUPPORT FACILITIES ELEMENT

Significant growth in projected enrollment will increase the need for additional support facilities. The majority of this projected need will be for academic and administrative office space, much of which occurs within academic facilities. Funding mechanisms instituted at the SUS level will continue to play 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 Element 6.1: Modesto A. Maidique Campus, Element 6.2: Engineering Center and Element 6.3: Biscayne Bay Campus for the location of support facilities).

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

Objective 1.1 Identify Critical Facility Needs and Required Locations: Develop future support facilities including offices, administrative, maintenance and related support services. Phase and locate facilities 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 all new academic buildings.

Policy 1.1.2 **MODESTO A. MAIDIQUE**
Concentrate maintenance and facility operations functions on the western edge of campus. Locate additional physical plant support spaces in all new parking garages.

Policy 1.1.3 Locate general use/campus support space adjacent to Graham Center.

Policy 1.1.4 Concentrate administrative offices adjacent to Primera Casa and the Graham Center within the loop road on the eastern edge of the campus. Integrate academic offices within college hubs and academic neighborhoods.

Policy 1.1.5 Integrate support services within student housing and all new academic facility development by designating the first floor of each building as multi-purpose space.

Policy 1.1.6 Incorporate retail dining hubs with study space hubs at new and existing academic buildings in accordance with the FIU auxiliary services plan to create profitable and consistent nodes of service.

- Policy 1.1.7 **ENGINEERING CENTER**
 Maintain campus support and maintenance functions in the existing facility.
- Policy 1.1.8 Provide student and general use support spaces on the first floor of the proposed academic building. Enclose and repurpose the first floor of the building to improve student outreach, auxiliary retail, study and meeting spaces.
- Policy 1.1.9 **BISCAYNE BAY CAMPUS**
 Maintain campus support and maintenance functions in the northwest quadrant of the campus.
- Policy 1.1.10 Expand existing physical plant facilities to serve projected campus growth and provide adequate chilled water for FIU facilities.
- Policy 1.1.11 Provide multi-purpose support spaces within all new facilities, reserving the first floor for flexible office, study and meeting space as well as student oriented retail.

**Objective 1.2 Integrate Phasing and Funding:
 Develop support facilities to reflect prioritized needs. Take advantage of partnerships and non-traditional opportunities to secure funding necessary to address projected needs.**

Policy 1.2.1 By 2020, FIU will develop support facilities in the following planning periods.

	<u>MMC & EC</u>	<u>BBC</u>
Existing:	1,641,152 GSF	291,702 GSF
Currently Underway:	146,029 GSF	32,250 GSF
2015:	342,332 GSF	30,675 GSF
2020:	399,859 GSF	10,794 GSF
Total:	2,529,372 GSF	365,421 GSF

Policy 1.2.2 Accommodate support facility development opportunities which are determined to be consistent with the academic mission and current/planned programs in:

- Planned but unassigned future support buildings

- Designate building sites depicted in the Future Land Use Plan.

Amend the Campus Master Plan as necessary to incorporate any new and unforeseen support facilities.

Policy 1.2.3

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

KEY

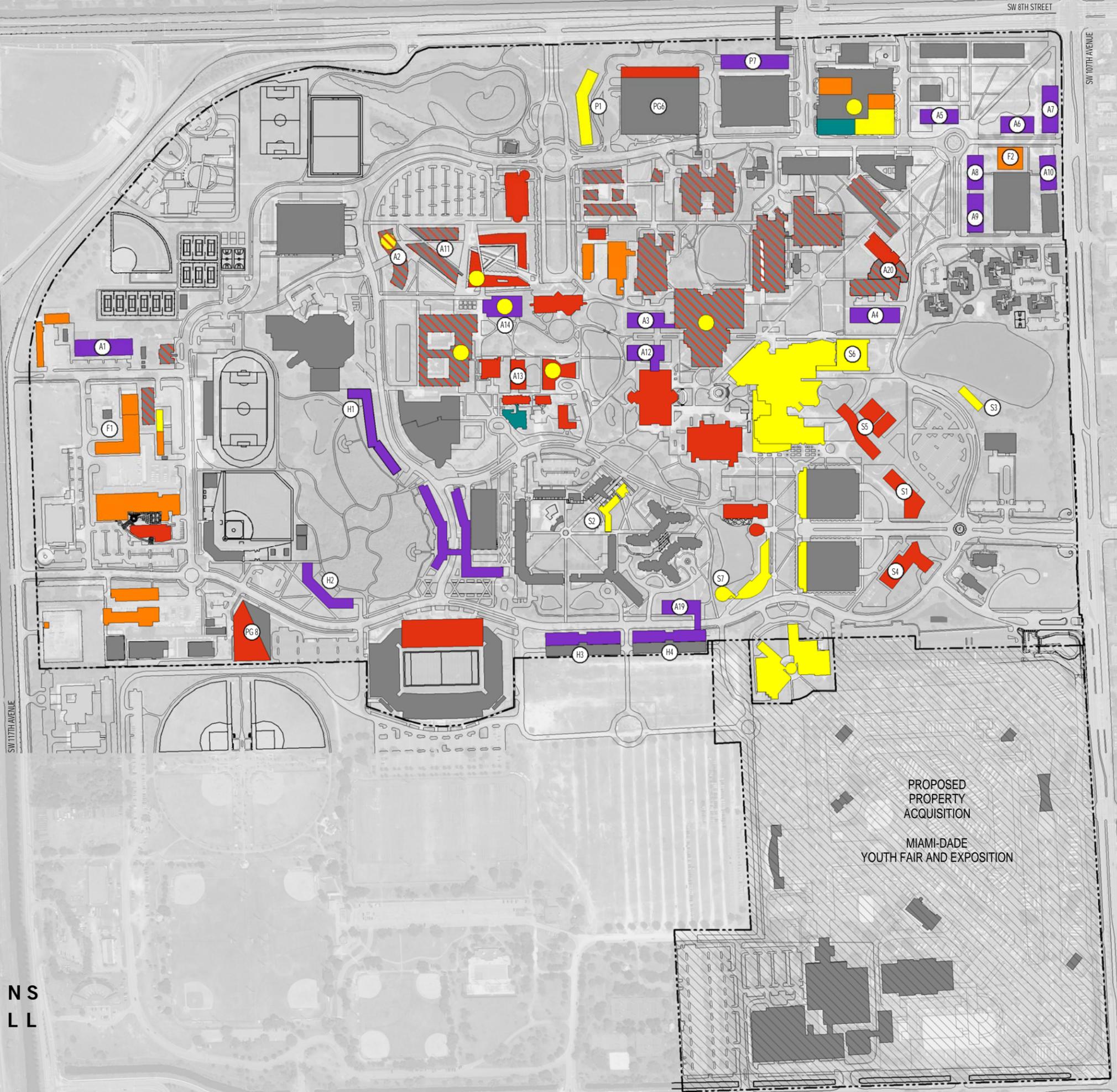
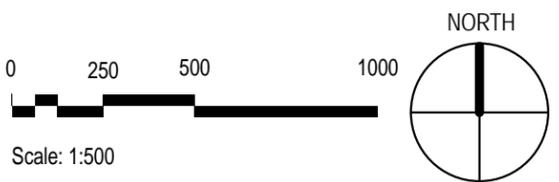
- A1. ACADEMIC 1
- A2. ACADEMIC 2
- A3. ACADEMIC 3
- A4. ACADEMIC 4
- A5. ACADEMIC 5
- A6. ACADEMIC 6
- A7. ACADEMIC 7
- A8. ACADEMIC 8
- A9. ACADEMIC 9
- A10. ACADEMIC 10
- A11. ACADEMIC 11
- A12. SOCIAL STUDIES / HUMANITIES
- A13. SIPA II
- A14. MANGO
- A19. HONORS COLLEGE
- A20. ACADEMIC HEALTH CENTER LIBRARY ADDITION
- H1. PARKVIEW HOUSING II
- H2. GREEK HOUSING
- H3. MAIN STREET HOUSING
- H4. HONORS COLLEGE HOUSING
- F1. FACILITIES 1
- F2. CENTRAL UTILITIES
- P1. HOTEL
- P7. PARTNERSHIP
- PG6. FACILITY SUPPORT
- PG8. FACILITY SUPPORT
- S1. SUPPORT 1
- S2. SUPPORT 2
- S3. PRESIDENT'S PARK PAVILION
- S4. ALUMNI CENTER
- S5. STUDENT ACADEMIC SUPPORT CENTER
- S6. GRAHAM CENTER ADDITION
- S7. FROST MUSEUM ADDITION

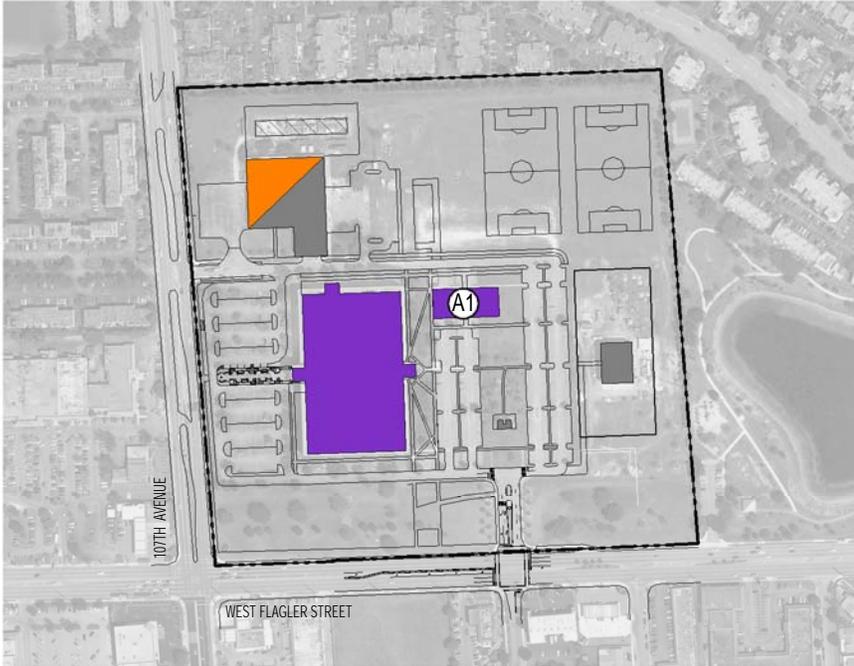
LEGEND

- OFFICES (FICM 300)
- GENERAL USE / AUXILIARY (FICM 600)
- CAMPUS FACILITY SUPPORT (FICM 700)
- STUDENT HEALTHCARE FACILITIES (FICM 800)
- 1 FLOOR MULTI PURPOSE SPACE
- PROPOSED / EXISTING BUILDING
- RETAIL DINING HUB

HATCHED BUILDINGS REPRESENT SUPPORT FUNCTIONS THAT OCCUPY LESS THAN HALF OF THE BUILDING

**ELEMENT 6.1: SUPPORT FACILITIES
MODESTO A. MAIDIQUE CAMPUS**





KEY

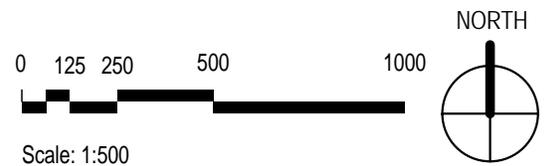
A1. ENGINEERING BUILDING

LEGEND

- OFFICES (FICM 300)
- GENERAL USE / AUXILIARY (FICM 600)
- CAMPUS FACILITY SUPPORT (FICM 700)
- STUDENT HEALTHCARE FACILITIES (FICM 800)
- 1 FLOOR MULTI PURPOSE SPACE
- PROPOSED / EXISTING BUILDING
- RETAIL DINING HUB

HATCHED BUILDINGS REPRESENT SUPPORT FUNCTIONS THAT OCCUPY LESS THAN HALF OF THE BUILDING

**ELEMENT 6.2: SUPPORT FACILITIES
ENGINEERING CENTER**



BAY VISTA BOULEVARD

KEY

- A2. MEDIA INNOVATION CENTER
- A4. ENVIRONMENTAL COMMUNICATIONS
- F1. FACILITY SUPPORT
- H1. STUDENT HOUSING
- P4. ACADEMIC HEALTH CENTER
- P6. MULTI-PURPOSE ACADEMIC BUILDING
- P7. HOTEL
- P8. ACADEMIC HEALTH CENTER HOUSING

LEGEND

- OFFICES (FICM 300)
- GENERAL USE / AUXILIARY (FICM 600)
- CAMPUS FACILITY SUPPORT (FICM 700)
- STUDENT HEALTHCARE FACILITIES (FICM 800)
- 1 FLOOR MULTI PURPOSE SPACE
- PROPOSED / EXISTING BUILDING
- RETAIL DINING HUB

HATCHED BUILDINGS REPRESENT SUPPORT FUNCTIONS THAT OCCUPY LESS THAN HALF OF THE BUILDING

**ELEMENT 6.3: SUPPORT FACILITIES
BISCAYNE BAY CAMPUS**



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. FIU's goal is to house twenty (20) percent of all full time equivalent students (FTE) in on-campus housing. As student enrollment numbers continue to increase and student housing needs change, FIU must explore multiple avenues to expand suitable housing on campus, work with Sweetwater redevelopment advocates and partner with local developers. (Refer to Element 7.1: Modesto A. Maidique Campus and 7.3: Biscayne Bay Campus for the location of housing facilities).

In addition to increasing the quantity of on-campus housing, FIU will strive to reflect the housing preferences of undergraduate students, graduate students, honors students, married students and members of fraternities and sororities. Semi suites, suites and apartment unit types should all be available. Future housing at Modesto A. Maidique is anticipated to be at least the scale and density of Parkview I. At Biscayne Bay, new student housing is anticipated to be less than the height limit regulations established by the City of North Miami. Student housing on both campuses should anticipate sea level rise by locating beds above ground level and incorporate student support space on the first floor. In addition, whenever possible, floor plate modules should be configured to promote 40-bed communities.

At the Modesto A. Maidique Campus, the majority of undergraduate student housing should be concentrated in one district that centers around Panther Village and the Preserve. The Honors College housing should be located at a campus gateway with high visibility, such as along SW 17th Street. Along with "Main Street" apartment housing, it links the campus greenway with the Stadium, Performing Arts Center and potential university expansion in the Miami-Dade Youth Fair and Exposition. Parkview housing should be expanded around the Preserve. Future Greek housing expansion should be located at the corner of the Preserve and in proximity to sports facilities. New housing facilities should either integrate structured parking into their development or locate it within close proximity to increase marketability and student safety.

At the Biscayne Bay Campus, student housing should be relocated south of the main academic quadrangle to take advantage of the crossroads location near Kovens Center. The existing residence hall should be made available to Royal Caribbean Cruise Lines for their staff housing in connection with their new training facility. Additional partnerships housing should be located between Kovens Center and the Academic Health Center. In addition to on-campus housing, the completion of the Biscayne Landing Project will create four thousand (4,000) new mid-priced housing units within walking and bicycling distance from BBC within the next 5-15 years.

No student housing should be located at the Engineering Center.

GOAL 1: Assist all students in securing adequate, affordable on- and off-campus housing .

Objective 1.1 Promote Housing Availability and Supply: Actively plan with local community and development partners for the availability of an adequate supply of affordable housing units and support facilities both on-campus and off-campus.

Policy 1.1.1 UNIVERSITY-WIDE
Provide a variety of residential unit types to reflect user preferences and particular student classifications (undergraduate, honors, graduate, and Greek housing)

Policies 1.1.2 Provide support services and facilities within each housing development to include:

- Nearby parking space consistent with parking standards
- Dining facilities
- Recreation and open space commons
- Meeting and study space
- Offices for Student Services and Student Organizations

Policy 1.1.3 Construct new housing as multi-purpose facilities and incorporate amenities that improve pedestrian and bicycle-oriented transportation.

Policy 1.1.4 To ensure an adequate supply of housing as the phased demolition of University Village Apartments occurs, FIU will provide a surplus of student housing to accommodate displaced beds.

Policy 1.1.5 Provide handicapped accessible units, in compliance with Americans with Disabilities Act for no less than five percent of on-campus housing.

Policy 1.1.6 **MODESTO A. MAIDIQUE**
Provide a total of 5,026 on-campus housing beds by the end of the planning period, contingent on demand. Develop a

strategy to accommodate the unmet need for additional beds and the phased demolition of University Village Apartments in the first half of the next planning period or through partners. The beds will be distributed generally as follows:

Existing Fall 2011:	2,586 beds
Planned (under construction + CIP):	620 beds
Planned Demolition (University Park Apartments-4 Units)	240 beds
Future Housing Development (Parkview II and 17 th Street)	1,380 beds
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

Policy 1.1.7

Locate new student housing consistent with the Campus Housing Business Plan as follows:

- Undergraduate housing will be located west and north of Panther Village with the creation of Parkview Housing I and II
- Additional undergraduate student, apartment-style housing, should be located south of Panther Village along SW 17TH Street.
- Honors housing should be explored at the crossroads between the Campus GreenWay and SW 17th Street. This location is the future gateway between the main academic campus and the Miami-Dade Youth Fair and Exposition property. This location also benefits from being adjacent to the Frost Art Museum and Wertheim Performing Arts Center.
- In total, FIU will provide 5,026 new beds for undergraduate students.
- Graduate student housing should remain at the eastern edge of campus along SW 107TH Avenue (providing 297) beds until the land is required for redevelopment. It occupies property critical for the expansion of the Academic Health Science Center.

- Greek housing should be relocated over time to the southwest corner of the Preserve; 330 beds should be provided in addition to existing beds.

Policy 1.1.8 Prioritize funding and phase housing development, consistent with the Campus Housing Business plan and the Capital Improvement Plan.

Policy 1.1.9 Evaluate the demand and financial feasibility of a privately developed hotel to serve the Modesto A. Maidique Campus and expanded partnerships.

Policy 1.1.10 **BISCAYNE BAY CAMPUS**
Provide a total of 725 on-campus housing beds by the end of the planning period, 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

Policy 1.1.11 Locate undergraduate student housing south of the main academic quadrangle adjacent to the Kovens Center.

Policy 1.1.12 Evaluate the demand and financial feasibility of a privately developed hotel to serve the Kovens Center and the potential Academic Health Center partnerships.

Policy 1.1.13 Locate Academic Health Center Housing adjacent to the associated Academic Health Center.

Policy 1.1.14 **OFF-CAMPUS HOUSING**
Monitor the anticipated adequacy and affordability of off-campus housing to serve the needs of students, faculty and staff through a bi-annual campus survey

Policy 1.1.15 Work with the City of North Miami, Sweetwater, and Miami Dade Planning Department to assure that sufficient off-campus affordable housing is available to students, faculty and staff by:

- Monitoring the supply, cost and suitability of off-campus housing, including rent levels
- Establishing a registry of off-campus housing providers
- Consider development of a "roommate finder" service

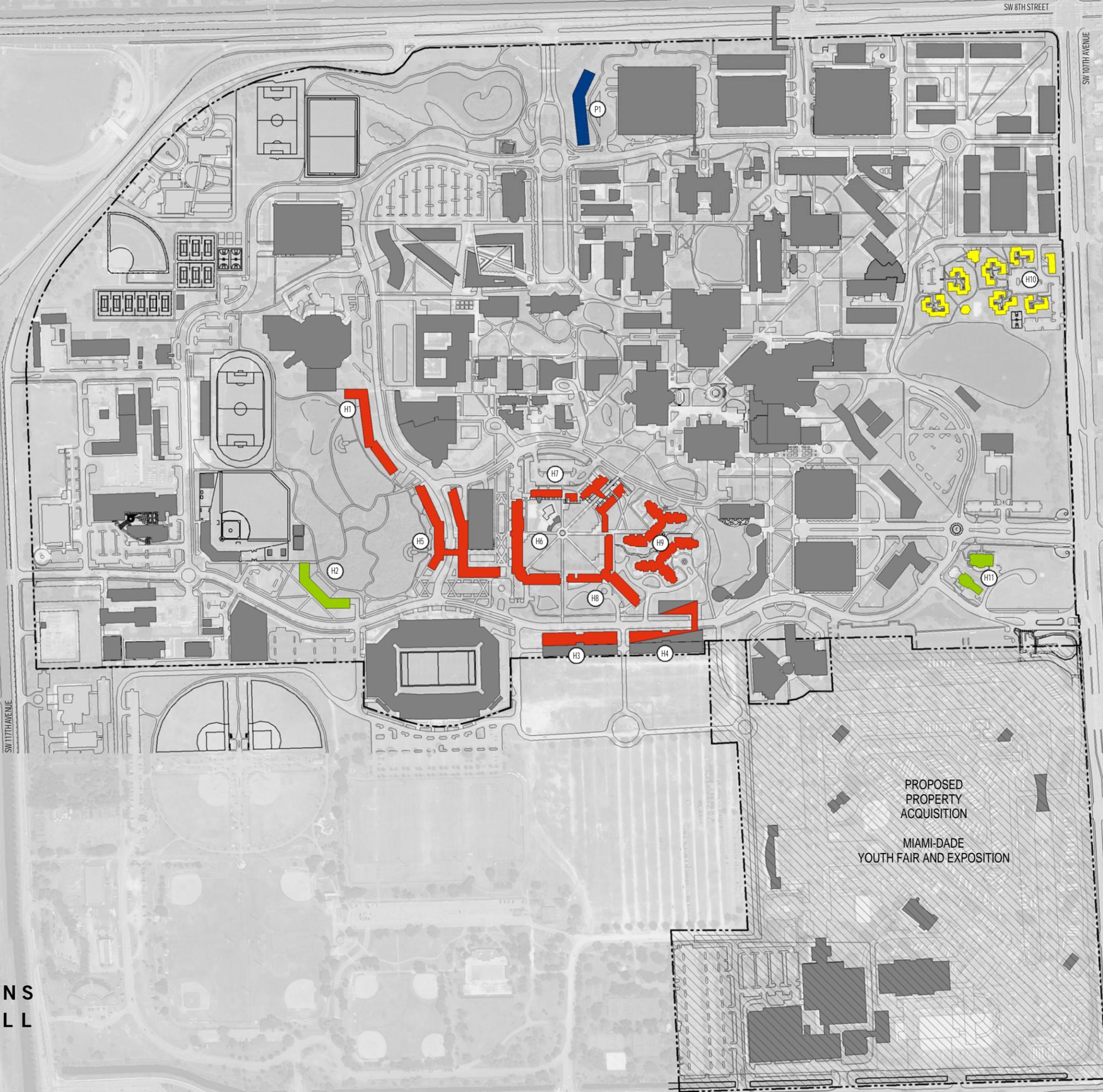
Pursuant to HB 1362, consider establishing public-private partnerships and agreements with local jurisdictions for providing affordable housing opportunities for students.

**Objective 1.2 Remove or Improve Substandard Housing:
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 Monitor housing demands and develop a business plan to support housing needs in a timely fashion at both campuses.



KEY

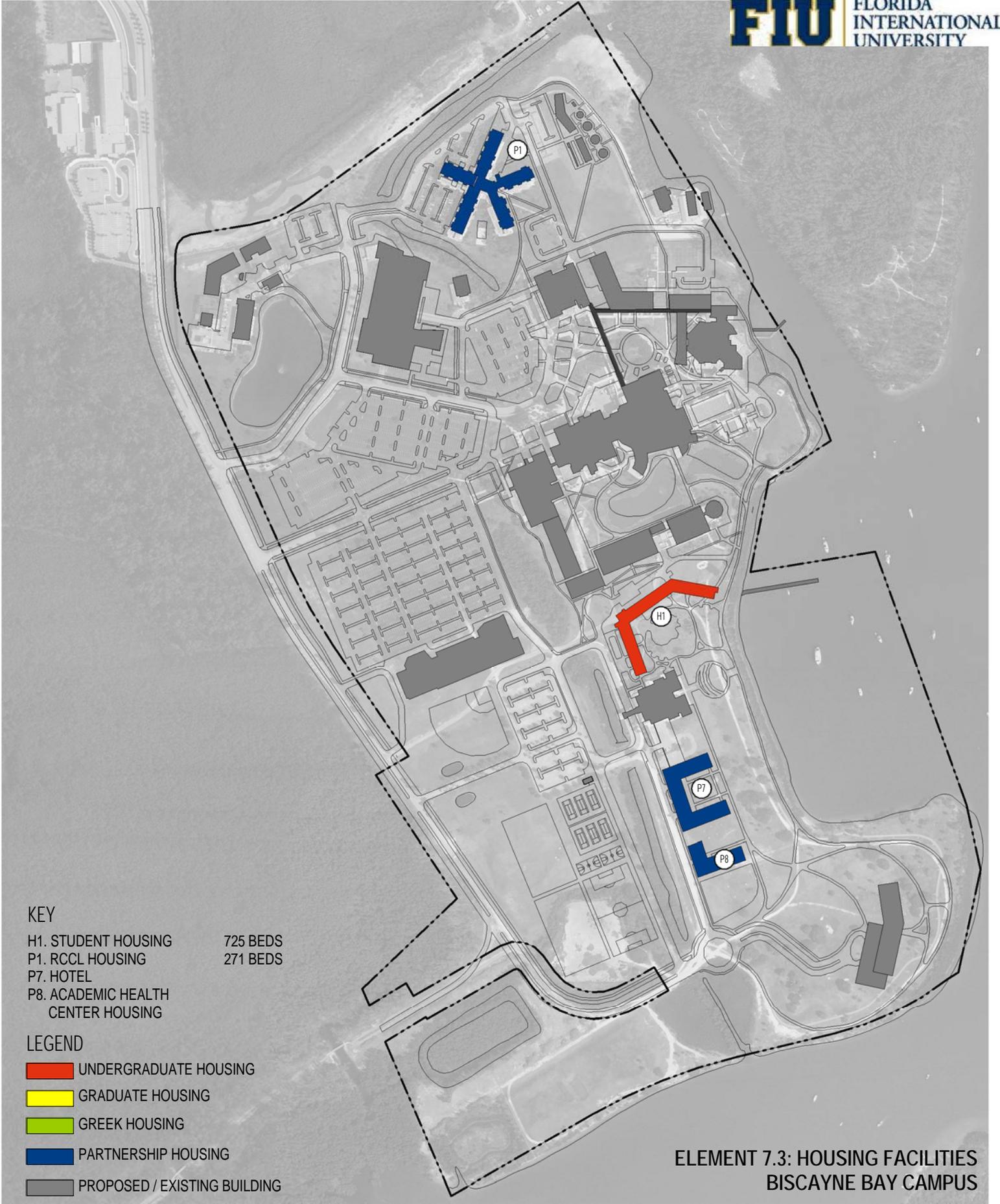
H1. PARKVIEW HOUSING II	960 BEDS
H2. GREEK HOUSING	330 BEDS
H3. MAIN STREET HOUSING	420 BEDS
H4. HONORS COLLEGE HOUSING	350 BEDS
H5. PARKVIEW HOUSING I	620 BEDS
H6. PANTHER HALL	396 BEDS
H7. UNIVERSITY TOWER	481 BEDS
H8. EVERGLADES HALL	372 BEDS
H9. LAKEVIEW HOUSING	800 BEDS
H10. UNIVERSITY VILLAGE APARTMENTS	297 BEDS
H11. EXISTING GREEK HOUSING	70 BEDS
P1. HOTEL	

LEGEND

█	UNDERGRADUATE HOUSING
█	GRADUATE HOUSING
█	GREEK HOUSING
█	PARTNERSHIP HOUSING
█	PROPOSED / EXISTING BUILDING

**ELEMENT 7.1: HOUSING FACILITIES
MODESTO A. MAIDIQUE CAMPUS**





KEY
 H1. STUDENT HOUSING 725 BEDS
 P1. RCCL HOUSING 271 BEDS
 P7. HOTEL
 P8. ACADEMIC HEALTH CENTER HOUSING

LEGEND
 [Red Box] UNDERGRADUATE HOUSING
 [Yellow Box] GRADUATE HOUSING
 [Green Box] GREEK HOUSING
 [Blue Box] PARTNERSHIP HOUSING
 [Grey Box] PROPOSED / EXISTING BUILDING

**ELEMENT 7.3: HOUSING FACILITIES
 BISCAYNE BAY CAMPUS**

8.0 RECREATION AND OPEN SPACE ELEMENT

Developing new FIU recreational facilities and fields, as well as enhancing existing open space, remains an important aspect of campus design. As full-time student enrollment increases, there is an increased demand for both adequate housing and access to recreational amenities. These types of facilities also provide a critical benefit to commuting students. Whether for passive, informal, club sports, intercollegiate or intramural activities, all students benefit from opportunities to be physically active, socially engaged and remain connected to the University (see Element 8.1: Modesto A. Maidique Campus, Element 8.2: Engineering Center and Element 8.3: Biscayne Bay Campus for the location of recreational facilities and open space).

The 2020 Campus Master Plan Update identifies the need for additional on-campus recreation facilities as well as the improvement and preservation of significant open space to support the health and wellness of students. Due to the increasing pressure at Modesto A. Maidique to use its available land for academic facilities, active recreational activities are limited to the western edge of campus. These are, in turn, experiencing yet further constraints due to the pressure for 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 joint use of Tamiami Park and Miami-Dade Youth Fair and Exposition property should remain as a constant tool for additional recreational facilities. FIU should continue to work with the Miami-Dade County Parks Recreation and Open Spaces regarding recreation and open space needs for both the University and Miami-Dade County. Underutilized open space at the Engineering Center should be converted to recreational fields as a short term solution.

Biscayne Bay Campus has available land to accommodate its growing student population's desire and need for recreation and athletic facilities. The southern portion of the campus should remain as multi-purpose open space with additional fields and facilities located south of the Magnet School.

The 2020 Open Space Concept Plan (See Element 8.1 Modesto A. Maidique Campus, 8.2 Engineering Center and 8.3 Biscayne Bay Campus) identifies six categories of open space including:

- Multi-purpose open space
- Athletics
- Special purpose landscape
- Recreational open space
- Courtyard/plaza and
- Campus gateways

Recreational space refers to structured recreation and athletic spaces. Multi-purpose open space refers to areas that are not programmed and are intended for a variety of activities and users. Special Purpose Landscapes refer to open spaces that can be used for teaching or research. Campus Gateways aim to create a landmark entrance into campus

and denote primary entrance locations. The remaining categories of spaces include those which are integral to the surrounding built campus environment. (Refer to Figures 16.1 Modesto A. Maidique, 16.2 Engineering Center and 16.3 Biscayne Bay Campus for greater definition of the open space category.)

Open spaces on each campus have been created overtime that have become an integral part of the overall urban design and sense of place. Development that would encroach on these open spaces is discouraged so that the natural resources of each campus are protected. The FIU Architectural and Landscape Design Guidelines ensure that appropriate open spaces, plazas and gathering spaces are provided with all new construction.

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

Objective 1.1 Meet Demand for Quality and Quantity of Recreation Facilities: Coordinate public and private resources to ensure the timely and efficient provision of recreation facilities to meet projected needs.

Policy 1.1.1 UNIVERSITY-WIDE
Assess the needs of the students for on-campus recreational fields and facilities. Recreational fields displaced by new construction will be replaced either on FIU property or in partnership with the community.

Policy 1.1.2 Ensure that adequate open and recreation space is provided beyond Miami-Dade County standards. Utilize guidelines and criteria set forth by either FIU peers or NIRSA Standards for large urban universities.

Policy 1.1.3 Phase and time development of open space improvements consistent with 14.0 Capital Improvement.

Policy 1.1.4 Renovate and improve roadways to incorporate Florida's DOT standards for bike lanes and lane dimensions. Connect to bicycle and pedestrian routes developed by host communities. Promote bicycle, pedestrian and mass transit connectivity between the university community and recreational facilities.

Policy 1.1.5 MODESTO A. MAIDIQUE CAMPUS
Discussions for the modification of the stadium and its use will include input from MDPH and Miami-Dade County Public Schools.

Policy 1.1.6 Strengthen public venues in special purpose landscape and near water. Develop amphitheaters and pavilions.

- Policy 1.1.7 To address the needs of the projected student growth and lack of developable land on campus, investigate FIU expansion to Miami-Dade Youth Fair and Exposition property to house needed recreation facilities.
- Policy 1.1.8 **ENGINEERING CENTER**
Given the need for additional recreation facilities, land that is currently underutilized in the northeast corner of campus should be utilized for the creation of needed recreational fields and support facilities.
- Policy 1.1.9 **BISCAYNE BAY CAMPUS**
Cluster new and relocated athletic and fields and facilities in the southern portion of the campus. Additional multi-purpose fields, tennis courts and basketball courts should be located south of the Magnet School. Develop joint use agreements with the proposed Magnet School for the softball field. Relocate the ropes course south of Academic Health Center Housing.
- Policy 1.1.10 Preserve multi-purpose, pedestrian, open space and bike paths along Biscayne Bay. Strengthen the character and quality of informal open space.
- Policy 1.1.11 Strengthen public venues along the bay. Develop an amphitheater adjacent to the Kovens Center and a dock next to relocated student housing.
- Objective 1.2 Develop Signature and Sustainable Open Space:
Protect and/or enhance present open space resources.**
- Policy 1.2.1 **UNIVERSITY-WIDE**
Select sites for infrastructure and academic and support facilities, which are designed to strengthen the viability and character of campus open space.
- Policy 1.2.2 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.
- Policy 1.2.3 Maintain the Campus Master Plan figure/ground relationships and urban design framework for the purpose of designating and creating high quality and diverse landscaped open space.
- Policy 1.2.4 Protect designated landscaped open spaces from development and create an interconnected framework of malls, quadrangles, courtyards, plazas and open space.

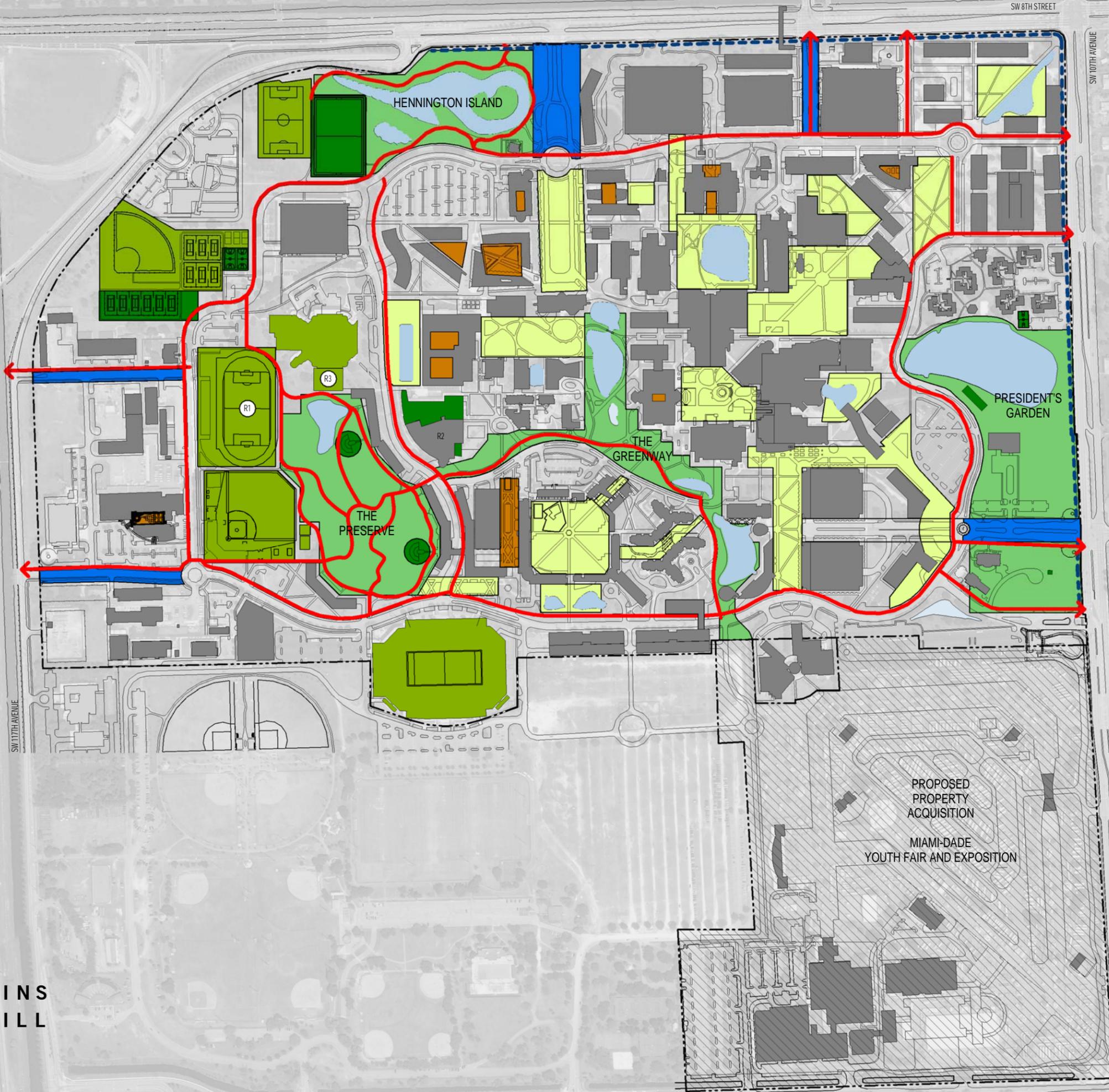
- Policy 1.2.5 Create, enhance and maintain new and existing primary entry points into campus with identifiable, signature campus gateways (see 16.0 Landscape Design Guidelines Element).
- Policy 1.2.6 **MODESTO A. MAIDIQUE CAMPUS**
 Coordinate any development within the Preserve, as indicated by Table 14.1: Capital Improvement Plan, with the most recent development study of the Preserve. FIU will coordinate with Miami-Dade County DERM biologists as appropriate or required by law. Protected areas will be integrated within the existing wooded areas, with sensitively placed buildings, paths, seating areas, interpretative displays and amenities. Wooded areas will be retained for the benefit of existing species, to provide shelter, and for their natural characteristics.
- The Preserve will continue to be used for teaching and outdoor recreation purposes. Past design charrettes conducted by FIU, along with recent additions and alterations to those recommendations, provide a plan for utilizing the Preserve for these and other uses.
- Policy 1.2.7 Maintain and enhance streetscapes along SW 8th Street and SW 107th Street to brand the campus perimeter and to provide additional pedestrian and vehicular separation (see 16.0 Landscape Design Guidelines Element).
- Policy 1.2.8 Develop distinctive and branded entrances from SW 8th Street, SW 107th Avenue and SW 117th Avenue into campus. Provide a heightened level of detail according to their hierarchy. Follow recommendations in 16.0 Landscape Design Guidelines Element.
- Policy 1.2.9 Create a GreenWay that links the small ponds within the academic core and creates a parking and pedestrian connection to the Miami-Dade Youth Fair and Exposition.
- Policy 1.2.10 Enhance and preserve the President's Garden. Improve pedestrian access as roadways are developed in the southeast quadrant of campus. Coordinate a high quality landscape setting with the proposed chapel and park pavilion.
- Policy 1.2.11 Improve and expand on-campus recreational paths within special purpose and multi-purpose open space to create a pedestrian-friendly campus that promotes activity and wellness.
- Policy 1.2.11 Coordinate with Miami-Dade County Parks Recreation and Open Spaces for the joint utilization of open space to meet recreation and open space needs.

- Policy 1.2.12 **ENGINEERING CENTER**
Enhance existing open space along SW 107th Avenue with additional streetscaping and the creation of a campus gateway.
- Policy 1.2.13 Enhance open space bordering West Flagler Street with the creation of a campus gateway and streetscape.
- Policy 1.2.14 Create an enhanced transit stop with one articulated and one regular bus stop with covered seating and landscape along SW 107th Avenue to allow for enhanced connectivity to public transportation.
- Policy 1.2.15 Utilize existing open space to form an interior quadrangle around which to organize future academic and research facilities.
- Policy 1.2.16 Establish a north/south pedestrian spine to connect Flagler, existing buildings and potential development to the north.
- Policy 1.2.17 Preserve setbacks and open around the Wall of Wind to provide protection from research activities.
- Policy 1.2.18 **BISCAYNE BAY CAMPUS**
Protect environmentally sensitive and bayfront open spaces from development encroachment. Strictly enforce placement of future buildings, parking, infrastructure and other man-made improvements consistent with the land use plan.

Coordinate closely with the City of North Miami and Miami-Dade County's Department of Environmental Protection (DERM) on any future campus development
- Policy 1.2.19 Renovate the original campus quad and develop new quads, courtyards and plazas throughout campus that enhance adjacent campus buildings.
- Policy 1.2.20 Enhance key symbolic campus open spaces including main entries into campus, 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 1.2.21 Highlight the GreenSpine with sensitively constructed walkways and appropriate plant materials (see 16.0 Landscape Design Guidelines Element).

Policy 1.2.22

Create courtyards, outdoor rooms and gathering spaces in all new development adjacent to the BayWalk as transition points to public open space along the bay.



KEY

- R1. TRACK AND FIELD
- R2. REC CENTER ADDITION
- R3. TRAINING FACILITY ADDITION

LEGEND

- MULTI PURPOSE OPEN SPACE
- ATHLETICS
- SPECIAL PURPOSE OPEN SPACE
- RECREATION
- COURTYARD/PLAZA
- CAMPUS GATEWAY
- SURFACE WATER
- PROPOSED / EXISTING BUILDING
- RECREATION PATH
- STREETSCAPE

**ELEMENT 8.1: RECREATION AND OPEN SPACE
MODESTO A. MAIDIQUE CAMPUS**





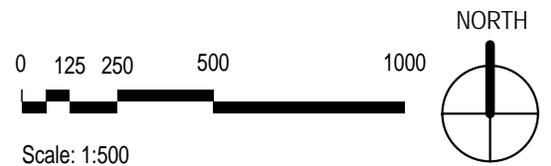
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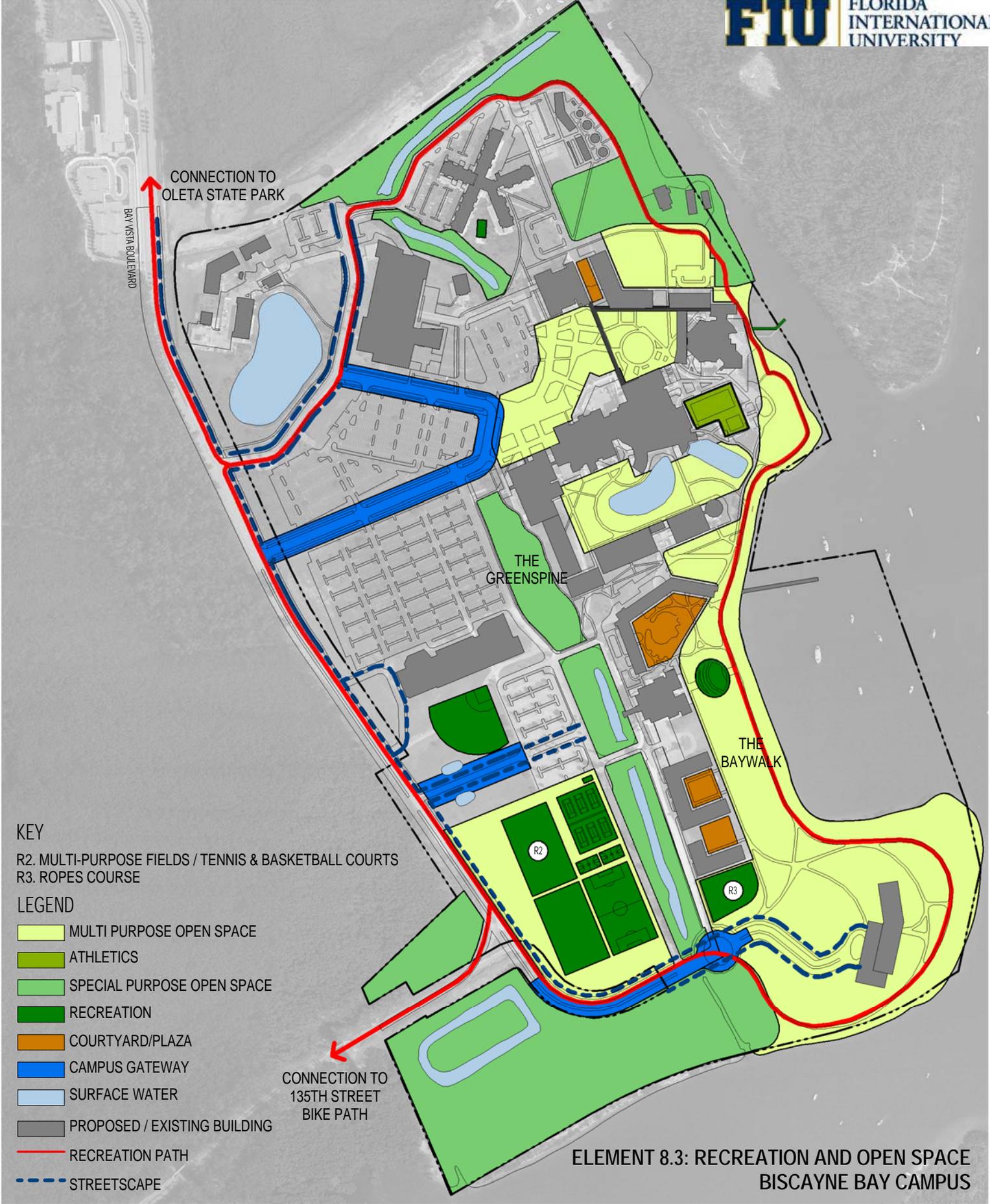
R1. RECREATION FIELDS

LEGEND

- MULTI PURPOSE OPEN SPACE
- ATHLETICS
- SPECIAL PURPOSE OPEN SPACE
- RECREATION
- COURTYARD/PLAZA
- CAMPUS GATEWAY
- SURFACE WATER
- PROPOSED / EXISTING BUILDING
- RECREATION PATH
- STREETSCAPE

**ELEMENT 8.2: RECREATION AND OPEN SPACE
ENGINEERING CENTER**





KEY
 R2. MULTI-PURPOSE FIELDS / TENNIS & BASKETBALL COURTS
 R3. ROPES COURSE

- LEGEND**
- MULTI PURPOSE OPEN SPACE
 - ATHLETICS
 - SPECIAL PURPOSE OPEN SPACE
 - RECREATION
 - COURTYARD/PLAZA
 - CAMPUS GATEWAY
 - SURFACE WATER
 - PROPOSED / EXISTING BUILDING
 - RECREATION PATH
 - STREETSCAPE

**ELEMENT 8.3: RECREATION AND OPEN SPACE
 BISCAYNE BAY CAMPUS**

9.0 GENERAL INFRASTRUCTURE ELEMENT

(1) REQUIREMENTS FOR STORMWATER MANAGEMENT GOALS, OBJECTIVES AND POLICIES

Goal 1.1 Florida International University shall provide a stormwater management system which incorporates sustainable practices, protects real property, and ensures maintenance of ground water quality.

Objective 1.1.1 Adequacy of Campus Drainage:

Florida International University shall ensure that future development is coordinated with current drainage infrastructure and on-going site improvement projects in order to meet campus drainage system requirements in an efficient manner and protect University property.

Policy 1.1.1.1 Engineering surveys shall be provided to obtain detailed data for implementation of accurate records, and to identify condition of facilities.

Policy 1.1.1.2 Maintain, update, and keep current, accurate as-builts of stormwater facilities.

Policy 1.1.1.3 FIU shall maintain, update and keep current records of any existing swales, dry retention areas, lakes, wetlands, preservation areas, and any other areas within the campus properties that provide stormwater storage and retention capacities, as well as any areas contributing to those retention areas. FIU shall reserve these stormwater storage and retention areas as prohibited from future development unless the area developed is reconstructed elsewhere on site.

Policy 1.1.1.4 FIU shall design and construct or improve stormwater management facilities as identified in Figures 9.1a, 9.2a and 9.3a. To ensure appropriate flood control, the timing and phasing of these improvements should be ahead of the associated developments.

Policy 1.1.1.5 Any development proposing connection to an existing drainage system shall evaluate the impacts of the proposed development on the affected stormwater management system as part of the project's design phase. Otherwise, sufficient stormwater management improvements must be provided to handle all of the runoff from the new developments on a stand-alone basis.

Policy 1.1.1.6 All water bodies shall be interconnected whenever possible to maximize the capacity of sub-basins.

Objective 1.1.2 Flood Protections / Water Quantity:

Florida International University shall ensure that all planned and future developments provide sufficient stormwater management capacity to protect buildings from being flooded during a storm event of at least 100-year capacity.

Policy 1.1.2.1 The following design criteria shall be used in the design and construction of facilities at Florida International University:

	Modesto A. Maidique Campus	Biscayne Bay Campus	Engineering Center
Min. Building Finished Floor Elevation (F.F.EL.)	10.0 ft NGVD	11.0 ft NGVD (12.0 ft NGVD for buildings along the Southern edge of the campus)	10.0 ft NGVD
Min. Sidewalk Elevation	8.0 ft NGVD	6.0 ft NGVD	8.0 ft NGVD
Min. Crown of Roadway Elevation	7.5 ft NGVD	5.5 ft NGVD	7.5 ft NGVD
Min. Parking Lot Elevation	7.0 ft NGVD	5.0 ft NGVD	7.0 ft NGVD

The minimum elevations shown above are minimum Miami-Dade County Division of Environmental Resources Management (DERM) requirements based on Miami-Dade County Flood Criteria and the FEMA Flood Insurance Rate Maps for the University areas.

Future new buildings serving as emergency shelters are classified as Category IV structures per Table 1-1 of ASCE 24-05. Therefore, these structures shall be protected from the 500 year flood (base flood elevation of 10.0 ft NGVD) with a minimum finished floor elevation (F.F.EL.) of 12.0 ft NGVD, as recommended by FEMA.

Policy 1.1.2.2 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 (such as University Housing) 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 Division 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 1.1.2.3 All vehicular paved surfaces and landscaped islands shall utilize curbing or curb and gutter when necessary for stormwater runoff control.

Policy 1.1.2.4 Drainage systems for all new development shall be designed in accordance with the campus master development plan, the Miami-Dade County Public Works and Waste Management Department (PWWMD) - Public Works Manual Section D4 Water Control, Miami-Dade County Division of Environmental Resources Management guidelines, and the South Florida Water Management District Permit Information Manual Volume IV guidelines. In addition, stormwater management facilities at Modesto A. Maidique Campus and the Engineering Center shall also be designed in conformance with Florida Department of Transportation drainage requirements.

Policy 1.1.2.5 Florida International University shall adopt the following water quantity level of service standards for Modesto A. Maidique Campus, the Engineering Center, and Biscayne Bay Campus,

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 Modesto A. Maidique Campus 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. A current elevation required per the Miami-Dade County Flood Criteria Map, as amended is:

- 7.0 ft. NGVD for Modesto A. Maidique Campus and the Engineering Center
- 5.0 ft. NGVD for Biscayne Bay Campus

Future access roadways used by emergency vehicles to access future emergency shelters shall be protected from the degree of flooding that would result from a storm duration of three days that statistically occurs once every 100 years. A current elevation required per the Miami-Dade County Flood Criteria Map, as amended is:

- 8.0 ft. NGVD for emergency access roadways

Minimum Floor Elevations LOS:

The minimum acceptable flood protection/drainage level of service (LOS) standards for 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 of:

- 10.0 ft NGVD, whichever is greater, for Modesto A. Maidique Campus and the Engineering Center.
- 11.0 ft. NGVD, whichever is greater, for Biscayne Bay Campus, with the exception of buildings along the southern edge of the campus which should be set at 12.0 ft. NGVD (whichever is greater).

The minimum acceptable flood protection/drainage LOS standards for minimum floor elevation of future new buildings serving as emergency shelters, shall be protected from the degree of flooding that would result from a storm that statistically occurs once every 500 years, with an elevation of:

- 12.0 ft. NGVD for emergency shelters

Policy 1.1.2.6 The minimum acceptable Flood Protection Level of Service standards for University stormwater management system facilities shall provide protection for the degree of flooding that would result for a duration of one day from a ten-year storm.

Policy 1.1.2.7 To ensure that the LOS standards are continuously met, all new developments must prepare a pre-post development analysis of the entire development-affected site to evaluate the 100-year flood stages.

Policy 1.1.2.8 All new construction shall adhere to the Disaster Resistant University - FEMA Hazard Mitigation standards.

Objective 1.1.3 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 1.1.3.1 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 pervious paving such as 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 1.1.3.2 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 or 2.5 inches times the percentage of imperviousness of the development-affected site, whichever is greater, in accordance with Miami-Dade County Division of Environmental Resources Management and South Florida Water Management District criteria.

Policy 1.1.3.3 All stormwater runoff shall be contained within a project site utilizing exfiltration trench, with overflow to an on-site water body when available and shall not adversely affect adjacent campus property.

Policy 1.1.3.4 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 1.1.3.5 Design of new facilities as well as retrofitting of existing drainage systems and areas having drainage deficiencies shall be undertaken in accordance with Element 14.0 Capital Improvements.

Policy 1.1.3.6 All drainage inlets receiving runoff directly from potentially contaminated surfaces shall have pollution retardant baffles installed.

Policy 1.1.3.6 All drainage inlets with an outfall to an exfiltration trench or water body shall have pollution retardant baffles installed.

Policy 1.1.3.7 All proposed drainage system plans shall be reviewed and approved by the Florida Department of Transportation (for projects adjacent to an FDOT roadway), South Florida Water Management District, Miami-Dade County Division of Environmental Resources Management or their designees prior to the initiation of any drainage system construction activity.

Policy 1.1.3.8 All future developments constructed after the implementation of Florida Department of Environmental Protection Statewide Stormwater Criteria shall be designed and constructed to comply with the stormwater treatment requirements outlined by the regulation.

Objective 1.1.4 Maintenance of Campus Drainage:

Florida International University shall properly maintain the stormwater management system and ensure that all deficiencies are corrected.

Policy 1.1.4.1 An inspection, cleaning, maintenance and repair program for all facilities shall be developed and implemented. The maintenance program shall be implemented on a continuing, regularly scheduled basis with major repairs prioritized and scheduled based on the availability of funding.

Objective 1.1.5 Maintenance of Campus Drainage:

Florida International University shall consider in all future planning, the protection of natural stormwater management and hydrologic areas, and the protection of the quality of these receiving waters.

Policy 1.1.5.1 Use environmentally friendly designs such as detention systems, ground storage (percolation), littoral treatment in wet detention ponds (including the use of wetland vegetation along the shoreline within the pond's littoral zone), metered-release devices, porous or vegetative liners, and minimize impervious surfaces etc. as appropriate and as called for by state design guidelines, to protect natural stormwater management and hydrological areas from erosion and contamination and to mitigate the impacts of campus generated stormwater.

Policy 1.1.5.2 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 County Division of Environmental Resources Management (DERM).

Policy 1.1.5.3 All new developments shall include sustainable site elements required to meet USGBC standards and LEED Silver certification criteria.

(2) REQUIREMENTS FOR POTABLE WATER GOALS, OBJECTIVES AND POLICIES

Goal 2.1 Florida International University shall ensure that potable water is available for existing and future campus development.

Objective 2.1.1 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 Element 14.0 Capital Improvements.

Policy 2.1.1.1 Florida International University shall adopt the following potable water level of service standards, in accordance with Section 24-43.1 of the Miami Dade County Code:

12 gallons per day, per 100 square feet of building space

Policy 2.1.1.2 The level of service water pressure standard shall be a minimum of 20 psi. and no greater than 100 psi. 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 2.1.1.3 The minimum level of service water main size for primary and secondary distribution systems shall be twelve (12) inches in diameter, per M-D WASD, to provide sufficient capacity for potable water and fire protection demands.

Policy 2.1.1.4 All potable water plans for the Modesto A. Maidique Campus and the Engineering Campus shall be reviewed and approved by the State of Florida Department of Environmental Protection, Miami-Dade County Division of Environmental Resources Management, Miami-Dade County Water and Sewer

Department, Miami-Dade County Health Department, Miami-Dade County Fire Department and the State Fire Marshall. Plans for the Biscayne Bay Campus will require the review and approval of the City of North Miami, as well as the Florida Department of Environmental Protection.

- Policy 2.1.1.5 All potable water mains in primary distribution and secondary distribution systems shall be looped.
- Policy 2.1.1.6 All existing dead-end potable water primary and secondary distribution systems shall be eliminated by constructing links to complete a loop.
- Policy 2.1.1.7 All primary and secondary potable water distribution systems shall incorporate fire system demands.
- Policy 2.1.1.8 All fire protection services to new developments shall be in accordance with the National Fire Protection Association (NFPA 24 Private Water Distribution System).
- Policy 2.1.1.9 The priorities for potable water improvements shall be:
1. Elimination of dead-end water distribution systems
 2. Expansion of potable water infrastructure.
- Policy 2.1.1.10 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 Miami-Dade County Water and Sewer Department standard and specification.
- Policy 2.1.1.11 FIU shall design and construct or improve potable water facilities as identified in Figures 9.1b, 9.2b and 9.3b. The timing and phasing requirements for these improvements are established in Element 14.0 Capital Improvements.
- Policy 2.1.1.12 All looped water main systems shall be designed with sufficient valving to allow isolation of each building within the loop. Existing water main loops shall be retrofitted to allow for this condition.
- Policy 2.1.1.13 Annually review future construction programs and priorities to remediate deficiencies, ensure capacity and provide the capital improvements required to meet the University needs, when needed, based on needs identified in other master plan elements.

Objective 2.1.2 Water Conservation Program:

Florida International University shall develop and implement a comprehensive water conservation program.

- Policy 2.1.2.1 Promote an educational program geared toward students, faculty, staff and visitors, which will discourage waste and conserve water.
- Policy 2.1.2.2 Enforce requirements, and establish new requirements and procedures as needed, to assure that high efficiency plumbing fixtures are used in all new facilities and in conjunction with renovations to existing facilities.
- Policy 2.1.2.3 The use of "Florida Friendly Landscaping," including the maintenance and installation of selected vegetative species, low volume irrigation and compact hydradome concepts, shall be required for all new buildings and ancillary facility construction.
- Policy 2.1.2.4 Ensure that all existing and future irrigation systems within the Biscayne Bay Campus tie in to the existing reclaimed water system (where possible).
- Policy 2.1.2.5 A leak detection and repair program on building service lines, irrigation lines, and general service lines shall be implemented and maintained.
- Policy 2.1.2.6 University-wide development will comply with water use efficiency techniques for indoor water use in accordance with Sections 8-31, 32-84 and 8A-381 of the Code of Miami-Dade County.
- Policy 2.1.2.7 Prepare a goal-oriented water conservation plan for Florida International University.
- Policy 2.1.2.8 University-wide development shall comply with the landscape standards in Chapter 18A and 18B of the Miami-Dade County Code, in order to conserve the use of potable and non-potable water supplies for irrigation purposes.

Objective 2.1.3 Host Community and Service Provider Coordination:

Florida International University shall coordinate closely with the host local government for each campus on

present and projected future water demands for the University.

Policy 2.1.3.1 The University shall establish a procedure and assign responsibility for regularly scheduled coordination meetings with the appropriate officials relative to the University's water needs.

Policies 2.1.3.2 Periodically revise and/or update the existing water service agreements between the University Board of Trustees and Miami-Dade County.

(3) REQUIREMENTS FOR SANITARY SEWER GOALS, OBJECTIVES AND POLICIES

Goal 3.1: Florida International University shall ensure that sanitary sewer is available for existing and future campus development.

Objective 3.1.1 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 Element 14.0 Capital Improvements.

Policy 3.1.1.1 Florida International University shall adopt the following sanitary sewer level of service standards, in accordance with Section 24-43.1 of the Miami Dade County Code:

12 gallons per day, per 100 square feet of building space

Policy 3.1.1.2 The minimum level of service gravity sewer pipe size for sewer collection mains shall be eight (8) inches in diameter.

Policy 3.1.1.3 University Wide:

All sanitary sewer plans for connecting off-site shall be reviewed by the Miami-Dade County Division of Environmental Resources Management and any proposed connection to the existing sewer in public right-of-way shall be reviewed by Miami-Dade County Water and Sewer Department. Final approval of any available point connection will only be forthcoming once the proposal successfully passes the rigorous review process in place by the Miami-Dade County Water and Sewer Department.

- Policy 3.1.1.4 The priorities for gravity sewer improvement shall be
1. Maintenance of existing sewer system
 2. Expansion of sanitary sewer infrastructure.
 3. Repair of damaged or broken pipes and other deficiencies in the sanitary sewer system.
- Policy 3.1.1.5 Florida International University shall design and construct or improve sanitary sewer facilities as identified in Figures 9.1c, 9.2c and 9.3c. The timing and phasing requirements for these improvements are established in the 14.0 Capital Improvements Element.
- Policy 3.1.1.6 Periodically revise and/or update the sewer service agreements between the University Board of Trustees and Miami-Dade County and City of North Miami.
- Policy 3.1.1.7 Engineering as-built surveys shall be provided to the University at the completion of every project to obtain detailed data for implementation of accurate records, and to identify condition of facilities. In order to facilitate future maintenance, emergency repairs, facilities upgrades and additions, begin implementation of Building Information Modeling (BIM) for all campus buildings and other applicable improvements. The investment in BIM, 3D Civil and GIS will provide an electronic platform that would facilitate maintenance planning, reduce design costs, avoid utility conflicts and serve as an aid for emergency services
- Policy 3.1.1.8 Maintain, update, and keep current, accurate as-builts of sanitary sewer facilities including lift station capacity and manhole/pipe invert elevations.

Objective 3.1.2 Florida International University shall routinely evaluate the condition of the gravity sewer system for each campus.

- Policy 3.1.2.1 A maintenance and repair program shall be developed for all facilities to evaluate the condition of the gravity sewer system. The maintenance program shall be implemented on a continuing, regularly scheduled basis with major repairs prioritized and scheduled based on the availability of funding. This includes performing an infiltration and inflow study every five (5) years.

Policy 3.1.2.2 A program and schedule shall be developed to replace lines that are sub-standard, overloaded or have maintenance/operation problems.

Policy 3.1.2.3 Pipes with excess ground water inflow/infiltration shall be repaired, replaced or lined.

Policy 3.1.2.4 Monitoring of the waste water system shall be consistent with existing Environmental Protection Agency, Florida Department of Environmental Protection, Miami-Dade County Division of Environmental Resources Management, Miami-Dade water and Sewer Department, National, State and local regulatory criteria.

Policy 3.1.2.5 New and replacement sanitary sewer systems shall be designed to minimize or eliminate infiltration of flood waters into the system and discharges from the systems into flood waters.

Objective 3.1.3 Florida International University shall provide an efficient and adequate pump station and force main system to convey sewage to offsite mains.

Policy 3.1.3.1 No new developments shall be permitted to connect onto the existing on-site pump stations and force mains unless it can first be shown that sufficient capacity exists within the pump station and associated force main to convey the wastewater generated by the project's proposed use.

Policy 3.1.3.2 Existing pump stations shall be designed to accommodate the following minimum additional flow:

Biscayne Bay Campus - 213,100 GPD

Modesto A. Maidique Campus:

PSO-428A (LS-1): 5,400 GPD

PSO-428B (LS-2): 5,500 GPD

PSO-428C (LS-3): 6,580 GPD

PSO-428D (LS-4): 4,300 GPD

PSO-428E (LS-6): 1,400 GPD

PSO-428F (LS-7): 22,800 GPD

PSO-428G (LS W-1): 15,200 GPD

PSO-428H (LS-8): 900 GPD

PSO-428I (LS-9): 7,400 GPD

Engineering Center:

99-00621: 5,800 GPD

Policy 3.1.3.3 In addition to upgrades to existing pump stations, the proposed 2020 build out shall include construction of new pump stations

to collect the following minimum sanitary sewer flow generated by the proposed developments.

Modesto A. Maidique Campus:
Private PS1: 1,472,170 GPD
Private PS2: 50,600 GPD

(4) REQUIREMENTS FOR SOLID WASTE GOALS, OBJECTIVES AND POLICIES

Goal 4.1 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 4.1.1 Solid Waste Collection and Disposal:

Florida International University shall ensure that adequate solid waste collection and disposal capacity is available within the University in order to meet the current and future demands generated by the University.

Policy 4.1.1.1 Florida International University shall adopt the following levels of service standards:

Level of Service Standard:
0.60 pounds per full time equivalent (FTE) student per day.

Policy 4.1.1.2 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 and reviewed on an annual or multi-year basis.

Policy 4.1.1.3 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 and reviewed on annual or multi-year basis.

Policy 4.1.1.4 Florida International University Environmental Health and Safety Department shall ensure that any hazardous, bio-hazardous 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 4.1.1.5 Florida International University Environmental Health and Safety Department shall solicit bids for the disposal of hazardous wastes by utilizing a single licensed contractor on an annual or multi year basis.
- Policy 4.1.1.6 On-campus waste disposal systems shall be located and constructed to avoid impairment to them or contamination from them during flooding.
- Policy 4.1.1.7 The University shall establish timing and phasing requirements for solid waste collection and disposal facility improvements to meet future University needs.
- Policy 4.1.1.8 All new developments shall include the provision of a solid waste disposal system capable of handling the solid waste generated by its proposed use. No new development may share solid waste disposal facilities with another structure unless it is shown that the existing solid waste disposal facility has sufficient capacity to serve both uses.
- Policy 4.1.1.9 All on-campus dumpsters shall be housed within an enclosed structure with 6-ft high concrete walls and upon a 10 ft deep by 15 ft wide concrete pad. A chain link fence gate shall be provided for access.

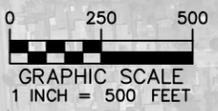
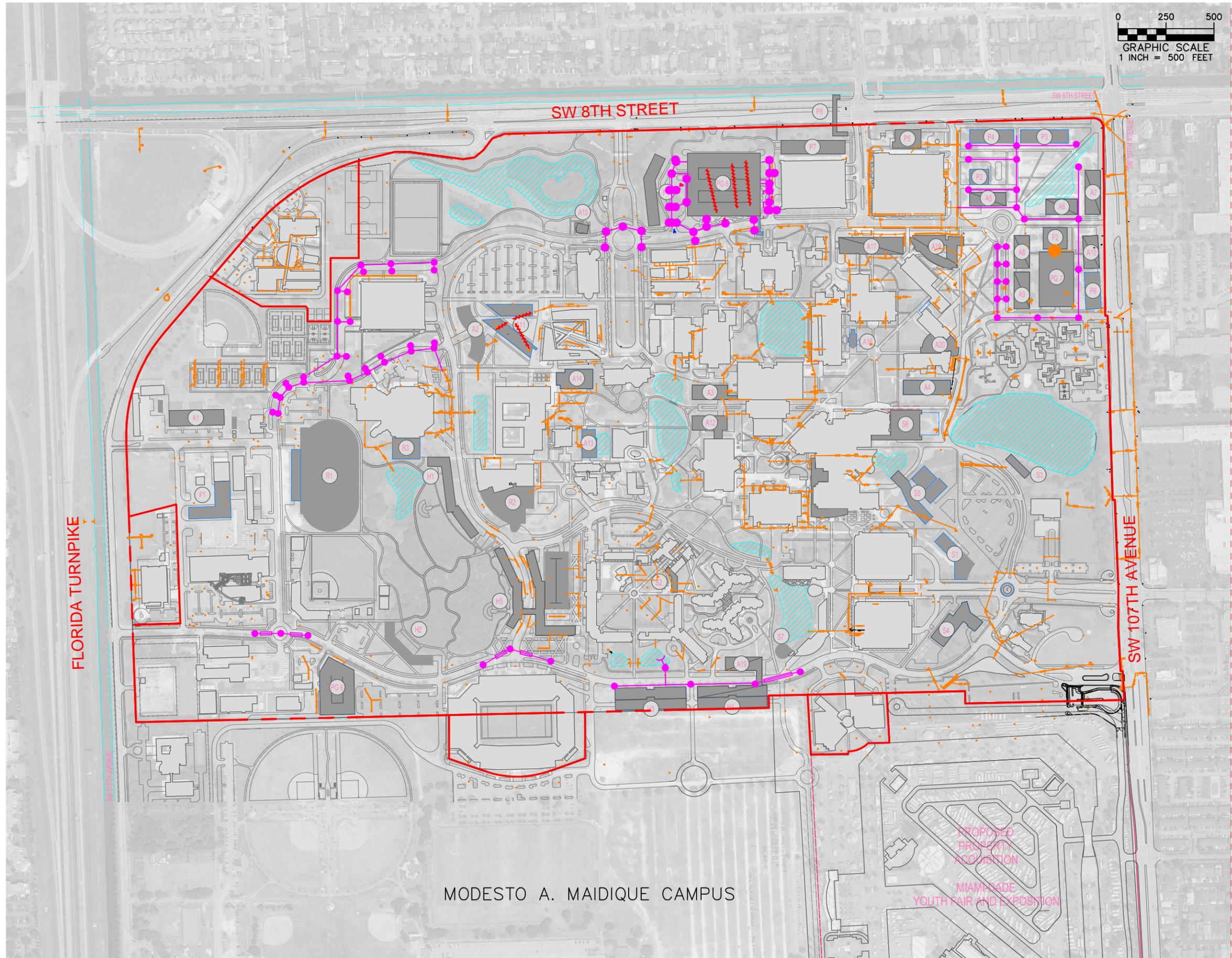
Objective 4.1.2 Solid Waste Recycling:

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 4.1.2.1 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 4.1.2.2 Recycling containers shall be located at numerous convenient locations across the Modesto A. Maidique Campus, Engineering Center and Biscayne Bay Campus.
- Policy 4.1.2.3 Florida International University shall promote recycling through periodic educational campaigns for the student body, faculty, and staff.
- Policy 4.1.2.4 Florida International University shall implement a mandatory recycling program targeted towards faculty and staff. This includes mandatory recycling at all student housing buildings, to

include (but not limited to) recycling of items such as newspaper, glass, aluminum cans, steel cans and plastics, in accordance with Section 15-2.2b of the Code of Miami-Dade County.

Policy 4.1.2.5 FIU shall evaluate the techniques and benefits of composting of vegetation and landscape refuse for future implementation at the University.



LEGEND

- Proposed Building
- Existing Building
- Existing Storm Line
- Existing Catch Basin
- Existing Trench Drain
- Proposed Trench Drain
- Proposed Storm Line
- Proposed Manhole / Inlet
- Existing - To Be Removed
- Surface Water

KEY MAP

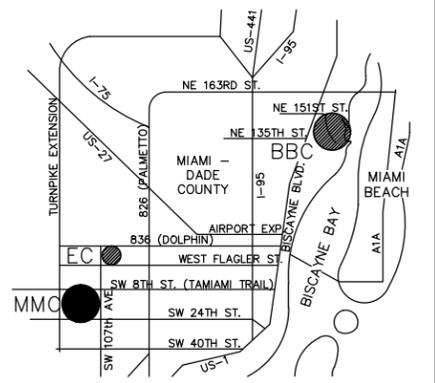
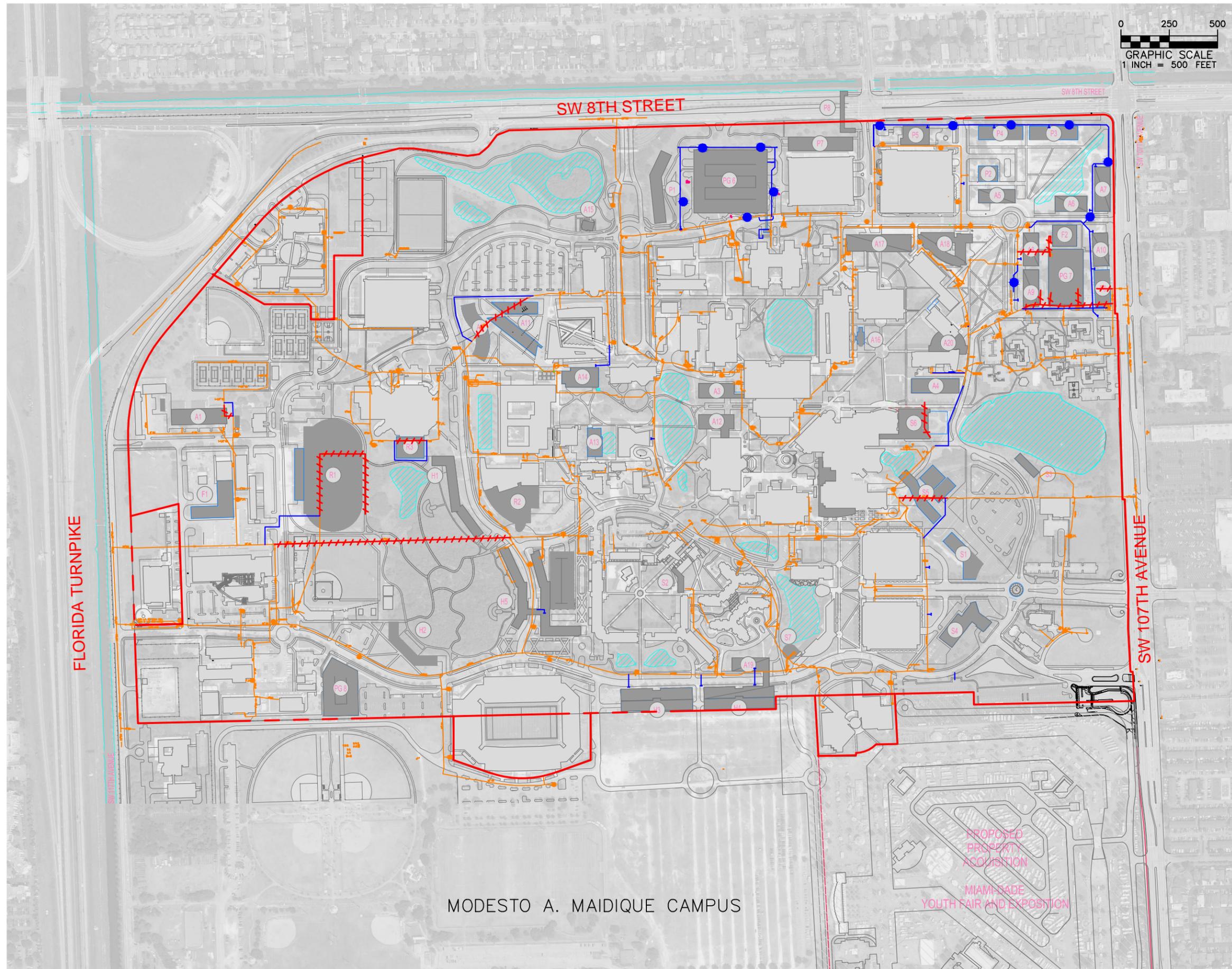


FIGURE 09.1a
Drainage System Map



MODESTO A. MAIDIQUE CAMPUS

PROPOSED PROJECT ACQUISITION
MIAMI-DADE
YOUTH FAIR AND EXPOSITION



LEGEND

- Proposed Building
- Existing Building
- Existing Fire Hydrant
- Existing Water Main
- Proposed Fire Hydrant
- Proposed Water Main
- Existing To Be Removed
- Surface Water

KEY MAP

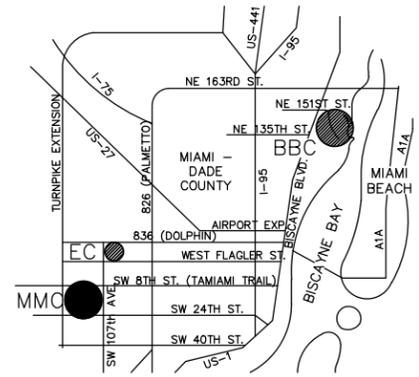
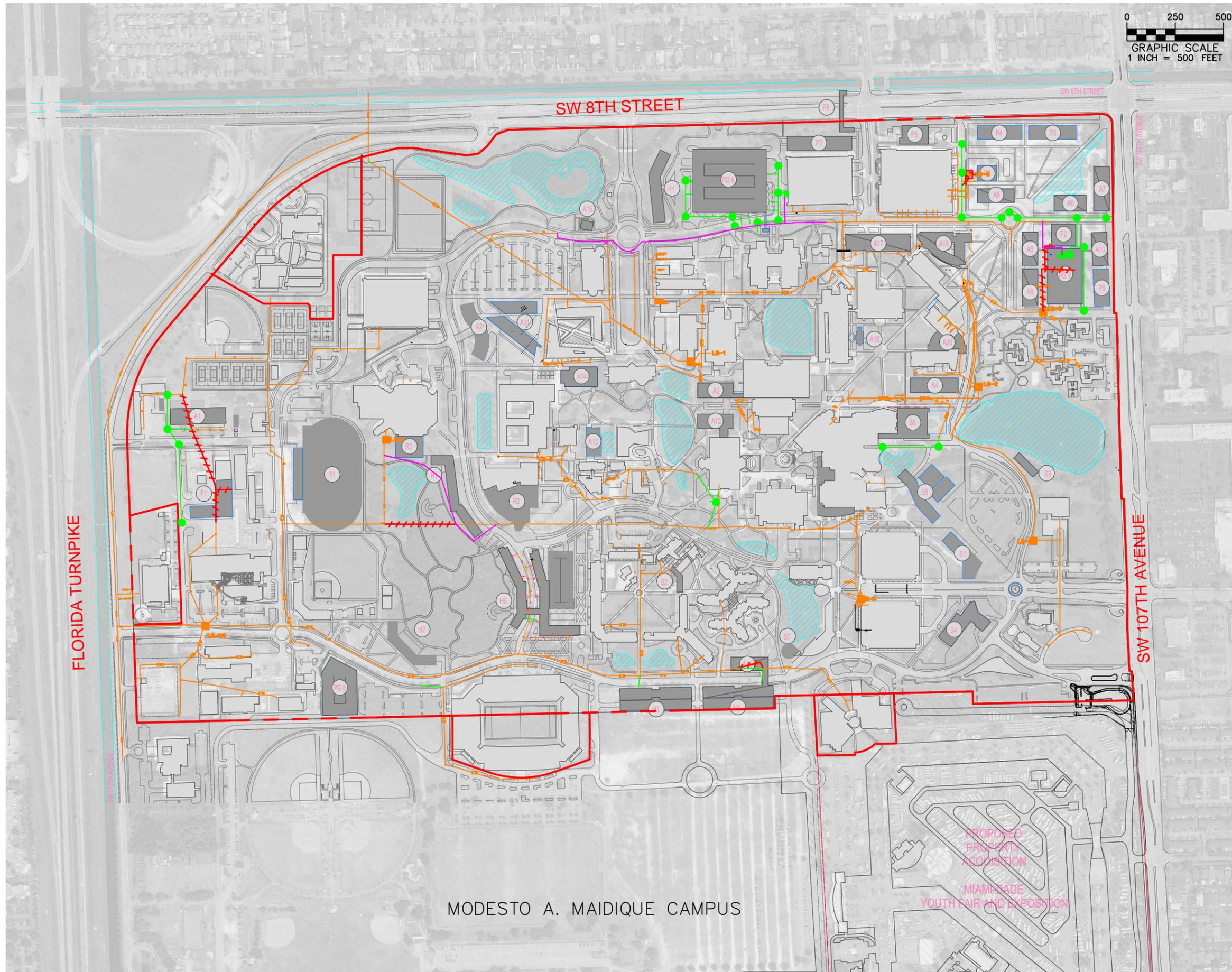


FIGURE 09.1b
Water Distribution Map

FIU FLORIDA INTERNATIONAL UNIVERSITY

PERKINS + WILL
MILLER LEGG



LEGEND

- Proposed Building
- Existing Building
- Existing Sanitary Manhole
- Existing Sanitary Main
- Existing Sanitary Lift Station
- Proposed Sanitary Manhole
- Proposed Sanitary Main
- Proposed Form Main
- Proposed Lift Station
- Existing - To Be Removed
- Surface Water

KEY MAP

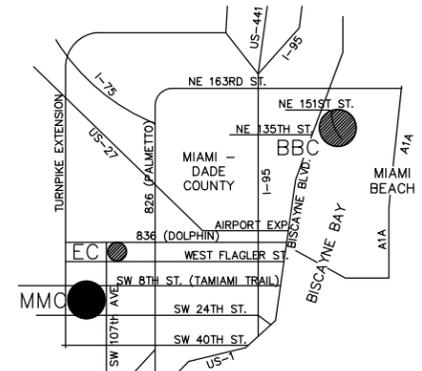
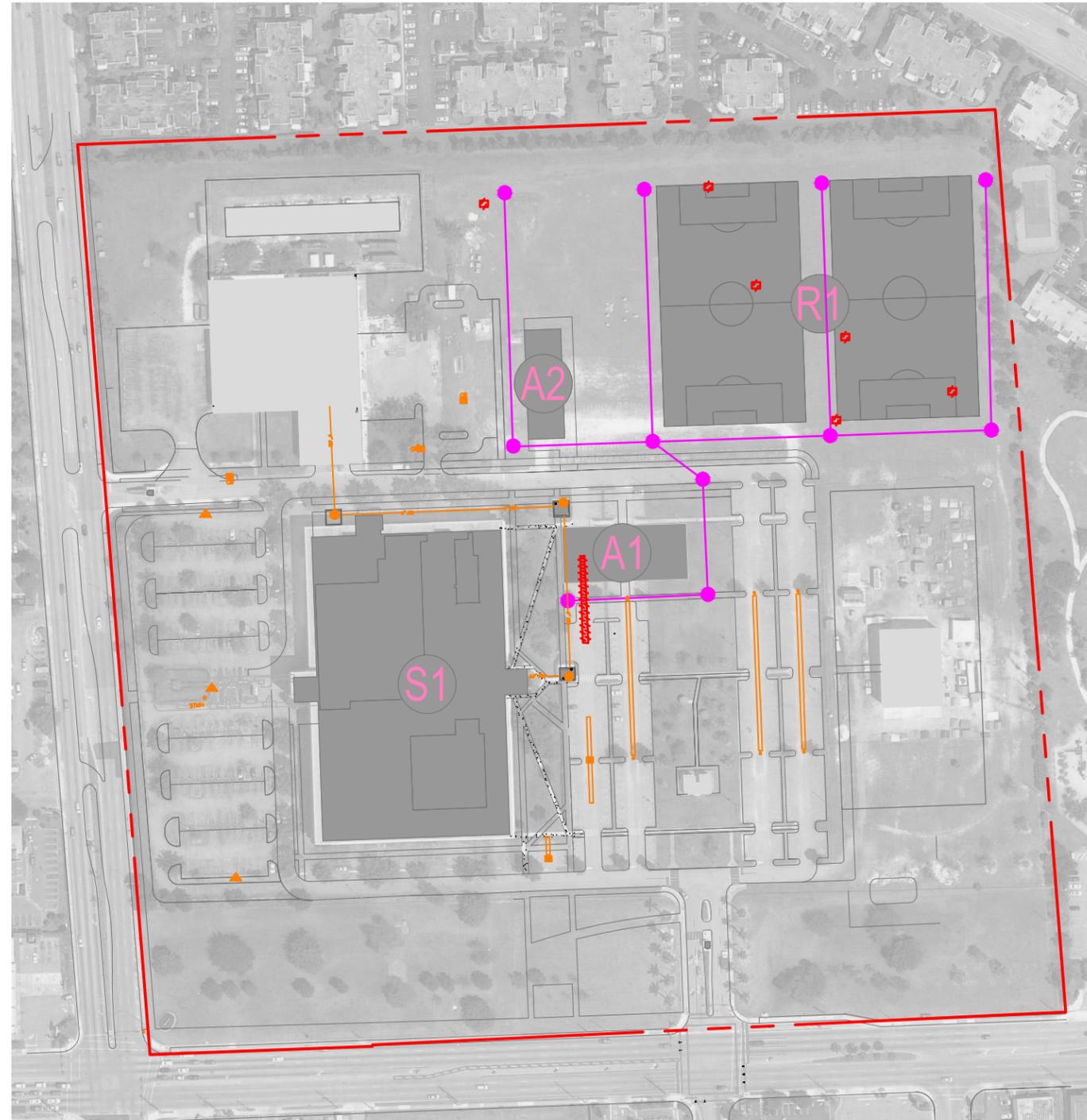


FIGURE 09.1c
Sanitary Sewer Map

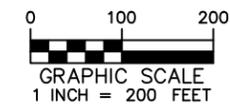


MODESTO A. MAIDIQUE CAMPUS

PROPOSED
PRESENT
ACQUISITION
MIAMI-DADE
YOUTH FAIR AND EXPOSITION



ENGINEERING CENTER



LEGEND

- Proposed Building
- Existing Building
- Existing Storm Line
- Existing Catch Basin
- Existing Trench Drain
- Proposed Storm Line
- Proposed Manhole / Inlet
- Existing -To Be Removed
- Surface Water

KEY MAP

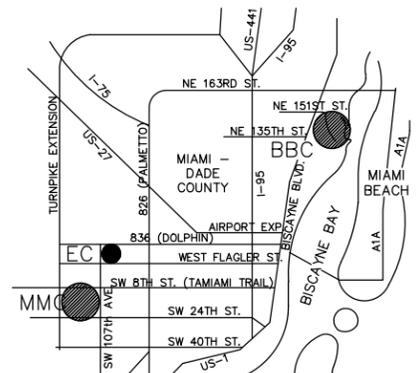
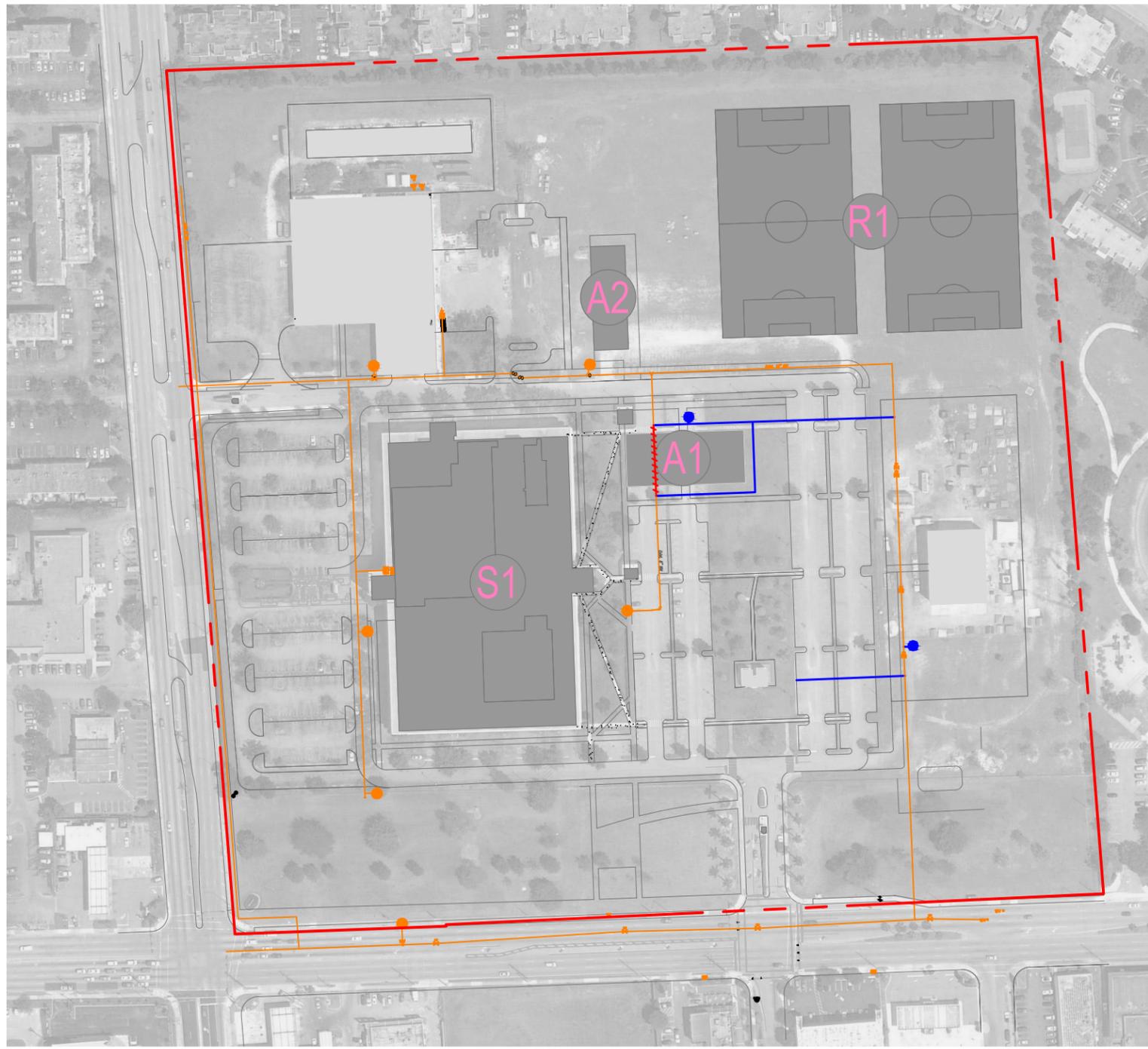


FIGURE 09.2a
Drainage Map

FIU | FLORIDA INTERNATIONAL UNIVERSITY

PERKINS
+ WILL
MILLER LEGG



ENGINEERING CENTER



LEGEND

- Proposed Building
- Existing Building
- Existing Fire Hydrant
- Existing Water Main
- Proposed Fire Hydrant
- Proposed Water Main
- Existing - To Be Removed
- Surface Water

KEY MAP

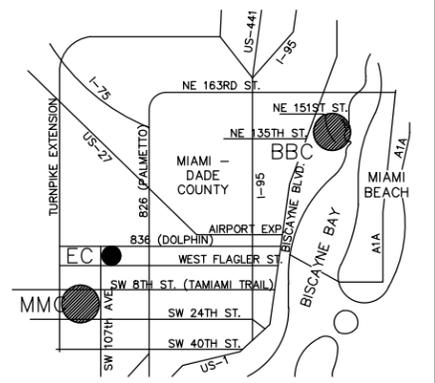


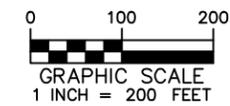
FIGURE 09.2b
Water Distribution Map

FIU FLORIDA INTERNATIONAL UNIVERSITY

PERKINS + WILL
MILLER LEGG



ENGINEERING CENTER



LEGEND

- Proposed Building
- Existing Building
- Existing Sanitary Manhole
- Existing Sanitary Main
- Existing Sanitary Lift Station
- Proposed Sanitary Manhole
- Proposed Sanitary Main
- Existing - To Be Removed
- Surface Water

KEY MAP

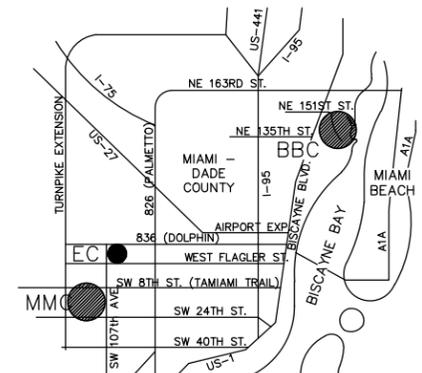
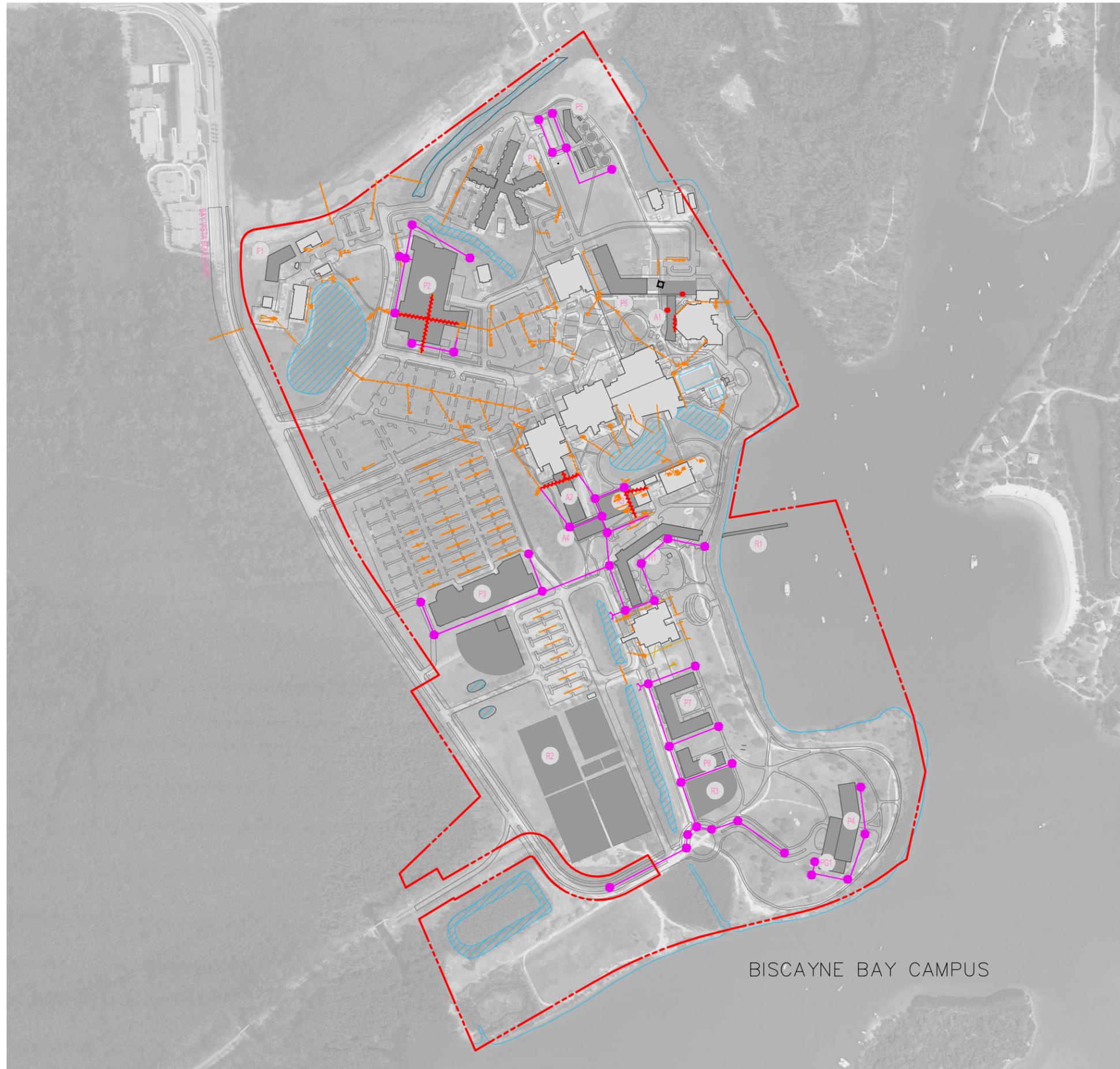


FIGURE 09.2c
Sanitary Sewer Map

FIU | FLORIDA INTERNATIONAL UNIVERSITY

PERKINS + WILL
MILLER LEGG



LEGEND

-  Proposed Building
-  Existing Building
-  Existing Storm Line
-  Existing Catch Basin
-  Existing Trench Drain
-  Proposed Storm Line
-  Proposed Manhole / Inlet
-  Existing -To Be Removed
-  Surface Water

KEY MAP

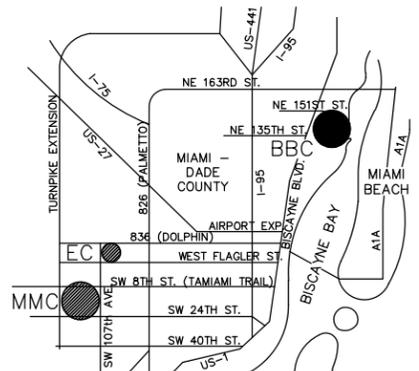
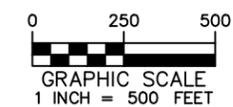


FIGURE 09.3a
Drainage System Map

FIU | FLORIDA INTERNATIONAL UNIVERSITY

PERKINS + WILL
MILLER LEGG





LEGEND

- Proposed Building
- Existing Building
- o Existing Sanitary Manhole
- Existing Sanitary Main/
Existing Force Main
- Existing Sanitary Lift Station
- o Proposed Sanitary Manhole
- Proposed Sanitary Main
- Proposed Force Main
- Proposed Lift Station
- Existing - To Be Removed
- Surface Water

KEY MAP

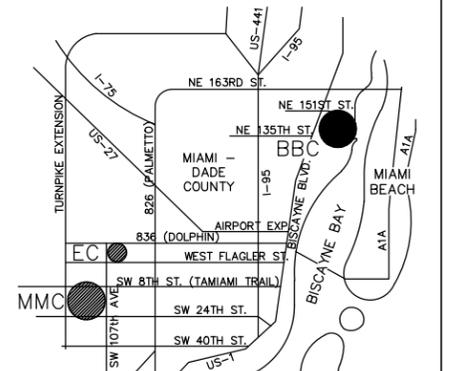
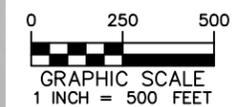


FIGURE 09.3c
Sanitary Sewer Map



10.0 UTILITIES ELEMENT

The purpose of this element is to ensure coordinated provision of utility services required to meet the future needs of the University, consistent with current efforts to address sustainability on campus such as the development of a Climate Action Plan (a responsibility as a signatory of the American College and University Presidents Climate Commitment) and the university-driven direction that all new facilities meet United States Green Building Council (USGBC) standards and be LEED Silver or higher. This includes the following:

- a) Provision of a chilled water supply
- b) Provision of electric power supply and other fuels

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 incremental increase 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. 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. FIU should support efforts by FPL to maintain adequate generating capacity and reduce greenhouse gas emissions.

TELECOMMUNICATIONS: The existing telecommunications grid has been heavily used in some areas of Modesto A. Maidique Campus. 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 Modesto A. Maidique Campus so the grid has the reliability of two sources of off-Campus communication.

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

Chilled Water Sub-Element

MODESTO A. MAIDIQUE CAMPUS

GOAL 1: **Ensure the existing underground chilled water distribution system is not in conflict with future development indicated in the updated master plan.**

Objective 1.1 Coordinate proposed new development with existing and future underground chilled water distribution and locate proposed buildings to avoid existing underground chilled water piping or include chilled water piping relocation in the program requirements for each development.

Policy 1.1.1 Address underground chilled water piping conflicts with proposed buildings established in the 14.0 Capital Improvement Element and as indicated in Figure 10.1 as follows:

- A3 Library / Study Expansion
- A12 Social Studies / Humanities
- S7 Frost Museum Expansion

Policy 1.1.2 In order to facilitate future maintenance, emergency repairs, facilities upgrades and additions, begin implementation of Building Information Modeling for all campus buildings and other applicable improvements. This investment in BIM, 3D Civil and GIS would (ultimately) reduce maintenance costs, reduce design costs, reduce need for utility relocation, serve as an aid for emergency services, provide better electronic wayfinding, etc., etc.

GOAL 2: **Upgrade the chilled water generation and distribution system to efficiently serve Modesto A. Maidique Campus's present and future needs.**

Objective 2.1 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. Refer to Figure 10.1. The timing and phasing requirements and priorities for the improvements identified in the following policies are established in the 14.0 Capital Improvement Element.

Policy 2.1.2 Establish defined utility corridors for underground chilled water distribution piping coordinated with future roadway improvements, new buildings and building additions. Refer to Figure 10.1 for

proposed chilled water distribution routing.

Policy 2.1.1 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.

Policy 2.1.2 Update the University Building Standards to clearly establish 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.

Objective 2.2 Chilled Water Production and Pumping System Upgrade: Increase chilled water production capacity and chilled water pumping capacity to accommodate additional demands associated with the capital improvements identified under Element 14.0.

Policy 2.2.1 Increase chilled water production capacity using the available space planned for future chillers within the existing plants to serve new building demands. The timing and phasing requirements and priorities for the improvements identified in the following policies are established in the 14.0 Capital Improvements Element. The estimated chilled water production capacity requirements are indicated below:

Present to 2015		
Building Tag	Building Description	Estimated Tonnage
A14	Mango Building	290 Tons
A15	Solar House	0 Tons
A16	Stocker Astroscience Building	40 Tons
A18	Academic Health Building 5	480 Tons
S5	Student Academic Support Center	520 Tons
N/A	First Floor Support (Not Keyed)	1,400 Tons
F2	Central Utilities	50 Tons
H5	Parkview Housing	1,200 Tons
PG6	Parking Garage 6 / Transit Hub	100 Tons
Total Design Tonnage (Present to 2015)		4,080 Tons
2015 to 2020		
Building Tag	Building Description	Estimated Tonnage
A3	Library / Study Expansion	550 Tons
A11	Academic 11	360 Tons
A12	Social Studies / Humanities	310 Tons
A13	SIPA II	240 Tons

A19	Honors College	400 Tons
A20	Academic Health Center Library Addition	400 Tons
S3	Chapel / President's Park Pavilion	20 Tons
S4	Alumni Center	190 Tons
S6	Graham Center	700 Tons
S7	Frost Museum	80 Tons
R1	Expanded Track and Field	0 Tons
R2	Rec Center Expansion	165 Tons
R3	Expanded Training Facility	250 Tons
H1	Parkview Housing 2	1175 Tons
H3	Honors College Housing	500 Tons
Total Design Tonnage (2015 to 2020)		5,340 Tons
Total Design Tonnage (Present to 2020)		9,420 Tons

Please note that projected loads are not taking in consideration the calculated campus diversity factor of 83.5%.

Policy 2.2.2 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 2.2.3 New developments identified as Partnership buildings shown on Figure 10.1 shall be stand alone facilities. Each building shall have dedicated cooling production equipment. These buildings will not connect to the campus chilled water loop. The new Partnership buildings indicated in the 14.0 Capital Improvement Elements and shown on Figure 10.1 for the Present to 2020 planning period are:

- P3 Medical Arts Pavilion 2
- P5 Ambulatory Care Center

Policy 2.2.4 Cooling towers are a significant source of water consumption. Consideration shall be given to installation of water meters for make-up water supply and cooling tower blown down to monitor consumption and avoid sewer fees associated with the water that is evaporated from the cooling tower.

GOAL 3: 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 3.1 Convert Direct Expansion Systems to Chilled Water:
Convert existing direct expansion systems to chilled water operation.

- Policy 3.1.1 Ensure that the chilled water production capacity, pumping capacity and piping distribution can accommodate the additional demand of the existing buildings currently served by direct expansion systems.
- Policy 3.1.2 Extend the existing main chilled water loop to serve the existing housing units, Greek Housing at the northeast corner of the Campus.
- Objective 3.2 Provide means to measure and verify the efficiency of the HVAC systems serving the campus.
- Policy 3.2.1 Install chilled water meters the chilled water plant to monitor overall chilled water consumption and demand.
- Policy 3.2.2 Install chilled water meters for each building on campus served by the campus chilled water system to monitor chilled water consumption and demand at the building level.

ENGINEERING CENTER

GOAL 4: Ensure the existing underground chilled water distribution system is not in conflict with future development indicated in the updated master plan.

Objective 4.1 Coordinate proposed new development with existing underground chilled water distribution and locate proposed buildings to avoid existing underground chilled water piping or include chilled water piping relocation in the program requirements for each development.

Policy 4.1.1 The proposed buildings in the updated campus master plan do not conflict with existing underground chilled water distribution. Confirm underground chilled water piping does not conflict with new development of the campus.

Policy 4.1.2 In order to facilitate future maintenance, emergency repairs, facilities upgrades and additions, begin implementation of Building Information Modeling for all campus buildings and other applicable improvements. This investment in BIM, 3D Civil and GIS would (ultimately) reduce maintenance costs, reduce design costs, reduce need for utility relocation, serve as an aid for emergency services, provide better electronic wayfinding, etc., etc.

GOAL 5: Maintain the chilled water generation and distribution system to efficiently serve the Engineering Center present and future needs.

Objective 5.1 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. Refer to Figure 10.2. The timing and phasing requirements and priorities for the improvements identified in the following policies are established in the 14.0 Capitol Improvement Element.

Policy 5.1.1 Establish defined utility corridors for underground chilled water distribution piping coordinated with future roadway improvements, new buildings and building additions. Refer to Figure 10.2 for proposed chilled water distribution routing.

Policy 5.1.2 Establish chilled water flow required for the 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.

Policy 5.1.3 Update the University Building Standards 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.

Objective 5.2 Chilled Water Production and Distribution System Upgrade:
Increase chilled water production capacity to accommodate additional demands associated with the capital improvements identified under Element 14.0.

Policy 5.2.1 The chilled water capacity available at the Engineering Center is sufficient to support the proposed buildings through the 2020 master planning time frame.

Policy 5.2.2 Extend the chilled water piping to serve the Academic 1 Building as shown in Figure 10.2 for the 2015 to 2020 planning period. The estimated chilled water requirements to serve the new Academic 1 Building is 320 GPM.

GOAL 6: Optimize the entire operation to reduce energy costs by increasing operational efficiency.

Objective 6.1 Provide means to measure and verify the efficiency of the HVAC systems serving the campus.

Policy 6.1.1 Install chilled water meters the chilled water plant to monitor overall chilled water consumption and demand.

Policy 6.1.2 Install chilled water meters for each building on campus served by the campus chilled water system to monitor chilled water consumption and demand at the building level.

BISCAYNE BAY CAMPUS

GOAL 7: **Ensure the existing underground chilled water distribution system is not in conflict with future development indicated in the updated master plan.**

Objective 7.1 Coordinate proposed new development with existing underground chilled water distribution and locate proposed buildings to avoid existing underground chilled water piping or include chilled water piping relocation in the program requirements for each development.

Policy 7.1.1 Address underground chilled water piping conflicts with proposed buildings established in the 14.0 Capital Improvement Element and as indicated in Figure 10.3 as follows:

 A2 Media Innovation Center
 A4 Environmental Communications
 H1 Student Housing

Policy 7.1.2 In order to facilitate future maintenance, emergency repairs, facilities upgrades and additions, begin implementation of Building Information Modeling for all campus buildings and other applicable improvements. This investment in BIM, 3D Civil and GIS would (ultimately) reduce maintenance costs, reduce design costs, reduce need for utility relocation, serve as an aid for emergency services, provide better electronic wayfinding, etc., etc.

GOAL 8: **Upgrade the chilled water generation and distribution system to efficiently serve Biscayne Bay Campus's present and future needs.**

Objective 8.1 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. Refer to Figure 10.3. The timing and phasing requirements and priorities for the improvements identified in the following policies are established in the 14.0 Capital Improvement Element.

Policy 8.1.1 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.

Policy 8.1.2 Establish defined utility corridors for underground chilled water distribution piping coordinated with future roadway improvements, new buildings and building additions. Refer to Figure 10.3 for proposed chilled water distribution routing.

Policy 8.1.3 Update the University Building Standards 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.

Objective 8.2 Chilled Water Production and Pumping System Upgrade: Increase chilled water production capacity and chilled water pumping capacity to accommodate additional demands associated with the capital improvements identified under Element 14.0.

Policy 8.2.1 Increase chilled water production capacity to serve new building demands. Additional chiller capacity must be added to the system to maintain the N+1 redundancy for any expansion during the Present to the 2015 planning period. This may be accomplished by the replacement of the existing chiller that is currently out of service. All alternatives will require an upgrade of the condenser water (cooling towers and pumps) system. The timing and phasing requirements and priorities for the improvements identified in the following policies are established in the 14.0 Capital Improvements Element. The estimated chilled water production capacity requirements are indicated below:

Present to 2015		
Building Tag	Building Description	Estimated Tonnage
A3	Seas Expansion	180 Tons
H1	Student Housing	800 Tons
Total Tonnage (Present to 2015)		980 Tons
2015 to 2020		
Building Tag	Building Description	Estimated Tonnage
A1	Graduate Hospitality	45 Tons
A2	Media Innovations Center	300 Tons
Total Tonnage (2015 to 2020)		345 Tons
Total Tonnage (Present to 2020)		1,325 Tons

Policy 8.2.2 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 8.2.3 New developments identified as Partnership buildings shown on Figure 10.3 shall be served by chilled water production equipment

dedicated for each building. The new Partnership buildings indicated in the 14.0 Capital Improvement Elements and shown on Figure 10.3 are for beyond the 2020 planning period.

Policy 8.2.4 The new Facility Support Building (F1) shown on Figure 10.3 is beyond the 2020 planning period. Due to the distance from the campus chilled water distribution system, the master plan should consider stand-alone cooling system equipment for this building in lieu of connecting to the campus chilled water distribution system.

Policy 8.2.5 Cooling towers are a significant source of water consumption. Consideration shall be given to installation of water meters for make-up water supply and cooling tower blown down to monitor consumption and avoid sewer fees associated with the water that is evaporated from the cooling tower.

GOAL 9: 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 9.1 Convert Direct Expansion Systems to Chilled Water:
Convert existing direct expansion systems to chilled water operation.

Policy 9.1.1 Ensure that the chilled water production capacity, pumping capacity and piping distribution can accommodate the additional demand of the existing buildings currently served by direct expansion systems.

Objective 9.2 Provide means to measure and verify the efficiency of the HVAC systems serving the campus.

Policy 9.2.1 Install chilled water meters the chilled water plant to monitor overall chilled water consumption and demand.

Policy 9.2.2 Install chilled water meters for each building on campus served by the campus chilled water system to monitor chilled water consumption and demand at the building level.

Electrical Power and Other Fuels (Energy) Sub-Element

MODESTO A. MAIDIQUE CAMPUS

GOAL 10: Ensure the existing underground electrical distribution system is not in conflict with future development indicated in the updated master plan.

Objective 10.1 Coordinate proposed new development with existing electrical distribution and locate proposed buildings to avoid existing

underground electrical distribution or include underground electrical distribution relocation in the program requirements for each development.

Policy 10.1.1 Address underground electrical distribution conflicts with proposed buildings established in the 14.0 Capital Improvement Element and as indicated in Figure 10.4 as follows:

- A3 Library / Study Expansion
- A4 Academic 4
- A12 Social Studies / Humanities
- A19 Honors College
- H3 Main Street Housing
- H4 Honors College Housing
- S2 Support 2
- S6 Graham Center Expansion
- P6 MAP 1
- P7 Partnership
- P8 Sweetwater Pedestrian Bridge

Policy 10.1.2 In order to facilitate future maintenance, emergency repairs, facilities upgrades and additions, begin implementation of Building Information Modeling for all campus buildings and other applicable improvements. This investment in BIM, 3D Civil and GIS would (ultimately) reduce maintenance costs, reduce design costs, reduce need for utility relocation, serve as an aid for emergency services, provide better electronic wayfinding, etc., etc.

GOAL 11: Extend the utility power primary voltage network to efficiently serve the campus in its present and future configurations.

Objective 11.1 Extend the existing electrical power grid coordinated with Florida Power and Light to maintain the current level of service standard to the existing as well as the new buildings

Policy 11.1.1 Extend electrical feeders to planned building expansion at Modesto A. Maidique Campus with increased service capacity. (see Figure 10.4). The planned expansions from Present to 2020 are:

Present to 2015		
Building Tag	Building Description	Estimated Demand
A14	Mango Building	250 KW
A15	Solar House	10 KW
A16	Stocker Astroscience Building	40 KW
A18	Academic Health Building 5	450 KW

S5	Student Academic Support Center	475 KW
N/A	First Floor Support (Not Keyed)	1,225 KW
F2	Central Utilities	50 KW
H5	Parkview Housing	1,120 KW
PG6	Parking Garage 6	250 KW
Total Estimated Demand (Present to 2015)		3,870 KW
2015 to 2020		
Building Tag	Building Description	Estimated Demand
A3	Library / Study Expansion	320 KW
A11	Academic 11	320 KW
A12	Social Studies / Humanities	280 KW
A13	SIPA II	210 KW
A19	Honors College	325 KW
A20	Academic Health Center Library Addition	450 KW
S3	Chapel / President's Park Pavilion	20 KW
S4	Alumni Center	175 KW
S6	Graham Center	620 KW
S7	Frost Museum	70 KW
R1	Expanded Track and Field	60 KW
R2	Expanded Recreation Center	300 KW
R3	Expanded Training Facility	225 KW
H1	Parkview Housing 2	1060 KW
H4	Honors College Housing	650 KW
Total Estimated Demand (2015 to 2020)		5,085 KW
Total Estimated Demand (Present to 2020)		8,955 KW

Policy 11.1.2

The primary service capacity for the partnership buildings shall be coordinated with FP&L and the campus master plan. The partnership buildings may be developed at any time within the campus master planning time period. The planned partnership buildings are:

Partnership Buildings		
Building Tag	Building Description	Estimated Demand
P1	Hotel	825 KW
P2	MAP4	100 KW
P3	MAP2	600 KW
P4	MAP3	900 KW
P5	Ambulatory Care Center	290 KW
P6	MAP1	550 KW
P7	Partnership	600 KW

P8	Sweetwater Pedestrian Bridge	0 KW
Total Estimated Demand		3,865 KW

Policy 11.1.3 Increase primary service capacity at the northeast area of campus to serve future buildings of the Medical Research District. Provide redundant infrastructure necessary for high power reliability required by 24/7 research and healthcare operations. Coordinate with FP&L the service to the area from one of the three underground feeders originating from the International Substation and the replacement of the Tropical Substation feeder to a new feeder from the Flagami Substation that has been proposed by FP&L to be provided as a back-up feeder.

Policy 11.1.4 Establish defined utility corridors for underground chilled water distribution piping coordinated with future roadway improvements, new buildings and building additions. Refer to Figure 10.2 for proposed chilled water distribution routing.

Policy 11.1.5 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 11.1.6 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 12: Improve the efficiency of electrically powered equipment aimed at reducing operating costs.

Objective 12.1 Install energy efficient equipment in planned buildings and retrofit existing facilities with energy efficient components.

Policy 12.1.1 Purchase Energy Star rated equipment.

ENGINEERING CENTER

GOAL 13: Ensure the existing underground electrical distribution system is not in conflict with future development indicated in the updated master plan.

Objective 13.1 Coordinate proposed new development with existing underground

electrical distribution and locate proposed buildings to avoid existing underground electrical distribution or include underground electrical distribution relocation in the program requirements for each development.

Policy 13.1.1 The proposed buildings in the updated campus master plan do not conflict with existing underground electrical distribution. Confirm underground electrical distribution does not conflict with new development of the campus.

Policy 13.1.2 In order to facilitate future maintenance, emergency repairs, facilities upgrades and additions, begin implementation of Building Information Modeling for all campus buildings and other applicable improvements. This investment in BIM, 3D Civil and GIS would (ultimately) reduce maintenance costs, reduce design costs, reduce need for utility relocation, serve as an aid for emergency services, provide better electronic wayfinding, etc., etc.

GOAL 14: Extend the utility power primary voltage network to efficiently serve the campus in its present and future configurations.

Objective 14.1 Extend the existing electrical distribution to maintain the current level of service standard for existing facilities and to serve the new areas of projected growth. The timing and phasing requirements and priorities for the improvements identified in the following policies are established in the 14.0 Capitol Improvement Element.

Policy 14.1.1 Establish defined utility corridors for underground electrical distribution coordinated with FP&L, future roadway improvements, new buildings and building additions.

Policy 14.1.2 Extend the FP&L electrical distribution to serve the Academic 1 Building for the 2015 to 2020 planning period. The estimated electrical demand for the new Academic 1 Building is 200 KW.

GOAL 15: Improve the efficiency of electrically powered equipment aimed at reducing operating costs.

Objective 15.1 Install energy efficient equipment in planned buildings and retrofit existing facilities with energy efficient components.

Policy 15.1.1 Purchase Energy Star rated equipment.

BISCAYNE BAY CAMPUS

GOAL 16: Ensure the existing underground electrical distribution system

is not in conflict with future development indicated in the updated master plan.

Objective 16.1 Coordinate proposed new development with existing electrical distribution and locate proposed buildings to avoid existing underground electrical distribution or include underground electrical distribution relocation in the program requirements for each development.

Policy 16.1.1 Address underground electrical distribution conflicts with proposed buildings established in the 14.0 Capital Improvement Element and as indicated in Figure 10.5 as follows:

- A1 Graduate Hospitality
- A2 Media Innovation Center
- A4 Environmental Communications
- F1 Facilities Support
- H1 Student Housing

The renovation of the existing building labeled P1 (RCCL Housing) indicates the FP&L underground electrical distribution is routed under the existing building based on current campus utility maps. New development is recommended to confirm and verify the actual location of the FP&L underground electrical distribution in this area and assess if relocation of the underground electrical distribution is required.

Policy 16.1.2 In order to facilitate future maintenance, emergency repairs, facilities upgrades and additions, begin implementation of Building Information Modeling for all campus buildings and other applicable improvements. This investment in BIM, 3D Civil and GIS would (ultimately) reduce maintenance costs, reduce design costs, reduce need for utility relocation, serve as an aid for emergency services, provide better electronic wayfinding, etc., etc.

GOAL 17: Extend the utility power primary voltage network to efficiently serve the campus in its present and future configurations.

Objective 17.1 Extend the existing electrical power grid coordinated with Florida Power and Light to maintain the current level of service standard to the existing as well as the new buildings

Policy 17.1.1 Extend electrical feeders to planned building expansion at Biscayne Bay Campus with increased service capacity. (see Figure 10.5). The planned expansions from Present to 2020 are:

Present to 2015		
Building Tag	Building Description	Estimated Demand
A3	Seas Expansion	510 KW
H1	Student Housing	2,000 KW
Total Estimated Demand (Present to 2015)		2,510 KW
2015 to 2020		
Building Tag	Building Description	Estimated Demand
A1	Graduate Hospitality	75 KW
A2	Media Innovation Center	300 KW
R2	Multi-Purpose Fields/Tennis & Basketball Courts	750 KW
Total Estimated Demand (2015 to 2020)		1,125 KW
Total Estimated Demand (Present to 2020)		3,635 KW

Policy 17.1.2

The primary service capacity for the partnership buildings shall be coordinated with FP&L and the campus master plan. The partnership buildings may be developed at any time within the campus master planning time period. The planned partnership buildings are:

Partnership Buildings		
Building Tag	Building Description	Estimated Demand
P1	RCCL Housing	0 KW *
P2	RCCL Training Facility	800 KW
P3	Magnet School	1,350 KW
P4	Academic Health Center	1,000 KW
P5	Wildlife Center	150 KW
P6	Multi-Purpose Academic Building	300 KW
P7	Hotel	1,000 KW
P8	Academic Health Center Housing	550 KW
Total Estimated Demand		5,150 KW

Policy 17.1.3

Establish defined utility corridors for underground chilled water distribution piping coordinated with future roadway improvements, new buildings and building additions. Refer to Figure 10.5 for proposed chilled water distribution routing.

Policy 17.1.4

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 17.1.5 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 18: Improve the efficiency of electrically powered equipment aimed at reducing operating costs.

Objective 18.1 Install energy efficient equipment in planned buildings and retrofit existing facilities with energy efficient components.

Policy 18.1.1 Purchase Energy Star rated equipment.

Telecommunications Sub-Element

MODESTO A. MAIDIQUE CAMPUS

GOAL 19: Ensure the existing underground telecommunications system is not in conflict with future development indicated in the updated master plan.

Objective 19.1 Coordinate proposed new development with existing telecommunications distribution and locate proposed buildings to avoid existing underground telecommunications distribution or include underground telecommunications distribution relocation in the program requirements for each development.

Policy 19.1.1 Address underground telecommunication distribution conflicts with proposed buildings established in the 14.0 Capital Improvement Element and as indicated in Figure 10.6. See conflict areas circled on Figure 10.6.

Policy 19.1.2 In order to facilitate future maintenance, emergency repairs, facilities upgrades and additions, begin implementation of Building Information Modeling for all campus buildings and other applicable improvements. This investment in BIM, 3D Civil and GIS would (ultimately) reduce maintenance costs, reduce design costs, reduce need for utility relocation, serve as an aid for emergency services, provide better electronic wayfinding, etc., etc.

GOAL 20: Maintain the level of service for telecommunications and

upgrade it to include multiple communication modes for new and existing buildings.

- Objective 20.1 Extend the existing telecommunication underground distribution to maintain the current level of service standard to the existing as well as the new buildings
- Policy 20.1.1 Establish defined utility corridors for underground telecommunications distribution coordinated with future roadway improvements, new buildings and building additions. Refer to Figure 10.6 for proposed telecommunications distribution routing.
- Policy 20.1.1 Provide annual updates of the design guidelines for duct bank construction, telephone room conditions, sizes and locations, etc. to incorporate advancements in technology.

BISCAYNE BAY CAMPUS

GOAL 21: Ensure the existing underground telecommunications system is not in conflict with future development indicated in the updated master plan.

- Objective 21.1 Coordinate proposed new development with existing telecommunications distribution and locate proposed buildings to avoid existing underground telecommunications distribution or include underground telecommunications distribution relocation in the program requirements for each development.
- Policy 21.1.1 Address underground telecommunication distribution conflicts with proposed buildings established in the 14.0 Capital Improvement Element and as indicated in Figure 10.7. See conflict areas circled on Figure 10.7.
- Policy 21.1.2 In order to facilitate future maintenance, emergency repairs, facilities upgrades and additions, begin implementation of Building Information Modeling for all campus buildings and other applicable improvements. This investment in BIM, 3D Civil and GIS would (ultimately) reduce maintenance costs, reduce design costs, reduce need for utility relocation, serve as an aid for emergency services, provide better electronic wayfinding, etc., etc.

GOAL 22: Maintain the level of service for telecommunications and upgrade it to include multiple communication modes for new and existing buildings.

- Objective 22.1 Extend the existing telecommunication underground distribution to maintain the current level of service standard to the existing as well

as the new buildings

- Policy 22.1.1 Establish defined utility corridors for underground telecommunications distribution coordinated with future roadway improvements, new buildings and building additions. Refer to Figure 10.7 for proposed telecommunications distribution routing.
- Policy 22.1.1 Provide annual updates of the design guidelines for duct bank construction, telephone room conditions, sizes and locations, etc. to incorporate advancements in technology.
- Objective 22.2 Increase communication service reliability.
- Policy 22.2.1 The Biscayne Bay Campus is not provided with redundant telecommunication service. Provide redundant communication service routed along Bay Vista Blvd connecting to NE 135th Street.

- KEY:
- A1. ACADEMIC 1
 - A2. ACADEMIC 2
 - A3. LIBRARY / STUDY ADDITION
 - A4. ACADEMIC 4
 - A5. ACADEMIC 5
 - A6. ACADEMIC 6
 - A7. ACADEMIC 7
 - A8. ACADEMIC 8
 - A9. ACADEMIC 9
 - A10. ACADEMIC 10
 - A11. ACADEMIC 11
 - A12. SOCIAL STUDIES / HUMANITIES
 - A13. SIPA II
 - A14. MANGO
 - A15. SOLAR HOUSE
 - A16. STOCKER ASTROSCIENCE
 - A17. SCIENCE CLASSROOM COMPLEX
 - A18. ACADEMIC HEALTH CENTER 5
 - A19. HONORS COLLEGE
 - A20. ACADEMIC HEALTH CENTER LIBRARY ADDITION
 - F1. FACILITIES 1
 - F2. CENTAL UTILITIES
 - H1. PARKVIEW HOUSING 2
 - H2. GREEK HOUSING
 - H3. MAIN STREET HOUSING
 - H4. HONORS COLLEGE HOUSING
 - H5. PARKVIEW HOUSING
 - P1. HOTEL
 - P2. MEDICAL ARTS PAVILION 4
 - P3. MEDICAL ARTS PAVILION 2
 - P4. MEDICAL ARTS PAVILION 3
 - P5. AMBULATORY CARE CENTER
 - P6. MEDICAL ARTS PAVILION 1
 - P7. PARTNERSHIP
 - P8. SWEETWATER PEDESTRIAN BRIDGE
 - PG6. PARKING GARAGE 6 / TRANSIT HUB
 - PG7. FACILITY SUPPORT
 - PG8. FACILITY SUPPORT
 - R1. TRACK AND FIELD
 - R2. REC CENTER EXPANSION
 - R3. TRAINING FACILITY ADDITION
 - S1. SUPPORT 1
 - S2. SUPPORT 2
 - S3. CHAPEL / PRESIDENT'S PARK PAVILION
 - S4. ALUMNI CENTER
 - S5. STUDENT ACADEMIC SUPPORT CENTER
 - S6. GRAHAM CENTER ADDITION
 - S7. FROST MUSEUM ADDITION

- BUILDING LEGEND**
- FUNDED OR LIKELY FUNDED (PRESENT -2015)
 - FUTURE DEVELOPMENT (2015-2020)
 - 2020 AND BEYOND
 - PARTNERSHIPS
 - EXISTING BUILDING

- CHILLED WATER LEGEND**
- EXISTING CHILLED WATER
 - NEW CHILLED WATER
 - POTENTIAL AREAS OF UNDERGROUND UTILITY RELOCATION

PROPOSED PROPERTY ACQUISITION
 MIAMI-DADE YOUTH FAIR AND EXPOSITION

PERKINS + WILL

AEI Affiliated Engineers

FIGURE 10.1: CHILLED WATER DISTRIBUTION MODESTO MAIDIQUE CAMPUS



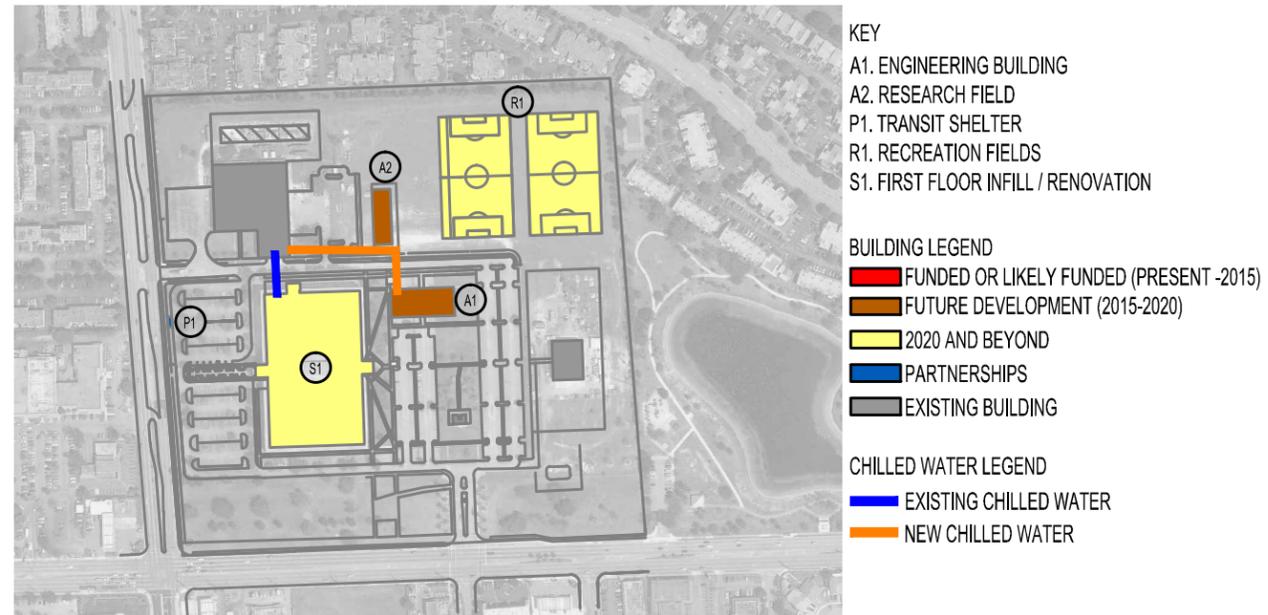


FIGURE 10.2: CHILLED WATER DISTRIBUTION
ENGINEERING CENTER



- BUILDING LEGEND**
- FUNDED OR LIKELY FUNDED (PRESENT -2015)
 - FUTURE DEVELOPMENT (2015-2020)
 - 2020 AND BEYOND
 - PARTNERSHIPS
 - EXISTING BUILDING
- CHILLED WATER LEGEND**
- EXISTING CHILLED WATER
 - NEW CHILLED WATER
 - POTENTIAL AREAS OF UNDERGROUND UTILITY RELOCATION

- KEY**
- A1. GRADUATE HOSPITALITY
 - A2. MEDIA INNOVATION CENTER
 - A3. SEAS EXPANSION
 - A4. ENVIRONMENTAL COMMUNICATIONS
 - F1. FACILITY SUPPORT
 - H1. STUDENT HOUSING
 - P1. RCCL HOUSING
 - P2. RCCL TRAINING FACILITY
 - P3. MAGNET SCHOOL
 - P4. ACADEMIC HEALTH CENTER
 - P5. WILDLIFE CENTER
 - P6. MULTI-PURPOSE ACADEMIC BUILDING
 - P7. HOTEL
 - P8. ACADEMIC HEALTH CENTER HOUSING
 - PG1. ACADEMIC HEALTH CENTER GARAGE
 - R1. DOCK
 - R2. MULTI-PURPOSE FIELDS / TENNIS & BASKETBALL COURTS
 - R3. ROPES COURSE

FIGURE 10.3: CHILLED WATER DISTRIBUTION BISCAYNE BAY CAMPUS

- KEY:
- A1. ACADEMIC 1
 - A2. ACADEMIC 2
 - A3. LIBRARY / STUDY ADDITION
 - A4. ACADEMIC 4
 - A5. ACADEMIC 5
 - A6. ACADEMIC 6
 - A7. ACADEMIC 7
 - A8. ACADEMIC 8
 - A9. ACADEMIC 9
 - A10. ACADEMIC 10
 - A11. ACADEMIC 11
 - A12. SOCIAL STUDIES / HUMANITIES
 - A13. SIPA II
 - A14: MANGO
 - A15: SOLAR HOUSE
 - A16: STOCKER ASTROSCIENCE
 - A17: SCIENCE CLASSROOM COMPLEX
 - A18. ACADEMIC HEALTH CENTER 5
 - A19. HONORS COLLEGE
 - A20. ACADEMIC HEALTH CENTER LIBRARY ADDITION
 - F1. FACILITIES 1
 - F2: CENTAL UTILITIES
 - H1. PARKVIEW HOUSING 2
 - H2. GREEK HOUSING
 - H3. MAIN STREET HOUSING
 - H4. HONORS COLLEGE HOUSING
 - H5. PARKVIEW HOUSING
 - P1. HOTEL
 - P2. MEDICAL ARTS PAVILION 4
 - P3. MEDICAL ARTS PAVILION 2
 - P4. MEDICAL ARTS PAVILION 3
 - P5. AMBULATORY CARE CENTER
 - P6. MEDICAL ARTS PAVILION 1
 - P7. PARTNERSHIP
 - P8. SWEETWATER PEDESTRIAN BRIDGE
 - PG6. PARKING GARAGE 6 / TRANSIT HUB
 - PG7. FACILITY SUPPORT
 - PG8. FACILITY SUPPORT
 - R1. TRACK AND FIELD
 - R2. REC CENTER EXPANSION
 - R3. TRAINING FACILITY ADDITION
 - S1. SUPPORT 1
 - S2. SUPPORT 2
 - S3. CHAPEL / PRESIDENT'S PARK PAVILION
 - S4. ALUMNI CENTER
 - S5. STUDENT ACADEMIC SUPPORT CENTER
 - S6. GRAHAM CENTER ADDITION
 - S7. FROST MUSEUM ADDITION

- BUILDING LEGEND**
- FUNDED OR LIKELY FUNDED (PRESENT -2015)
 - FUTURE DEVELOPMENT (2015-2020)
 - 2020 AND BEYOND
 - PARTNERSHIPS
 - EXISTING BUILDING

- ELECTRICAL LEGEND**
- EXISTING ELECTRICAL
 - NEW ELECTRICAL
 - POTENTIAL AREAS OF UNDERGROUND UTILITY RELOCATION

PROPOSED PROPERTY ACQUISITION
 MIAMI-DADE YOUTH FAIR AND EXPOSITION

FIGURE 10.4: ELECTRICAL DISTRIBUTION MODESTO MAIDIQUE CAMPUS





FIGURE 10.5: ELECTRICAL DISTRIBUTION BISCAYNE BAY CAMPUS

- KEY:**
- A1. ACADEMIC 1
 - A2. ACADEMIC 2
 - A3. LIBRARY / STUDY ADDITION
 - A4. ACADEMIC 4
 - A5. ACADEMIC 5
 - A6. ACADEMIC 6
 - A7. ACADEMIC 7
 - A8. ACADEMIC 8
 - A9. ACADEMIC 9
 - A10. ACADEMIC 10
 - A11. ACADEMIC 11
 - A12. SOCIAL STUDIES / HUMANITIES
 - A13. SIPA II
 - A14. MANGO
 - A15. SOLAR HOUSE
 - A16. STOCKER ASTROSCIENCE
 - A17. SCIENCE CLASSROOM COMPLEX
 - A18. ACADEMIC HEALTH CENTER 5
 - A19. HONORS COLLEGE
 - A20. ACADEMIC HEALTH CENTER LIBRARY ADDITION
 - F1. FACILITIES 1
 - F2. CENTAL UTILITIES
 - H1. PARKVIEW HOUSING 2
 - H2. GREEK HOUSING
 - H3. MAIN STREET HOUSING
 - H4. HONORS COLLEGE HOUSING
 - H5. PARKVIEW HOUSING
 - P1. HOTEL
 - P2. MEDICAL ARTS PAVILION 4
 - P3. MEDICAL ARTS PAVILION 2
 - P4. MEDICAL ARTS PAVILION 3
 - P5. AMBULATORY CARE CENTER
 - P6. MEDICAL ARTS PAVILION 1
 - P7. PARTNERSHIP
 - P8. SWEETWATER PEDESTRIAN BRIDGE
 - PG6. PARKING GARAGE 6 / TRANSIT HUB
 - PG7. FACILITY SUPPORT
 - PG8. FACILITY SUPPORT
 - R1. TRACK AND FIELD
 - R2. REC CENTER EXPANSION
 - R3. TRAINING FACILITY ADDITION
 - S1. SUPPORT 1
 - S2. SUPPORT 2
 - S3. CHAPEL / PRESIDENT'S PARK PAVILION
 - S4. ALUMNI CENTER
 - S5. STUDENT ACADEMIC SUPPORT CENTER
 - S6. GRAHAM CENTER ADDITION
 - S7. FROST MUSEUM ADDITION

- BUILDING LEGEND**
- FUNDED OR LIKELY FUNDED (PRESENT -2015)
 - FUTURE DEVELOPMENT (2015-2020)
 - 2020 AND BEYOND
 - PARTNERSHIPS
 - EXISTING BUILDING

- COMMUNICATIONS LEGEND**
- EXISTING COMMUNICATIONS
 - NEW COMMUNICATIONS
 - POTENTIAL AREAS OF UNDERGROUND UTILITY RELOCATION

PROPOSED PROPERTY ACQUISITION
 MIAMI-DADE YOUTH FAIR AND EXPOSITION

PERKINS + WILL

AEI Affiliated Engineers

FIGURE 10.6: TELECOMMUNICATION DISTRIBUTION MODESTO MAIDIQUE CAMPUS





- BUILDING LEGEND**
- FUNDED OR LIKELY FUNDED (PRESENT -2015)
 - FUTURE DEVELOPMENT (2015-2020)
 - 2020 AND BEYOND
 - PARTNERSHIPS
 - EXISTING BUILDING
- COMMUNICATIONS LEGEND**
- EXISTING COMMUNICATIONS
 - NEW COMMUNICATIONS
 - POTENTIAL AREAS OF UNDERGROUND UTILITY RELOCATION

- KEY**
- A1. GRADUATE HOSPITALITY
 - A2. MEDIA INNOVATION CENTER
 - A3. SEAS EXPANSION
 - A4. ENVIRONMENTAL COMMUNICATIONS
 - F1. FACILITY SUPPORT
 - H1. STUDENT HOUSING
 - P1. RCCL HOUSING
 - P2. RCCL TRAINING FACILITY
 - P3. MAGNET SCHOOL
 - P4. ACADEMIC HEALTH CENTER
 - P5. WILDLIFE CENTER
 - P6. MULTI-PURPOSE ACADEMIC BUILDING
 - P7. HOTEL
 - P8. ACADEMIC HEALTH CENTER HOUSING
 - PG1. ACADEMIC HEALTH CENTER GARAGE
 - R1. DOCK
 - R2. MULTI-PURPOSE FIELDS / TENNIS & BASKETBALL COURTS
 - R3. ROPES COURSE

FIGURE 10.7: TELECOMMUNICATION DISTRIBUTION
BISCAYNE BAY CAMPUS

11.0 TRANSPORTATION ELEMENT

(1) REQUIREMENTS FOR TRANSIT, TRAFFIC CIRCULATION AND PARKING SUB-ELEMENT: GOALS, OBJECTIVES AND POLICIES

Goal 1.1 Transit: Florida International University shall continue to develop, operate, and maintain a safe and efficient multi-modal circulation system that provides ease of mobility; leading to decreases in number of single occupant vehicles (SOV); reduction in fuel consumption and dependence on foreign oil, reduction in greenhouse gas emissions, promoting energy conservation and protecting the natural environment.

Objective 1.1.1 Transit: The University shall allocate funds for capital expansion and improvements of multi-modal systems that relieve on-campus traffic congestion and reduce the demand for additional parking. Coordinate with Miami-Dade Transit (MDT) and local/host communities to determine the best and highest use for the transit proposed to serve the campus properties.

University-Wide:

Policy 1.1.1.1 Continue to improve quality and frequency of the inter-campus University transit services/routes.

Modesto A Maidique Campus (MMC):

Policy 1.1.1.2 Maintain existing transit hub at its current location at the southwest corner of SW 107th Avenue and SW 108th Avenue intersection. However, evaluate its relocation to Parking Garage 6 (PG6), pending support from MDT.

Policy 1.1.1.3 Enhance on-campus transit along loop road to improve connections between housing, parking garages and key education/support locations. Provide new transit stops along realigned loop road.

Policy 1.1.1.4 Encourage MDT to continue increased frequency of service (including Sweetwater Circulator), provide express bus service (confirmation from MDT pending), maintain clean and comfortable vehicles, and provide weather-proof shelters (the University shall provide weather-proof access to transit terminals).

Engineering Center Campus (ECC):

Policy 1.1.1.5 Provide transit hub at the entrance to ECC along NW 107th Avenue and adequate transit circulation routes within campus to support transit hub.

Biscayne Bay Campus (BBC)

Policy 1.1.1.6 Continue to strengthen coordination efforts with the City of North Miami in order to promote the use of the City's Free Nomi Bus Shuttle service as an alternative transportation option available to both students and faculty of the University. As the traffic conditions on NE 151st Street at the intersection with Biscayne Blvd are expected to deteriorate, amenities should be considered near the intersection to facilitate bus transfers. Coordination with Miami Dade Transit should take place to ensure the new Enhanced Bus Service provides a stop near the failing intersection.

Goal 2.1 Traffic Circulation:

The University shall promote roadway designs to improve traffic circulation, ease congestion, promote safety, and provide sufficient capacity to serve on future campus roadways at the adopted level of service (LOS) standard. The University shall also coordinate with FDOT and Miami Dade County to improve capacity and level of service on deficient roadways adjacent to the campuses.

Objective 2.1.1 Traffic: On a case by case basis, the University may consider allocation of funds for roadway improvements to improve traffic circulation, relieve traffic congestion, decrease delay and fuel consumption.

University-Wide:

Policy 2.1.1.1 Enhance pedestrian and bicycle facilities that improve connectivity to host communities and local/regional transit facilities.

Policy 2.1.1.2 Future proposed campus roadways will use 11' wide travel lanes, 4' bike lane (except 5' wide for key holes), type "F" curb and gutter, 6' minimum sidewalk with 11' landscape buffer in between back of curb and front of sidewalk. FIU shall maintain a suitable roadway network in compliance with State, local and the National Fire Protection Association (NFPA) standards in order to provide emergency response vehicles with adequate and safe access to emergencies and fires within each campus.

Modesto A Maidique Campus (MMC) (Figure 11.1a):

Policy 2.1.1.3 Provide two new campus entrances at the following locations:

- SW 117th Ave and SW 11th St (right in-right out initially)
- SW 107th Ave and SW 10 St (right in-right out)

These new access points will aid in reducing anticipated traffic demand on the internal campus loop road. The new entrances will ease congestion at existing campus entrances. All improvements and/or work in the right-of-way are subject to further traffic/design evaluation, review, approval, and permitting by the County (along SW 117th Ave) and FDOT (SW 107th Ave). This includes but is not limited, landscaping, signage, new or modified driveway connections, and roadway modifications. Please

note that driveway connections to FDOT maintained roadways are subject to FDOT review and approval as it relates to access conditions/improvements per Florida Rules 14-96 and 14-97. Also, FDOT currently has a widening project from four (4) to six (6) lanes, FM 412479-3, along SW 107 Avenue from the SW 1100 Block to SW 4 Street. This project proposes extending the existing right turn lane up to the SW 1100 block as requested by the University.

Policy 2.1.1.4 Re-align current campus loop road to traverse between Panther Garage and Carlos Finlay Elementary School and connect to the improved SW 115 Avenue. Re-route campus loop road to limit vehicular access to the campus core. Provide for pedestrian safety by constructing separate traffic and pedestrian facilities.

Policy 2.1.1.5 For campus loop roadway improvements, provide three lanes of roadway capacity, turn lanes, bike lanes, curb and gutter and sidewalks. The lane geometry shall include one through lane in each direction and a center left turn lane or two way left turn lane. Proposed roadway geometry design shall include provisions to accommodate an Intermediate Semitrailer (45.5' long). SW 8 Street/SW 112 Avenue and University Drive/SW 112 Avenue intersections' design revisions shall accommodate an Articulated Bus (60' long).

Policy 2.1.1.6 Maintain and improve the following existing entrances:

- SW 109th Ave and SW 8th St
- SW 112th Ave and SW 8th St
- SW 107th Ave and SW 16th St
- SW 107th Ave and SW 12th St (connect to University Dr.)

Policy 2.1.1.7 Provide roundabouts at the following locations to improve capacity, traffic flow and enhance safety:

- SW 112th Ave & University Dr.
- SW 17 St.& SW 115th Ave

Policy 2.1.1.8 Coordinate with Miami Dade County on the future widening of SW 24 Street (Coral Way) from four to six lanes, between SW 117 Avenue and SW 107 Avenue. All improvements and/or work in the right-of-way are subject to further traffic/design evaluation, review, approval, and permitting by the County. This includes but is not limited to, landscaping, signage, new or modified driveway connections, and roadway modifications.

Policy 2.1.1.9 Coordinate with Miami Dade County on the future widening of SW 117 Avenue from two to four lanes, between SW 8 Street and SW 24 Street (Coral Way). All improvements and/or work in the right-of-way are subject to further traffic/design evaluation, review, approval, and permitting by FDOT. This includes but is not limited to, landscaping, signage, new or modified driveway connections, and roadway modifications.

Biscayne Bay Campus (BBC) (see Figure 11.3a):

Policy 2.1.1.10 Coordinate with Miami Dade County on the future widening of NE 151 Street (Bay Vista Blvd) from four to six lanes, between Biscayne Boulevard to east of Biscayne Landing Entrance. All improvements and/or work in the right-of-way are subject to further traffic/design evaluation, review, approval, and permitting by the County and FDOT. This includes but is not limited to, landscaping, signage, new or modified driveway connections, and roadway modifications.

Policy 2.1.1.11 At the main access to the campus (US 1 (Biscayne Blvd)/NE 151 Street intersection), there is substantial delay to campus traffic and will likely worsen with the completion of Biscayne Landings development. Major capacity improvements are necessary to enhance safety and operation. In addition, along NE 151 Street near Biscayne Landing entrance, consider widening from 4 to 6 lanes to alleviate potential 2020 demand. Coordinate with Florida Department of Transportation and Miami Dade County Roadway Department on these intersection and roadway improvements. All improvements and/or work in the right-of-way are subject to further traffic/design evaluation, review, approval, and permitting by the County and FDOT. This includes but is not limited to, landscaping, signage, new or modified driveway connections, and roadway modifications.

Policy 2.1.1.12 Due to traffic congestion at the main access to the campus (US 1 (Biscayne Blvd.)/NE 151 Street intersection), a second vehicular access point is necessary to ease congestion and serve as an emergency evacuation route due to the nature of the developments (School, University, Housing, Health Center, etc.). Per Figure 11.3b, one of the two options shown should be considered for providing this critical vehicular access. FIU will coordinate with the State, Regional, Municipal and private partners to secure this additional access to the campus.

Policy 2.1.1.13 The Bay Vista Blvd. (NE 151 Street) and NE 145th Street (main campus entrance) intersection's level of service (LOS) will likely fail by 2020. To mitigate this potential issue, provide new signal at Bay Vista Blvd. and Golden Panther Drive, and convert it to the main campus entrance. Modify the current main entrance at NE 145th Street to a secondary entrance.

Policy 2.1.1.14 Provide two-lane roundabout along Bay Vista Blvd. approaching the proposed Academic Health Center (see Figure 11.3b). Access road to the health center shall be via a 3 lane roadway.

Policy 2.1.1.15 Coordinate with the City of North Miami, Miami Dade County on the widening of NE 151 Street from four to six lanes, between Biscayne Blvd to east of Biscayne Landing Entrance.

Goal 3.1 Parking: The University will evaluate the future parking needs of the campuses and shall provide parking facilities as necessary. It will also encourage the implementation of transportation demand strategies to reduce parking demand.

Objective 3.1.1 Parking:

To accommodate future parking requirements on-campus, University shall evaluate and construct as necessary additional multi-purpose parking structures or surface parking lots, and establish programs or administrative procedures.

University-Wide:

Policy 3.1.1.1 Adequate parking is available through year 2020 with existing lots and programmed parking structure improvements. Annually monitor that the parking supply is maintained to adequately serve the current and future parking demand.

Policy 3.1.1.2 Replace surface parking lots with multi-purpose parking garages adjacent to the facilities they serve.

Policy 3.1.1.3 Handicap accessible parking should be reserved in the vicinity of each academic, support and residential facility. Stall counts should range from 2 to 10 spaces depending on facility size occupancy and assigned use.

Policy 3.1.1.4 Parking structures and surface lots shall be designed with internal walkways to be fully integrated with the campus pedestrian and traffic circulation system.

Modesto A Maidique Campus (MMC):

Policy 3.1.1.5 Evaluate the accommodation, routing and design impacts of the potential express bus stop at PG6, pending support from MDT. Evaluate the potential parking impact due to riders using the express bus service at PG6.

Policy 3.1.1.6 Construct parking garage PG6 (2,000 spaces) by the FY 2015.

Modesto A Maidique (MMC) and Biscayne Bay Campus (BBC):

Policy 3.1.1.7 Multi-purpose parking structures shall be built concurrently with proposed private partnership projects to meet partnering needs.

Objective 3.1.2 University-Wide Implementation of Transportation Demand Management (TDM) strategies: The University shall implement Transportation Demand Management (TDM) techniques (e.g. increase the number of students living on campus, improved transit, modify academic scheduling, carpooling etc.) in order to reduce the parking demand by the end of the planning period. TDM strategies are

intended to reduce or shift the number of single occupant vehicle (SOV) trips to non-SOV modes or to nonpeak periods. These TDM strategies can be achieved at all FIU campuses by continuing to encourage and facilitate pedestrian and bicycle modes, transit use, ridesharing and other alternatives. TDM Strategies that are in place and/or could be improved at FIU's campuses include the following:

University-Wide:

Policy 3.1.2.1 Local Connectors – Continue to encourage the use of local connector public transportation. This can be achieved by continuing to improve the relationships with each campus host community and improving local commuter bus facilities within the FIU campuses. Partnering with the host communities to allow their residents to enjoy activities on campus at reduced rates may encourage these communities to further enhance the quality/ frequency of these connector routes.

Policy 3.1.2.2 Reduced Transit Rates – Continue to work with Miami Dade Transit (MDT) to provide reduced student transit rider rates. This could also be extended to FIU employees to encourage their use of this service. MDT offers discounts for college students and encourages Corporate Discount Program – FIU should coordinate with MDT to provide corporate discount transit passes to FIU faculty and staff.

Policy 3.1.2.3 Transit in Lieu of Parking – Provide an annual or semester passes for public transit to students rather than a parking pass would be another alternative strategy.

Policy 3.1.2.4 Improving Transit Facilities - Provide user-friendly transit stop locations on campus that are inclement weather protected and encourage usage.

Policy 3.1.2.5 Carpool and Ridesharing - Continue to promote the carpool program that is being coordinated with the Florida Department of Transportation's South Florida Commuter Services. This program encourages carpool usage by allowing users to search for other carpool members by selecting the location and schedules they need to meet. Continue to encourage ride sharing and carpooling by providing more easily accessible parking spaces for these types of vehicles.

Policy 3.1.2.6 Flexible Working Schedule – Provide flexible schedules for the FIU administration, staff and faculty. This would allow for telecommuting and benefit the volume of traffic generated by these personnel. This will also help reduce traffic flows at peak times.

Policy 3.1.2.7 On-Campus Housing - Increase the amount of on-campus housing to reduce the need for those residents to have a vehicle for regular educational accessibility. This would significantly reduce the number of SOV trips required by nonresident commuters.

Policy 3.1.2.8 Distance-Learning Programs – Increase distance learning programs offered by the University to enable students to take classes without traveling to the campuses. More courses and programs through distance learning reduce trips to the University Campuses significantly.

Policy 3.1.2.9 Transit Oriented Development (TOD) - Introduce transit oriented development in the planning study areas. Transit oriented development refers to residential and commercial centers designed to maximize access by transit and non-motorized transportation, with features to encourage transit ridership. Providing a transit station at Modesto A. Maidique Campus and/or the Engineering Center would provide transit access to the surrounding area.

Policy 3.1.2.10 Transit Information - Provide a system whereby commuters can access and monitor real-time public transportation route schedules and times on their wireless devices.

Policy 3.1.2.11 Parking Permit Buyback - Implement a buyback program for parking permit holders that would reimburse commuters who give back their parking permit and choose to use public transportation or ridesharing activities.

Policy 3.1.2.12 Parking Information – Introduce a real time parking area availability status via information boards at key transportation decision points on campus to allow for more efficient commuting from the point of campus entry to available campus parking facilities. This would help minimize traffic on the campuses by commuters driving through heavy pedestrian areas to find parking. This information could also be linked to a wireless network and made available to commuters' wireless or smart phone devices.

Objective 3.1.3 Signage: The University shall create a hierarchy of internal signage.

University-Wide:

Policy 3.1.3.1 Assess current signage system and better way-finding through the establishment of a hierarchy of signage which includes varying sizes and designs for way-finding. Include signage for directing traffic to nearby parking.

Policy 3.1.3.2 Establish wayfinding signage system that clearly distinguishes size and spacing between vehicular and non-vehicular oriented information.

Pedestrian and Non-Vehicular Circulation Sub-Element

Goal 4.1: 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 communities, will provide

ease of mobility for all people, is consistent with planned land use patterns, promotes energy conservation, and protects the natural environment.

Objective 4.1.1 Walkways: Create a campus wide system of interconnected walkways.

University-Wide:

Policy 4.1.1.1 Provide a continuous system of covered walkways with appropriate width between existing and new academic and student service facilities.

Policy 4.1.1.2 Construct uncovered walkways of appropriate width alongside the roadways, between major buildings, from the parking facilities and within parking lots following "natural" walking routes, by the end of the 2020 planning period. Prioritize and coordinate improvements with; Figures 11.1b, 11.2b and 11.3b; Urban Design, Landscape Architectural and Architectural Elements.

Policy 4.1.1.3 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. Bike lanes shall be 4' wide, except at key holes (area between through and right turn lane) where it shall be 5' wide. Bicycle parking should be provided at all major buildings and recreational facilities on campus.

Modesto A Maidique Campus (MMC):

Policy 4.1.1.4 The 'Avenue of the Arts', extending from the Wertheim Performing Arts Center north through the Graham Center, and the 'Avenue of the Professions', running west from the Graham Center to the Graduate School of Business and School of Law will serve as primary pedestrian linkages through campus. See Element 3.0 Urban Design.

Policy 4.1.1.5 Provide pedestrian corridors throughout the campus, particularly those extending from parking structures at the campus perimeter. Improve pedestrian routes/safety from garages/parking to campus core.

Policy 4.1.1.6 Enhance pedestrian safety, keep pedestrian paths away from intersections. Separate pedestrian and vehicular flows to minimize conflict. Provide appropriate warning signs and striping at pedestrian crossing (mid-block) away from intersections.

Policy 4.1.1.7 Coordinate and construct pedestrian walkways with the new multi-purpose parking structures to provide a linkage to the existing campus and adjacent facilities.

Policy 4.1.1.8 Strengthen direct pedestrian route along "Avenue of the Professions". Route to be more axial than its existing circuitous condition to encourage efficient

pedestrian use.

Policy 4.1.1.9 Provide clear and direct pedestrian route from proposed Sweetwater transit stop south of PG4 to Green Library to encourage efficient pedestrian use.

Policy 4.1.1.10 Integrate the adjacent City of Sweetwater community with the FIU campus by providing a pedestrian bridge across SW 8th Street at SW 109th Avenue, as a part of the FIU UniversityCity Project, funded by the USDOT Tiger Grant.

Engineering Center :

Policy 4.1.1.11 Provide pedestrian walkways to safely link parking, academic, transit and recreation facilities.

Biscayne Bay Campus (BBC)

Policy 4.1.1.12 Provide pedestrian walkways to safely link parking, academic, transit and recreation facilities.

Policy 4.1.1.13 Bicycle lanes and sidewalks are not continuous along both sides of NE 151 Street and Bay Vista Blvd. to Biscayne Boulevard. Provide continuous bicycle lanes and sidewalks and extend these facilities to the campus per Figure 11.3b.

Policy 4.1.1.14 Provide adequate bicycle lane links within the Campus to the 135th Street / Arch Creek Preserve bicycle / pedestrian route. Coordinate with Miami Dade County to provide improved bicycle lanes and sidewalks on both sides of the street on Bay Vista Blvd and 151st Street. Ensure safe pedestrian and bicycle access from the local schools nearby.

Policy 4.1.1.15 FIU will coordinate with the City of North Miami to maintain connections to the existing Arch Creek bike path on the 135th Street constructed by FDOT.

Objective 4.1.2 Campus Safety: The University shall modify vehicular circulation patterns and parking locations to create existing and future pedestrian/vehicular safety at crossings.

University-Wide:

Policy 4.1.2.1 Provide safe crossings for pedestrians across all roadways. Crosswalks shall be of the high emphasis type with appropriate signage (including flashing beacons) and striping. Locations shall consider visibility of pedestrians, length of crosswalks, pedestrian crossing times, connectivity to adjacent sidewalks, pedestrian density, pedestrian signal control, crossing distance, ADA ramps, reduction of posted speed limits, speed bumps, etc.

Modesto A Maidique Campus (MMC):

Policy 4.1.2.2 University – Campus Loop Road

Provide crosswalks on the existing and re-aligned road to provide adequate warning and visibility.

Biscayne Bay Campus (BBC):

Policy 4.1.2.3 Provide crosswalks on the existing and re-aligned roads to provide adequate warning and visibility.

Objective 4.1.3 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.

University-Wide:

Policy 4.1.3.1 Continue to provide daily escort service after dusk for students between University buildings and parking lots.

Objective 4.1.4 Context Areas:

The University shall create pedestrian and non-vehicular connections to the host communities in the immediate surrounding area.

University-Wide:

Policy 4.1.4.1 Maintain a standing committee between University staff and host community representatives to provide coordination and resolve issues related to pedestrian and non-vehicular circulation.

Modesto A Maidique Campus (MMC):

Policy 4.1.4.2 Encourage Miami-Dade County to construct bike paths along SW 117 Avenue and Coral Way (SW 24 Street). Encourage FDOT to construct bike paths along SW 8th Street (SR 90) and SW 107th Avenue (SR 985). Provide bikeways on-campus for any new roadway construction and provide capital improvement budget for adding bikeways along existing roadways.

Engineering Center:

Policy 4.1.4.3 Coordinate with the City of Sweetwater to provide sidewalk enhancements including benches and signage to visually link the EC with MMC.

Policy 4.1.4.4 Coordinate with the City of Sweetwater to provide a pedestrian connection and bike path at the Women's Park and the Engineering Center recreation facilities.

Objective 4.1.5: Lighting: The University shall provide appropriate lighting for new roadways, all major pedestrian and non-vehicular facilities on-campus (i.e. parking, public areas, and walkways) to enhance safety.

University-Wide:

Policy 4.1.5.1 Provide new roadways and new pedestrian walkways, with lighting that meets lighting design standards for local roadways and public spaces respectively.

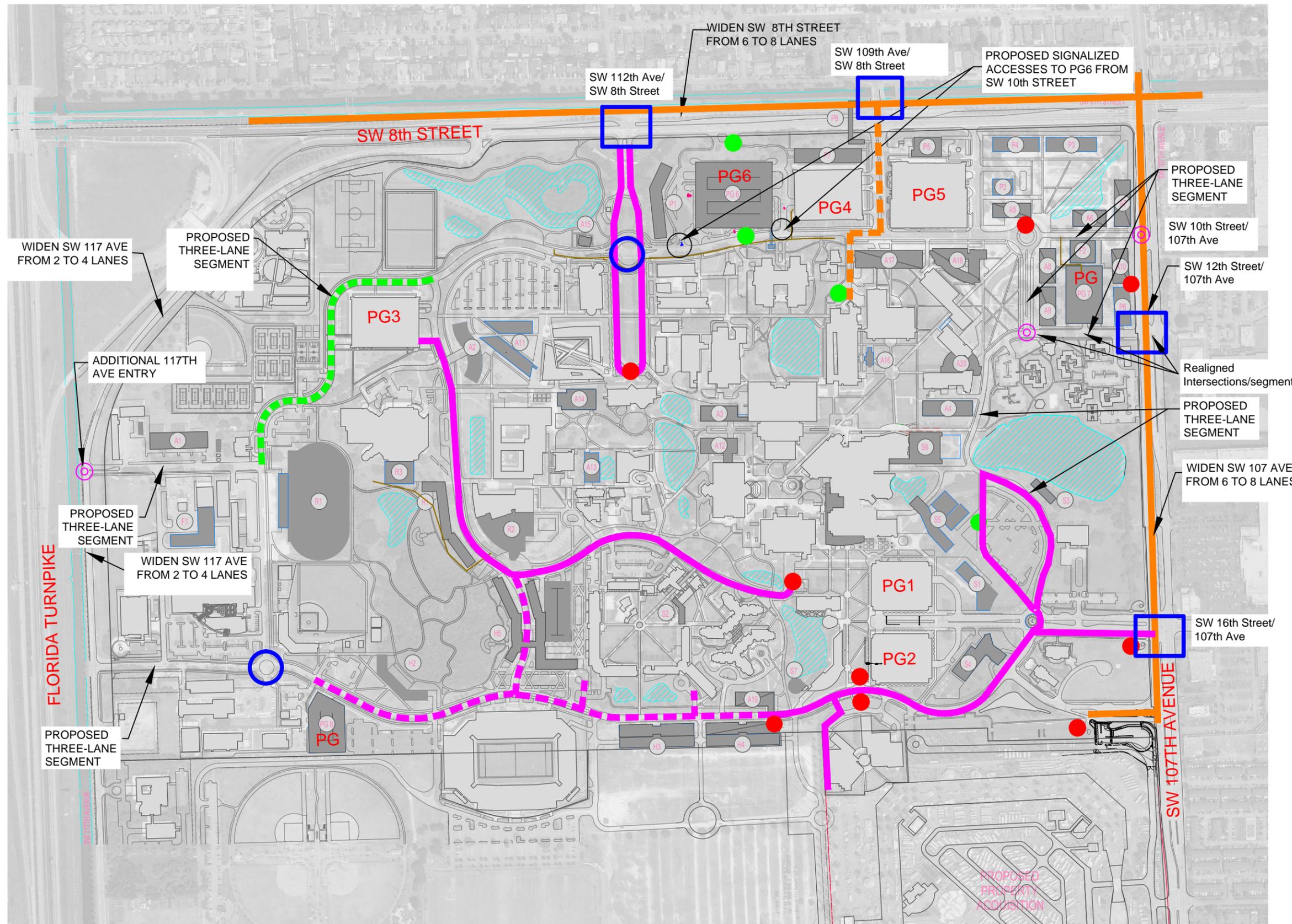
Policy 4.1.5.2 Provide appropriate lighting on the exterior of any new parking garages and new surface parking lots. Any lighting deficiencies on existing facilities shall be addressed to enhance safety.

Objective 4.1.6 Future Land Use: The University shall provide right-of-way necessary for roadway/transit improvements.

University-Wide:

Policy 4.1.6.1 Determine right-of-way necessary (including clear zone) necessary for all of the recommended roadway improvements in the 2010-2020 Master Plan. This will also include new entries at MMC and BBC.

Policy 4.1.6.2 Monitor the 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.



LEGEND

- Proposed Building
- Existing Building
- Existing Transit Stop
- Proposed Transit Stop
- Proposed Campus Loop Road Re-Alignment
- New Intersection
- Limited Access
- Surface Water
- Campus Transit:**
- Existing
- Proposed
- MDT/Regional Transit:**
- Existing
- Proposed

KEY MAP

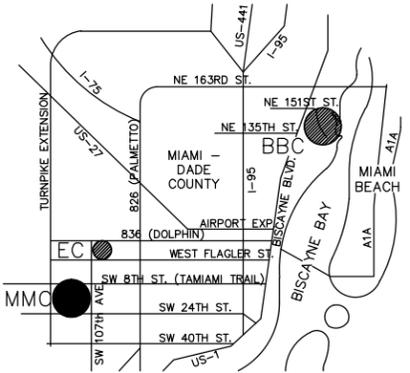


FIGURE 11.1a
Transit, Circulation & Parking Map For Year 2020

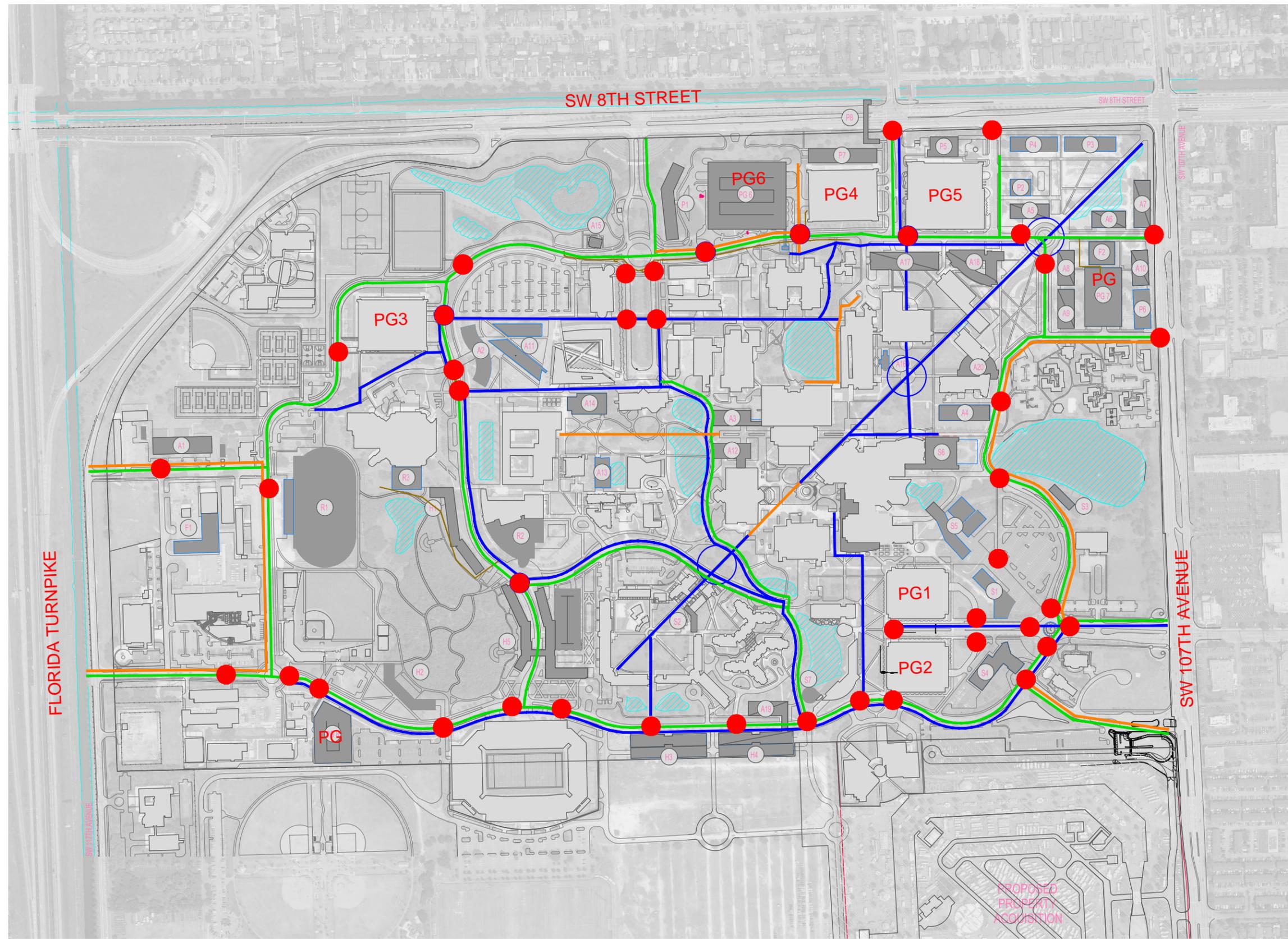
FIU FLORIDA INTERNATIONAL UNIVERSITY

PERKINS + WILL
MILLER LEGG

MODESTO A. MAIDIQUE CAMPUS

- PG Parking Garage
- Improved Intersections
- Proposed Roundabouts





MODESTO A. MAIDIQUE CAMPUS



LEGEND

-  Proposed Building
-  Existing Building
-  Primary Pedestrian Walk
-  Bicycle Path
-  Crosswalks
-  Campus Node
-  Planned Pedestrian Walk
-  Surface Water

KEY MAP

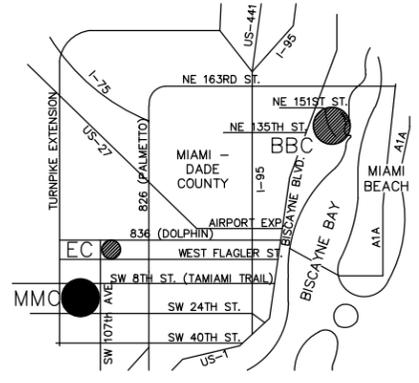
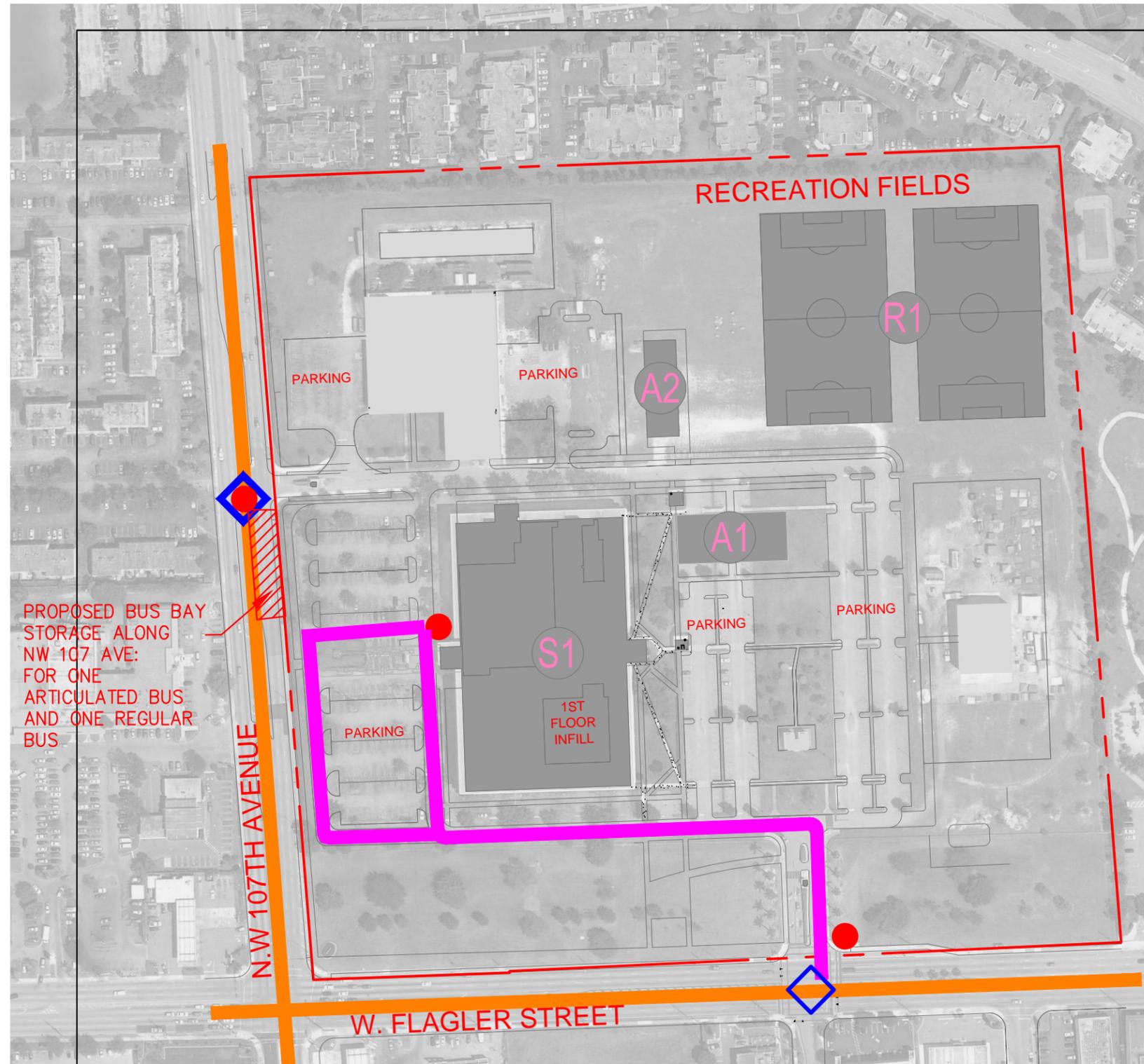
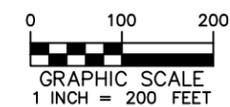


FIGURE 11.1b
Pedestrian & Non-Vehicular
Circulation For Year 2020





ENGINEERING CENTER CAMPUS



LEGEND

-  Proposed Building
-  Existing Building
-  Transit Stop
-  Existing Transit Route
-  Public Access Points - No Improvements
-  Surface Water

Campus Transit:

-  Existing

MDT/Regional Transit:

-  Existing

KEY MAP

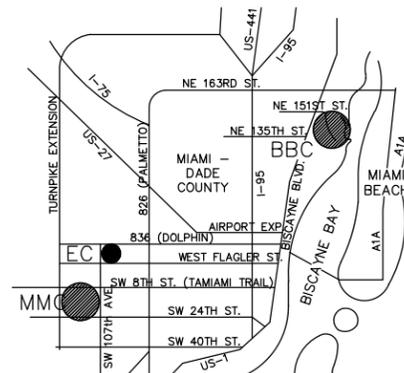
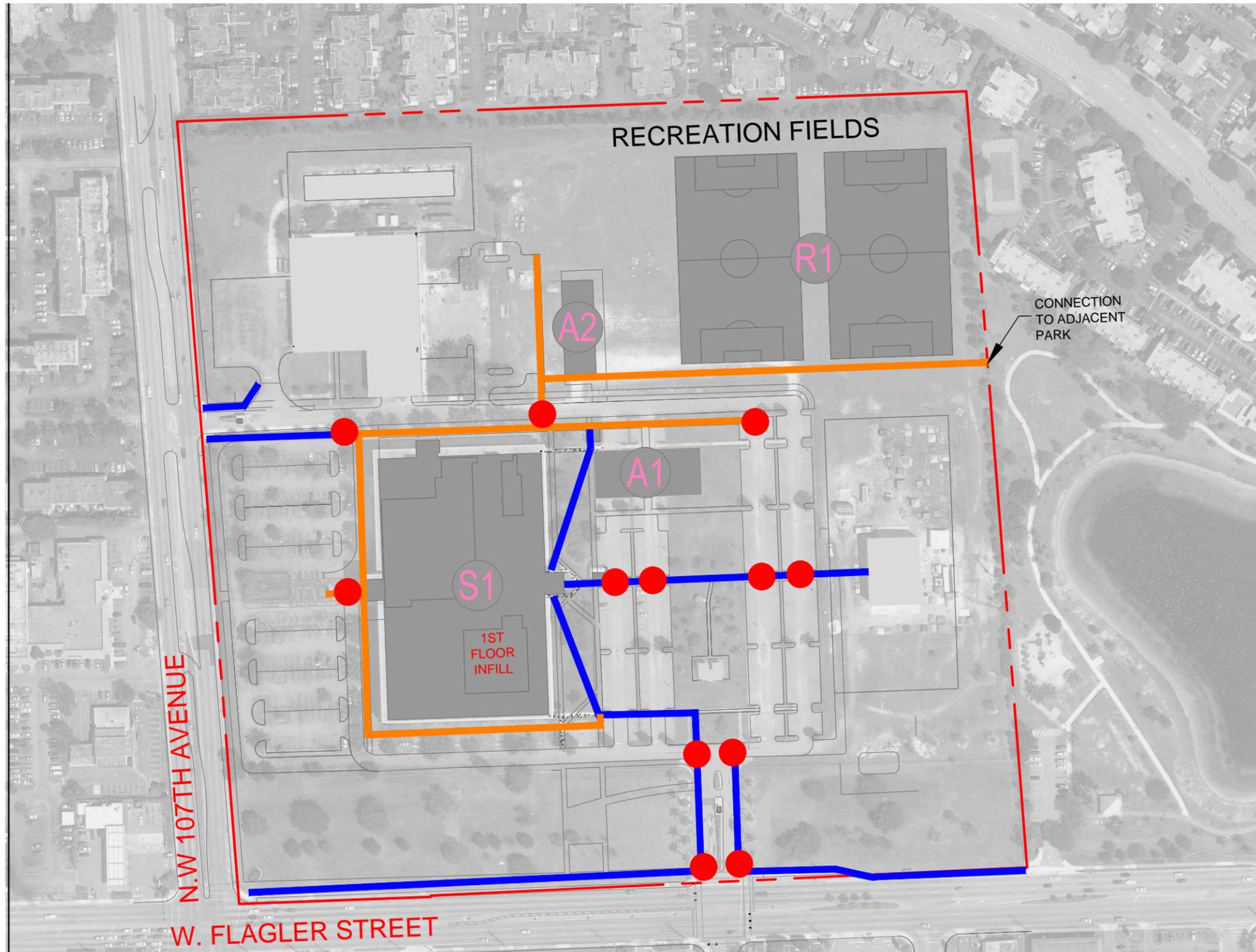
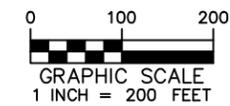


FIGURE 11.2a
Transit, Circulation & Parking Map For Year 2020





ENGINEERING CENTER



LEGEND

-  Proposed Building
-  Existing Building
-  Exist Pedestrian Route
-  Crosswalks
-  Planned Pedestrian Route

KEY MAP

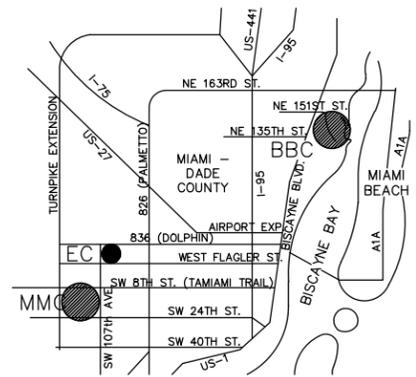
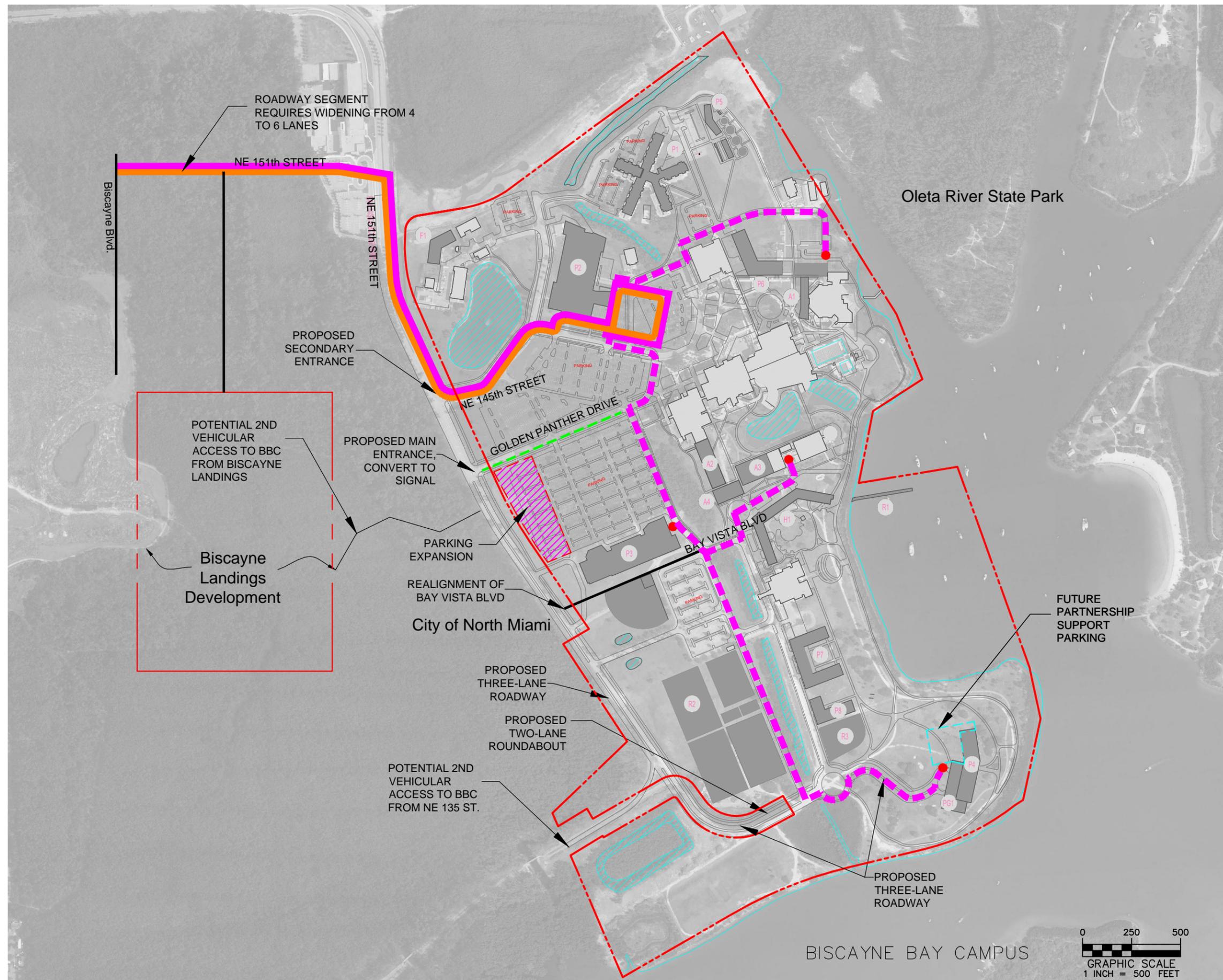


FIGURE 11.2b
Pedestrian & Non-Vehicular
Circulation For Year 2020

FIU | FLORIDA
INTERNATIONAL
UNIVERSITY

 PERKINS
+ WILL
 MILLER LEGG



LEGEND

- Proposed Building
- Existing Building
- Transit Stop
- Proposed Re-aligned Panther Drive
- Surface Water
- Campus Transit:**
- Existing
- Proposed
- MDT/Regional Transit:**
- Existing

KEY MAP

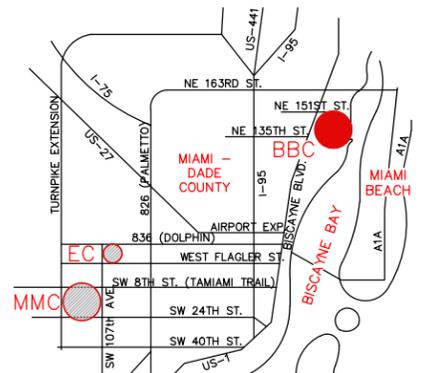
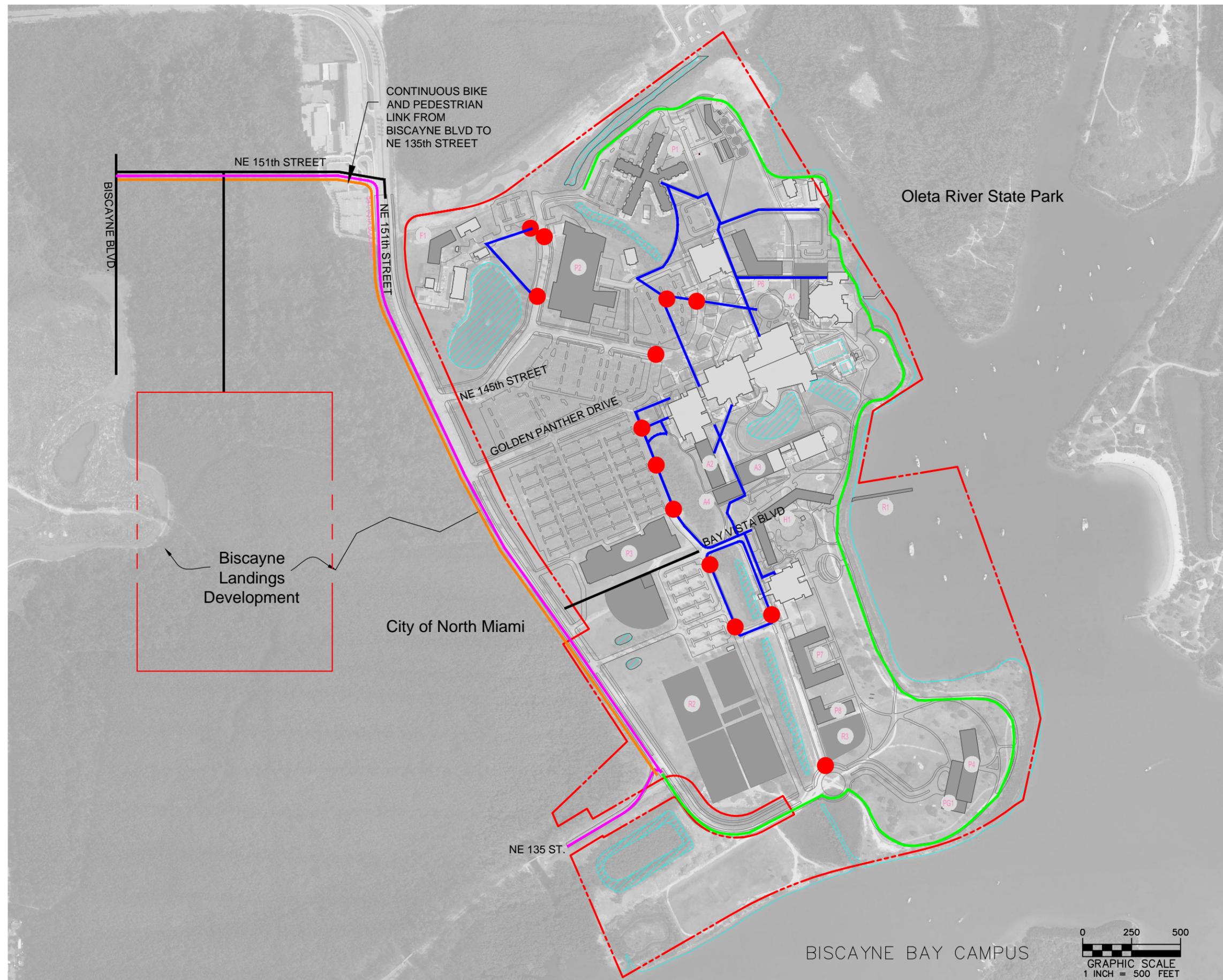


FIGURE 11.3a
Transit, Circulation & Parking Map For Year 2020





LEGEND

- Proposed Building
- Existing Building
- Pedestrian Route
- Crosswalks
- Bike Route
- Planned Pedestrian Route
- Shared Pedestrian Route & Bike Route
- Surface Water

KEY MAP

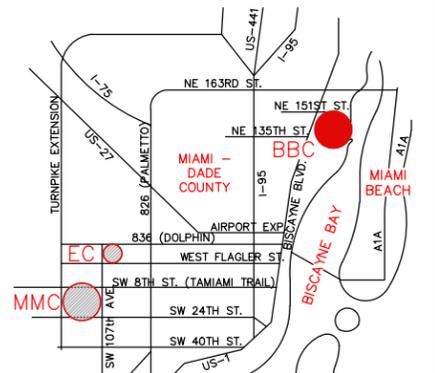


FIGURE 11.3b
Pedestrian & Non-Vehicular
Circulation For Year 2020



12.0 INTERGOVERNMENTAL COORDINATION ELEMENT

Comprehensive planning for FIU as a metropolitan engaged institution must reflect and respond to interactions between the University, vital elements of the surrounding host communities 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 Campus Master Plan:

1. 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 the Miami-Dade County, City of North Miami and City of Sweetwater business affadevelopment 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.

2. 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.
3. 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 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. Resolutions 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, Miami-Dade County, the City of North Miami and the City of Sweetwater. It continues existing procedures to enhance and solidify this relationship:

- Procedures for review and comment by Miami-Dade County of the University's Campus 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 Miami-Dade County, the City of North Miami and the City of Sweetwater.
- 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 and potable water; development review; coordination of the establishment of reciprocal review and coordination of the establishment of campus level of service standards.

Goal 1: **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 communities through the reciprocal review of local government comprehensive plans and campus master plans.**

Policy 1.1.1 The FIU Director of Facilities Management (or designee) shall meet with planning officials from the Miami-Dade County, the City of North Miami, the City of Sweetwater and FDOT 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 Fish and Wildlife Conservation 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 Economic Opportunity 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 (9), F.S., and which have the effect of changing the manner in which development on campus may occur or impacting off-campus facilities, services or natural resources, shall be transmitted to the Miami-Dade County, City of North Miami, City of Sweetwater and FDOT 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 Miami, City of North Miami, City of North Miami Beach 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 FIU Director of Planning in Facilities Management 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 Modesto A. Maidique Campus, through and beyond the projected buildout date of 2010-2020, Florida International University will assess the feasibility of utilizing properties, adjacent and to the south on the present campus, for recreation, open space and support (including parking).**

Policy 1.2.1 In order to conserve the limited land resources at Modesto A. Maidique, FIU shall discourage development not in conformance with the policies of the Campus Master Plan - with the exception of planned joint use facilities within the Miami-Dade Youth Fair and Exposition and Tamiami Park.

Miami-Dade Youth Fair and Exposition and Tamiami Park are the primary location identified in the Radiological, Emergency Preparedness Plan for the Emergency Reception Center. The purpose of this coordinated site includes registration, monitoring and decontamination of people; temporary sheltering and potassium iodide distribution in the event of a radiological event. In the event of a category 3 or higher hurricane, the County's Department of Animal Services plans to move all of its operations to this facility.

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 BBC if required for development adjacent to existing wetlands.**

Policy 1.3.1 While there is no work anticipated currently, FIU should follow required protocols and determine whether a campus wide or phased dredge and fill permit process is required.

Policy 1.3.2 FIU shall undertake wetland mitigation in a manner that maximizes 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 Department sufficient to handle the sanitary sewer demand 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 the Miami Dade Water and Sewer

Department (WASD) assign a single contact person to review the University's activities for the Modesto A. Maidique 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 WASD 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 Modesto A. Maidique Campus and Biscayne Bay Campus.

Policy 1.4.3 FIU shall request a letter of sanitary sewer allocation from Miami-Dade Department of Regulatory and Economic Resources and from the City of North Miami, this allocation confirming the 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 build out.

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 Assess the impacts generated by FIU on host communities and service providers and provide mitigation measures for FIU's impacts for those services found to be deficient.

Policy 1.5.1 A draft development agreement update 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 Trustees 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 Trustees “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 Trustees 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 Trustees 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 FIU's Director of Planning in Facilities Management or designee for review.
- Policy 1.6.3 The FIU Director of Planning in Facilities Management or designee 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 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 shall coordinate with the City of North Miami, the City of Sweetwater, FDOT and Miami-Dade Transit staff reviews for the development and expansion of pedestrian, bicycle and transit facilities on a regular basis.

Policy 1.6.10 FIU shall partner with FDOT, Miami-Dade County and Miami-Dade Metropolitan Planning Organization in order to develop a Transportation Management Initiative (TMI) for the University as one means to mitigate peak hour traffic impacts through transportation demand management (TDM) programs such as carpooling, ridesharing, flex hours, etc.

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; FDOT; Miami-Dade Water and Sewer Department; Miami-Dade Metropolitan Planning Organization; Miami-Dade Public Works Department; Miami-Dade Transit; and North Miami Public Works and Utilities Department.

Policy 1.7.2 FIU shall request that the service providers provide comments to the FIU Board of Trustees, 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 FIU Board of Trustees and the service providers shall be resolved in accordance with Chapter 1013.30 (8).

Objective 1.8 **Cooperate and coordinate with the City of Sweetwater, to maintain a UniversityCity Alliance to encourage public and private development in Sweetwater and within the University that serves the needs of Sweetwater residents and University students, staff and faculty.**

Policy 1.8.1 The University will coordinate with redevelopment efforts by the City of Sweetwater to create housing, new businesses, “complete streets” and other improvements included in the “UniversityCity Prosperity Project.”

Policy 1.8.2 The University will undertake projects at MMC and EC that create stronger connections with Sweetwater to facilitate safe and efficient movement of pedestrians, bicyclists and transit vehicles between Sweetwater and FIU.

Policy 1.8.3 The University will consider the potential positive impact of private development in Sweetwater that fulfills the University's need for nearby student housing, retail shopping and dining and services.

Policy 1.8.4 The University will consider the potential benefits that various University programs, events and facilities may provide to those living and working in Sweetwater so that both might benefit.

Table 12.1 Intergovernmental Coordination Element

Governmental Entity	Nature of Relationship	Coordinating Entity	Coordinating Mechanism
City of North Miami	Non-regulatory	FIU Facilities Management	Coordination in accordance with the provisions of the campus development agreement and adopted goals, objectives and policies.
City of Sweetwater	Non-regulatory	FIU Facilities Management	Coordination in accordance with the provisions of the campus development agreement and adopted goals, objectives and policies.
City of North Miami Beach	Non-regulatory	FIU Facilities Management	Coordination in accordance with the provisions of the campus development agreement and adopted goals, objectives and policies.
Miami-Dade County Commission	Non-regulatory	FIU Facilities Management	Coordination in accordance with the provisions of the campus development agreement and adopted goals, objectives and policies.
Miami-Dade Transit (MDT)	Agency responsible for Miami-Dade County public transit	FIU Facilities Management FIU Liaison (proposed)	No coordination mechanism FIU staff will be assigned to monitor EWMCS
Miami-Dade County Parks Recreation and Open Spaces	Non-regulatory	FIU Facilities Management	Campus master plan Policy 4.1.1.2 and 12.1.2.1 recommends that a joint use agreement be in place by 1996 for Tamiami Park.
Miami-Dade County Department of Regulatory and Economic Resources-Division of Planning	Regulatory	FIU Facilities Management FIU Urban Design Liaison	Regulates land development activities in accordance with the Chapter 163 Comprehensive Plan and Land Development Regulations

South Florida Water Management District (SFWMD)	Regulatory	FIU Facilities Management FIU Natural Resource Protection Management Committee	Reviews stormwater and dredge and fill permits
South Florida Regional Planning Council (SFRPC)	Reviewing agency	FIU Facilities Management	Reviews and comments on campus master plan in accordance with 1013.30 F.S.
U.S. Army Corps of Engineers (ACOE)	Regulatory	FIU Facilities Management FIU Natural Resource Protection Management Committee	Regulates dredge and fill permits in accordance with S.404 of the Clean Water Act.
U.S. Environmental Protections Agency (USEPA)	Regulatory	FIU Facilities Management FIU Natural Resource Protection Management Committee	Meetings as necessary
Federal Highway Administration (FHA)	Regulatory	FIU Facilities Management Board of Governors	Reviews and comments on campus master plan in accordance with 1013.30 F.S.
Miami-Dade Metropolitan Planning Organization	Agency oversees and plans for state and county roads	FIU Facilities Management MPO Liaison (proposed)	No coordinating mechanism. FIU staff will be assigned to monitor EWMMCS
Miami-Dade Water and Sewer Department (WASD)	Utility Provider	FIU Facilities Management	Responsible for water distribution and sewer collection and treatment.
North Miami Public Works Department	Utility Provider	FIU Facilities Management	Responsible for water distribution and sewer collection and treatment.

Miami-Dade County Department of Regulatory and Economic Resources- Division of Environmental Resource Management	Regulatory	FIU Facilities Management	Monitors and regulates operation of water facilities under Chapter 24 of County Code.
Florida Board of Education, Board of Governors	Reviewing agency	FIU Facilities Management Board of Regents	Reviews and comments on campus master plans in accordance with the provisions of s.1013.30 F.S.
Florida Department of Economic Opportunity (DEO)	Reviewing Agency	FIU Facilities Management Board of Regents	Reviews and comments on campus master plans in accordance with the provisions of s.1013.30 F.S.
Florida Department of Environmental Protection (DEP)	Environmental protection, jurisdictional wetlands, dredge and fill permitting Regulatory	FIU Facilities Management FIU Natural Resources Protection Management Committee	Meetings as necessary
Florida Department of State	Reviewing agency	FIU Facilities Management	Reviews and comments on campus master plan in accordance with.1013.30 F.S.
Florida Department of Transportation (DOT)	Reviewing Agency Regulatory authority over construction and maintenance of state roads	FIU Facilities Management Board of Governors	Reviews and comments on campus master plan in accordance with 1013.30 F.S. Campus master plan Policy 401.9.1 requires that FIU enters into an interlocal agreement requiring notification of FDOT improvements.
Florida Fish and Wildlife Conservation Commission	Reviewing agency	FIU Facilities Management	Review and comments on campus master plan in accordance with 1013.30 F.S.

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 practical, conform with various agency guidelines and policies. Campus planting efforts will utilize native or non-invasive 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. 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 ecosystems and resource areas occur at Modesto A. Maidique Campus, Engineering Center and Biscayne Bay Campus of Florida International University (see Element 13.1 for Modesto A. Maidique Campus, Element 13.2 for Engineering Campus, and Element 13.3 for Biscayne Bay Campus). 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 their viability for native species and vegetation as well as suitability for protection versus development. Therefore, a principal goal of the Campus Master Plan is to allow sensitively planned development while protecting and enhancing natural resources.

To minimize adverse impacts to local air quality and maintain existing good air quality conditions, FIU will continue to 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. 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.

GOAL 1: Conserve and enhance existing natural resources and natural ecosystems at Modesto A. Maidique Campus and Biscayne Bay Campus.

Objective 1.1 Implement and manage natural resource policies through use of appropriate University faculty and staff.

Policy 1.1.1 Knowledgeable FIU experts will oversee issues relating to development and conservation of University natural resources. It shall be the task of these individuals to oversee the implementation of the coastal resource management policies defined in the Conservation Element of this Master Plan. It shall also be the task of these individuals to review, prepare any necessary additional policies, guidelines, procedures and implementation schedules within one year of the adoption of the Campus 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 these activities. 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 high air quality standards on campus, both within and outside of buildings and parking structures.

Policy 1.2.1 Monitor both indoor and outdoor air quality, as necessary. Outdoor sites to be sampled shall 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 1.2.2 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 1.2.3 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 1.2.4 Encourage and facilitate non-polluting transportation alternatives on campus including electric vehicles, pedestrian and bicycle access.

Sidewalks and pedestrian malls should be designed to facilitate and encourage foot traffic between buildings, and to maximize handicap accessibility.

Objective 1.3 Maintain High Water Quality Standards on Campus:
Ensure the conservation, appropriate use and protection of both the quality and quantity of current and projected water sources, including ground water, potable water and surface water through University policies. For Biscayne Bay Campus, also see Goals, Objectives and Policies in the Coastal Management Element.

Policy 1.3.1 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 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 Element 13.3).

Policy 1.3.3 Protect and enhance existing shallow-water communities and seagrass beds in the waters of Biscayne Bay by reducing the impacts of stormwater runoff to these areas.

Policy 1.3.4 Protect the shoreline stabilization project carried out by Dade County Department of Environmental Resources Management (DERM) in 1989 and 1991.

Policy 1.3.5 Complete ongoing mitigation programs and protect new and ongoing mitigation programs.

Objective 1.4 Protect Significant Native Vegetation and Wildlife:
Create policies that aim to conserve, appropriately use and protect native vegetative communities and wildlife habitat, while managing non-native invasive plant removal.

Policy 1.4.1 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 Modesto A. Maidique Campus 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 Campus Master Plan within three months of the identification of the environmentally sensitive land.

- Policy 1.4.2 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 1.4.3 In order to protect native vegetative communities, provide for a development buffer of at least 25 feet between native vegetative communities (Elements 13.1, 13.2 and 13.3) and construction projects, including but not limited, to buildings, roadways, pathways and recreation facilities.
- Policy 1.4.4 Remove invasive exotic plant species from natural vegetation associations and from landscaped areas. 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 required.
- Policy 1.4.5 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 1.4.6 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, National Tropical Botanical Garden 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 1.4.7 Use native plant species in the 25-foot wide landscape buffer areas that border native vegetative communities.

Policy 1.4.8 Preserve specimen trees whenever possible as per Section 24-60 of the Code of Metropolitan Dade County.

Policy 1.4.9 Perform a census of wildlife and plants during the initial planning phase of any physical changes to either campus 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 1.4.10 When encountering listed endangered species, follow procedures and seek consultation with the appropriate agencies as identified by the Florida Fish and Wildlife Conservation Commission.

Policy 1.4.11 **BISCAYNE BAY CAMPUS**
Continue a program of monitoring and removing Australian pines to help curtail their further spread into mangrove areas and other natural vegetation associations on campus. 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 re-vegetated 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 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 Facilities Management.

Objective 1.5 Link Campus Image, Identity and Setting with 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 1.5.1 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 1.5.2 Prevent any harm to FIU's natural campus environment from construction activities. Any damage occurring will be repaired to its former state by those responsible parties.

Policy 1.5.3 MODESTO A. MAIDIQUE CAMPUS
Use native vegetation to link natural areas in campus parks and special purpose areas. This should be made consistent with objectives of the 3.0 Urban Design Element.

Policy 1.5.4 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 Element 13.3). 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. Similarly, the Environmental Coordinator shall encourage North Miami to remove Austrian Pines that have invaded city-owned mangrove areas adjacent to the Biscayne Bay Campus.

- GOAL 2: Minimize resource utilization to conserve and appropriately use energy while prohibiting campus procedures that have adverse environmental effects.**
- Objective 2.1 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 2.1.1 Limit negative impacts of campus activities on soils, wetlands, hydrology and hydroperiod. 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 2.1.2 Ensure that both campus operations and future development do not exacerbate future sea level rise. Development should adhere to required setbacks and respond to anticipated sea level rise on all campuses. Utilize native vegetative communities as a buffer between the constructed environment and expected sea level rise.
- Policy 2.1.3 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 2.1.4 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 2.1.5 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 2.1.6 Handling, data records, storage and disposal requirements for radioactive waste generated at Modesto A. Maidique Campus and Biscayne Bay Campus and the Engineering Center shall be in compliance with local, regional, state and federal regulations.

Policy 2.1.7 At present, all hazardous materials for both campuses are handled under four EPA-Hazardous Waste Generator numbers. The University should investigate the possibility of operating under more than one number to ensure compliance with requirements associated with satellite collection areas.

Policy 2.1.8 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.

Policy 2.1.9 **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.

**Objective 2.2 Maximize Water Conservation:
Establish measures that reduce water utilization.**

Policy 2.2.1 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 2.2.2 Retrofit existing campus buildings with water-saving devices. Require that water-efficient (high efficient) fixtures and other water-saving devices be installed in all future buildings and adhere to Miami-Dade County Water Efficiency Standards in Section 8-31 of the Miami-Dade County Code, and Chapter 6, Section 604.4 of the Florida Building Code

Policy 2.2.3 Reduce the use of potable water for landscape irrigation by expanding the use of harvested greywater. All irrigation must comply with the Miami-Dade County's permanent landscape irrigation restrictions in Section 32-8.2 of the Miami-Dade County Code

Policy 2.2.4 Promote Florida Friendly principles through the use of drought-tolerant landscape species, the use of irrigation systems that conserve the use of potable and non-potable water supplies, and restrictions on the amount of lawn areas.

Policy 2.2.5 Decorative fountains consuming large quantities of potable water should be discouraged. Natural water features such as raingardens and retentions ponds should be used to promote conservation and best practices for stormwater management.

**Objective 2.3 Improve Solid Waste Recycling and Resource Conservation:
Establish measures that expand solid waste recycling.**

Policy 2.3.1 Maintain and expand the general recycling program for paper, aluminum, glass, etc. Increase recycling goals for proportions of materials recycled established. Monitor compliance with the program on a regular basis. Coordinate with the Environmental Studies Program/

Policy 2.3.2 Review State, regional and local standards for waste management annually. Solid waste management on all campuses shall be in compliance with state, regional and local standards.

Policy 2.3.3 Single stream recycling bins shall be made available in all buildings, courtyards, in open space areas, etc. on both campuses. This program should be made compulsory on a university-wide basis.

Policy 2.3.4 Expand recycling collection to include compostable materials.

Policy 2.3.5 Purchase and promote the use of recycled and reusable food and beverage containers by students patronizing campus dining facilities.

**Objective 2.4 Maximize Energy Conservation and Efficiency:
Develop a program to conserve and appropriately use energy that supports FIU's Climate Action Plan and the AIA 2030 Challenge. Support strategies to meet USGBC standards for LEED Silver certification.**

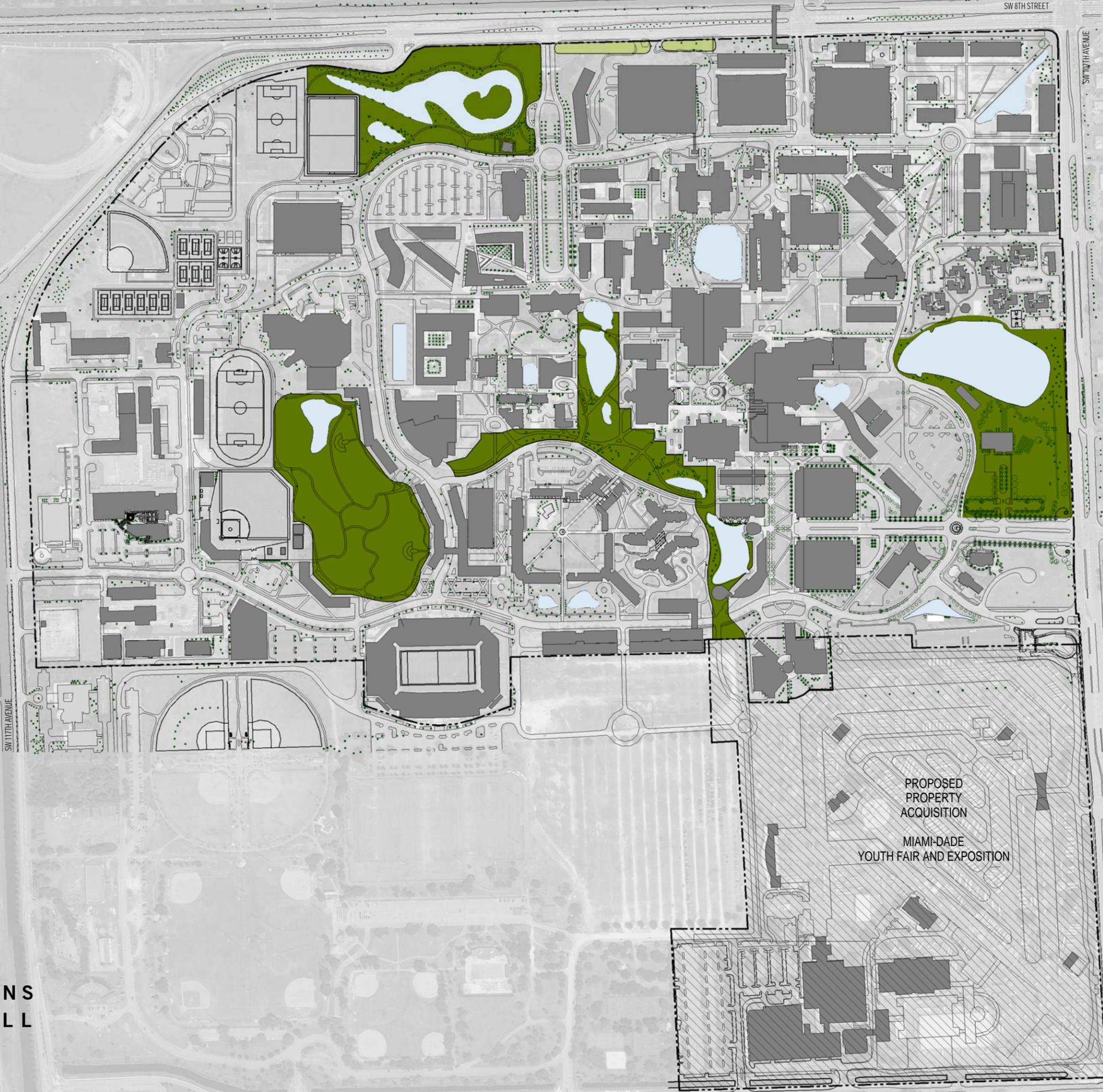
Policy 2.4.1 Retrofit existing buildings with energy-conserving lighting fixtures. Require all new buildings to be equipped with energy efficient lighting

devices. Design new buildings to take maximum advantage of available natural lighting while avoiding heat gain.

Policy 2.4.2 Fit buildings on campus with devices to automatically reduce energy use in rooms and buildings not in use, including programmable thermostats for air conditioners, oxygen/CO² sensors to reduce outside air intake when spaces are not occupied and sensors that automatically turn off lights.

Policy 2.4.3 Identify locations and applications for using "non-traditional" energy sources on campus. Such alternatives could include the use of solar power for lighting parking lots, etc.

Policy 2.4.4 Provide energy conservation design in new and renovated buildings per USGBC LEED Silver criteria as minimum level of performance.



- LEGEND**
- CAMPUS PARK AND NATURAL AREA
 - LANDSCAPE BUFFER
 - WATER
 - PROPOSED / EXISTING BUILDING
 - EXISTING TREE

PROPOSED
PROPERTY
ACQUISITION

MIAMI-DADE
YOUTH FAIR AND EXPOSITION

**ELEMENT 13.1: CONSERVATION
MODESTO A. MAIDIQUE CAMPUS**

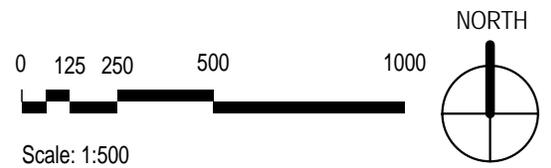




LEGEND

-  LANDSCAPE BUFFER
-  PROPOSED / EXISTING BUILDING
-  EXISTING TREE

ELEMENT13.2: CONSERVATION ENGINEERING CENTER



BAV VISTA BOULEVARD

LEGEND

- MANGROVES
- MANGROVE MITIGATION
- WETLAND RESTORATION
- SHORELINE VEGETATION
- BEACH RIP RAP SHORELINE
- WATER
- PROPOSED / EXISTING BUILDING
- EXISTING TREE

**ELEMENT 13.3: CONSERVATION
BISCAYNE BAY CAMPUS**

14.0 CAPITAL IMPROVEMENTS ELEMENT

Florida International University faces a need for dramatic expansion, redevelopment and infill activity over the next decade if facilities are to be made available to correct deficits and meet the needs of rapidly expanding enrollment. Where appropriate, creative funding mechanisms such as user fees, partnerships and joint development agreements are identified. The funding of capital improvements is one of the most critical outcomes of the planning process. The implementation of this Master Plan is contingent upon the identification, application and efficient use of State University System (SUS) monies, FIU funds and collected revenues, public partnerships and initiatives, and private investments.

The majority of capital improvements required by FIU 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 SUS-eligible capital improvements for Years 2010-2020. 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 may be funding and phasing complexities that evolve annually from the implementation of this plan. As a result, the Master Plan and its effectiveness can only be ensured by continually monitoring and updating this element. These updates should occur on an annual basis.

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

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

Objective 1.1 Maintain a Prioritized Schedule of Capital Improvements:
Implement a schedule of capital improvements that coordinates 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 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 clearly documents the ability to accommodate all projected campus

development requirements through 2020, consistent with the maintenance of host community levels of service.

Policy 1.1.2 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 Ensure that the Capital Improvement Program 5-year project priority list remains consistent with the Master Plan. Integrate subsequent plan revisions with applicable campus development and joint use agreements

Policy 1.1.4 Limit Capital Improvement Program modifications to those that improve the efficiency, timeliness and cost effectiveness of improvements to infrastructure, parking, site development and landscaping. Amend the Campus Master Plan to incorporate any revisions to the Capital Improvement Program that meet established projections and criteria.

Policy 1.1.5 Apply and prioritize Capital Improvement Program procedures to make full use of "infill" areas where utility, parking and related infrastructure services are in place.

Policy 1.1.6 Include provisions for the adoption of a capital budget in the annual budgeting process. Review budgets to ensure consistency with campus development agreements.

**Objective 1.2 Provide Adequate Resources:
Secure resources sufficient to manage the expansion and improvement process. Balance funding strategies so that facility needs do not exceed university resources. Avoid additional deficits.**

Policy 1.2.1 Prepare CIP-3 Forms and CIP line item funding requests targeted to infrastructure, parking and site (landscape) improvements development 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 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; auxiliary revenues such as student capital improvement fees for academic support; and necessary infrastructure and service facilities.

**Objective 1.3 Address Deficiencies, Deficits and Future Growth:
Construct capital facilities to correct existing facility deficiencies; accommodate desired future growth; and replace worn-out or obsolete facilities by the end of 2020.**

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 2020 replace all inadequate, obsolete and potentially unsafe structures including:

- Trailers and portable classrooms.
- Pre-university airport support structures (except the Control Tower) that have not been upgraded to comply with current code.

Policy 1.3.4

Include estimates of proportional costs for all related ancillary site improvements which will be necessitated by specific buildings or aggregations of facilities to ensure that future capital budgeting accurately reflects anticipated total development costs, future facility cost estimates. Including:

- Utility extensions
- Site modifications (including mitigation costs)
- Parking
- Pedestrian and vehicular circulation, landscaping, paving and site furnishings.
- Signage and Lighting

Size all future facilities to support anticipated future capacity requirements.

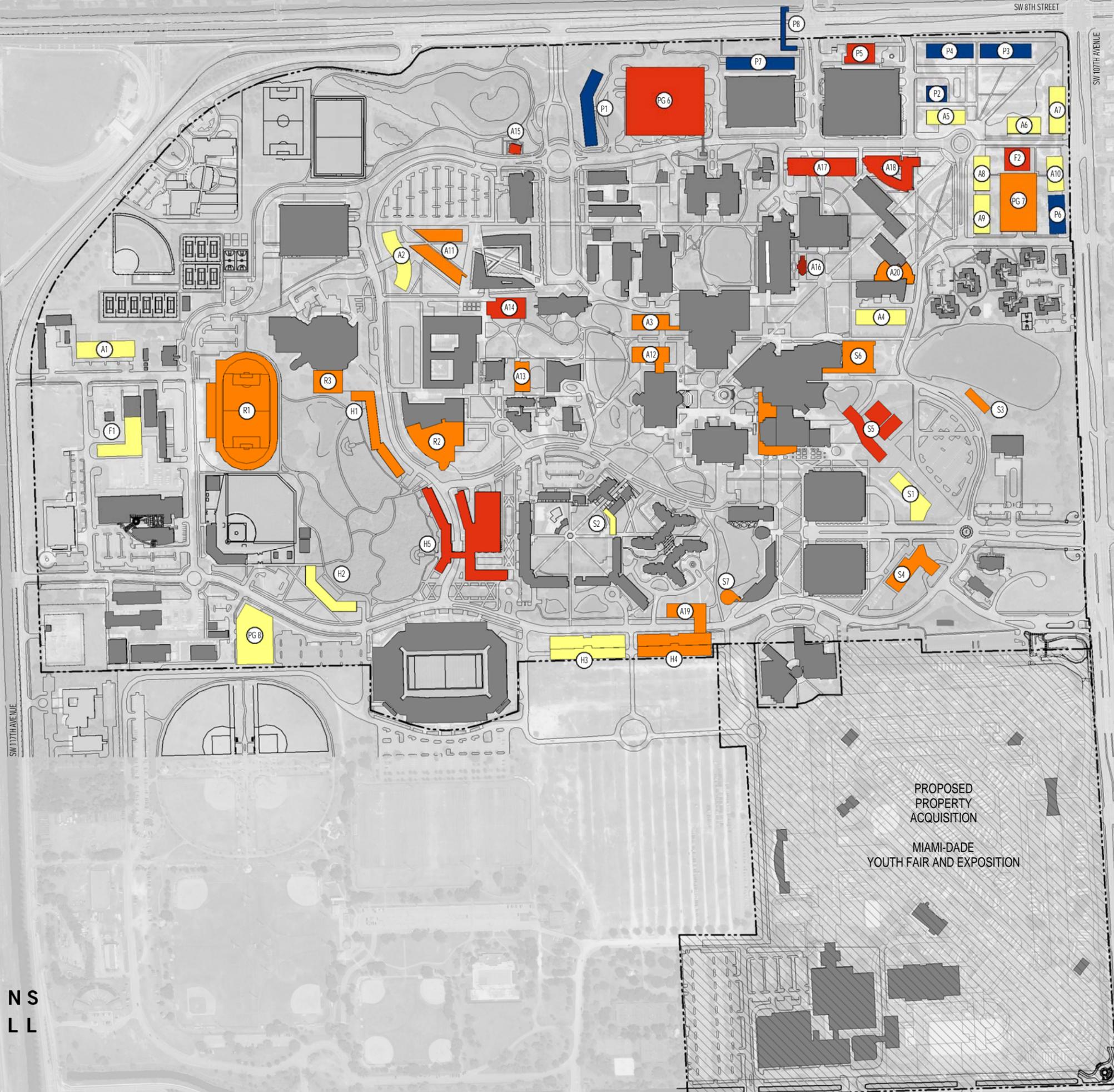
Table 14.1 Florida International University Capital Improvement Plan (2010-2020)

Program Element Description	Use	Sub-Total Area GSF	Total Area GSF	Cost	Projected Year of Completion
MODESTO A. MAIDIQUE CAMPUS / THE ENGINEERING CENTER					
Facilities Infrastructure / Capital Renewal			N/A	\$105,130,000	2010-2020
A16. Stocker AstroScience Center	Academic		10,233	\$2,829,523	2013
A17. Science Classroom Complex	Academic		136,076	\$42,860,899	2013
F2. Central Utilities	Support		13,200	\$5,148,228	2013
H5. Parkview Housing I	Housing (620 Beds)		252,042	\$45,873,528	2013
A14. MANGO	Academic		107,912	\$26,777,883	2014
A18. Academic Health Center 5	Academic		121,465	\$32,192,339	2014
P5. Ambulatory Care Center	Partnership		40,455	\$6,600,000	2014
A15. Solar House	Academic		3,000	TBD	2015
PG6. Parking Garage 6 / Transit Hub	Parking (1,500 Stalls)		779,815	\$35,407,356	2015
S5. Student Academic Support Center	Support		132,829	TBD	2015
A3. Library / Study Addition	Academic	88,608	103,376	TBD	2015
	Support	14,768			
A11. Academic 11	Academic		89,312	\$28,573,037	2015
H1. Parkview Housing II	Housing (960 Beds)	360,000	385,300	TBD	2015
	Support	25,300			
P8. Sweetwater Pedestrian Bridge	Partnership		NA	TBD	2015
S4. Alumni Center	Support		47,250	TBD	2015
S6. Graham Center Addition	Support		174,260	TBD	2015
A1. Engineering Building-EC	Academic		52,700	TBD	2016
A2. Research Field-EC	Academic		N/A	TBD	2016
A12. Social Studies / Humanities	Academic	95,927	111,915	TBD	2016
	Support	15,667			
A13. SIPA II	Academic		57,085	\$16,222,310	2016
A19. Honors College	Academic	78,500	94,210	\$19,846,030	2016
	Support	15,710			
A20. Academic Health Center Library Addition	Academic	34,580		TBD	2016
H4. Honors College Housing	Housing (350 Beds)	113,750	137,375	TBD	2016
	Support	23,625			
R1. Track and Field	Recreation		25,225	TBD	2016
R2. Recreation Center Addition	Recreation		83,310	TBD	2016
R3. Training Facility Addition	Recreation		35,200	TBD	2016
S7. Frost Museum Addition	Support		20,252	TBD	2017
PG7. Facility Support	Parking (690 Stalls)		307,685	TBD	2020
S3. Chapel / President's Park Pavilion	Support		5,500	TBD	2020
A1. Academic 1	Academic	139,142	162,342	TBD	2020+
	Support	23,200			
A2. Academic 2	Academic	125,656	162,342	TBD	2020+
A4. Academic 4	Academic	111,096	129,596	TBD	2020+
	Support	18,500			
A5. Academic 5	Academic	80,237	93,637	TBD	2020+
	Support	13,400			
A6. Academic 6	Academic	79,200	92,650	TBD	2020+
	Support	13,450			
A7. Academic 7	Academic	110,400	128,800	TBD	2020+
	Support	18,400			
A8. Academic 8	Academic	81,600	95,250	TBD	2020+
	Support	13,650			

Table 14.1 Florida International University Capital Improvement Plan (2010-2020)

continued

Program Element Description	Use	Sub-Total Area GSF	Total Area GSF	Cost	Projected Year of Completion
A9. Academic 9	Academic	91,200	106,400	TBD	2020+
	Support	15,200			
A10. Academic 10	Academic	81,600	95,250	TBD	2020+
	Support	13,650			
F1. Facilities 1	Support		47,640	\$637	2020+
H2. Greek Housing	Housing (330 Beds)	107,352	125,244	TBD	2020+
	Support	17,892			
H3. Main Street Housing	Housing (420 Beds)	157,500	179,700	TBD	2020+
	Support	22,200			
P1. Hotel	Partnership	133,150	133,150	TBD	2020+
P2. Medical Arts Pavilion 4	Partnership		15,683	TBD	2020+
P3. Medical Arts Pavilion 2	Partnership		105,000	TBD	2020+
P4. Medical Arts Pavilion 3	Partnership		96,600	TBD	2020+
P6. Medical Arts Pavilion 1	Partnership		14,100	TBD	2020+
P7. Partnership	Partnership		141,216	TBD	2020+
PG8. Facility Support	Parking (535 Stalls)	237,845	285,415	TBD	2020+
	Support	47,570			
R1. Recreation Fields-EC	Recreation		N/A	TBD	2020+
S1. First Floor Infill / Renovation-EC	Support		41,600	TBD	2020+
S1. Support 1	Support		78,091	TBD	2020+
S2. Support 2	Support		15,416	TBD	2020+
MODESTO A. MAIDIQUE CAMPUS / THE ENGINEERING CENTER		TOTAL	5,525,795	\$367,461,770	
BISCAYNE BAY CAMPUS					
A3. SEAS Expansion	Academic		126,600	\$17,913,505	2015
H1. Student Housing	Housing (725 Beds)	308,100	340,350	TBD	2015
	Support	32,250			
R1. Dock	Partnership		N/A	TBD	2015
A1. Graduate Hospitality	Academic		37,956	TBD	2017
A2. Media Innovation Center	Academic	71,640	90,215	TBD	2018
	Support	18,575			
R2. Multi - Purpose Fields / Tennis & Basketball Courts	Recreation		N/A	TBD	2020
F1. Facility Support	Support		12,100	TBD	2020
R3. Ropes Course	Recreation		N/A	TBD	2020
A4. Environmental Communications	Academic	42,900	53,694	TBD	2020+
	Support	10,794			
P1. RCCL Housing	Partnership		190,524	TBD	2020+
P2. RCCL Training Facility	Partnership		100,900	TBD	2020+
P3. Magnet School	Partnership		222,084	TBD	2020+
P4. Academic Health Center	Partnership		177,600	TBD	2020+
P5. Wildlife Center	Partnership		22,736	TBD	2020+
PG1. Academic Health Center Parking Garage	Partnership (353 Stalls)		105,900	TBD	2020+
P6. Multi-Purpose Academic Building	Partnership		100,400	TBD	2020+
P7. Hotel	Partnership		98,300	TBD	2020+
P8. Academic Health Center Housing	Partnership		66,500	TBD	2020+
BISCAYNE BAY CAMPUS		TOTAL	1,480,659	\$17,913,505	
		GRAND TOTAL	7,006,454	\$385,375,275	



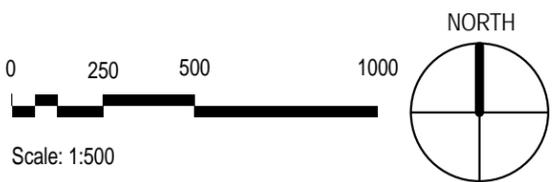
KEY

- | | |
|--|-------------------------------------|
| A1. ACADEMIC 1 | P1. HOTEL |
| A2. ACADEMIC 2 | P2. MEDICAL ARTS PAVILION 4 |
| A3. LIBRARY / STUDY ADDITION | P3. MEDICAL ARTS PAVILION 2 |
| A4. ACADEMIC 4 | P4. MEDICAL ARTS PAVILION 3 |
| A5. ACADEMIC 5 | P5. AMBULATORY CARE CENTER |
| A6. ACADEMIC 6 | P6. MEDICAL ARTS PAVILION 1 |
| A7. ACADEMIC 7 | P7. PARTNERSHIP |
| A8. ACADEMIC 8 | P8. SWEETWATER PEDESTRIAN BRIDGE |
| A9. ACADEMIC 9 | PG6. PARKING GARAGE 6 / TRANSIT HUB |
| A10. ACADEMIC 10 | PG7. FACILITY SUPPORT |
| A11. ACADEMIC 11 | PG8. FACILITY SUPPORT |
| A12. SOCIAL STUDIES / HUMANITIES | R1. TRACK AND FIELD |
| A13. SIPA II | R2. REC CENTER ADDITION |
| A14. MANGO | R3. TRAINING FACILITY ADDITION |
| A15. SOLAR HOUSE | S1. SUPPORT 1 |
| A16. STOCKER ASTROSCIENCE | S2. SUPPORT 2 |
| A17. SCIENCE CLASSROOM COMPLEX | S3. PRESIDENT'S PARK PAVILION |
| A18. ACADEMIC HEALTH CENTER 5 | S4. ALUMNI CENTER |
| A19. HONORS COLLEGE | S5. STUDENT ACADEMIC SUPPORT CENTER |
| A20. ACADEMIC HEALTH CENTER LIBRARY ADDITION | S6. GRAHAM CENTER ADDITION |
| F1. FACILITIES 1 | S7. FROST MUSEUM ADDITION |
| F2. CENTRAL UTILITIES | |
| H1. PARKVIEW HOUSING II | |
| H2. GREEK HOUSING | |
| H3. MAIN STREET HOUSING | |
| H4. HONORS COLLEGE HOUSING | |
| H5. PARKVIEW HOUSING I | |

LEGEND

- PRESENT -2015
- 2015-2020
- 2020
- PARTNERSHIPS
- PROPOSED / EXISTING BUILDING

**ELEMENT 14.1: CAPITAL IMPROVEMENTS
MODESTO A. MAIDIQUE CAMPUS**





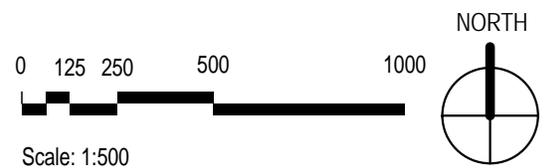
KEY

- A1. ENGINEERING BUILDING
- A2. RESEARCH FIELD
- R1. RECREATION FIELDS
- S1. FIRST FLOOR INFILL / RENOVATION

LEGEND

- PRESENT -2015
- 2015-2020
- 2020
- PARTNERSHIPS
- PROPOSED / EXISTING BUILDING

**ELEMENT 14.2: CAPITAL IMPROVEMENTS
ENGINEERING CENTER**



BAVISTA BOULEVARD

KEY

- A1. GRADUATE HOSPITALITY
- A2. MEDIA INNOVATION CENTER
- A3. SEAS EXPANSION
- A4. ENVIRONMENTAL COMMUNICATIONS
- F1. FACILITY SUPPORT
- H1. STUDENT HOUSING
- P1. RCCL HOUSING
- P2. RCCL TRAINING FACILITY
- P3. MAGNET SCHOOL
- P4. ACADEMIC HEALTH CENTER
- P5. WILDLIFE CENTER
- P6. MULTI-PURPOSE ACADEMIC BUILDING
- P7. HOTEL
- P8. ACADEMIC HEALTH CENTER HOUSING
- PG1. ACADEMIC HEALTH CENTER GARAGE
- R1. DOCK
- R2. MULTI-PURPOSE FIELDS / TENNIS & BASKETBALL COURTS
- R3. ROPES COURSE

LEGEND

- PRESENT -2015
- 2015-2020
- 2020
- PARTNERSHIPS
- PROPOSED / EXISTING BUILDING

**ELEMENT 14.3 CAPITAL IMPROVEMENTS
BISCAYNE BAY CAMPUS**



15.0 ARCHITECTURE DESIGN ELEMENT

Florida International University (FIU) aspires to create contextual and sustainable buildings that represent the institution's guiding principles and vision for an innovative, diverse, learning community serving locally and globally.

The character and identity of all buildings shall represent FIU's commitment to student life, formal and informal learning, promoting collaboration, integration and multidisciplinary education.

These guidelines will help identify the characteristics, drivers or goals that buildings must achieve in their particular location. These will bring a more cohesive fabric of buildings and spaces that in time will develop very iconic and recognizable context, particular and singular to Florida International University.

Each Campus should continue to reinforce their brand and vision utilizing these guidelines as the framework to successfully create strategies for growth, efficiency, performance and student life enhancement.

These guidelines follow the understanding that buildings significantly contribute to the experience of the public realm. Buildings, with the appropriate guidelines of the setbacks, scale, massing, connectivity and ground floor planning, can and should enhance the overall Universities' character and quality of student life in its various campus zones, making this experience memorable and uniquely FIU.

The five comprehensive goals that inform the Architecture Design Element at FIU:

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

15.1 PROJECT RESPONSIBILITY CHECKLIST

Process, Principles and Goals

The new Design Guidelines are a result of an extensive coordination process with the university leadership, various focus groups and Facilities Management to assure all components on the Master plan are working together and the guidelines are utilized to reinforce every single one of them.

A project responsibility checklist should be utilized at the beginning of each project issued by the FIU project team as a tool to assure an equal process for quality control and guidelines compliance. The design team shall use this checklist to assist in assuring FIU, all criteria is met during the development and construction process.

The responsibility checklist is intended to assist design teams and FIU Project Managers in developing a consistent approach to all phases of the project and adherence to Master plan and Architectural Guidelines, this to be used in partnership with the established process outline by the FIU Building standards and contractual agreements.

Checklist items:

- Review and establish Programmatic, Budgetary and Master Planning parameters.
- Coordinate schedule of reviews and approval process for the project.
- Establish Sustainable Design expectations within budget.
- Coordinate parking, infrastructure impact or any other aspect of overall campus impact due to the scope assigned to project.
- Establish and Coordinate BIM implementation plan
- Create, review, and approve project directory, communication protocol and responsibility matrix.
- Hold a visioning session with key stakeholders and establish all project drivers and design principles.
- Establish proper siting strategies
- Establish Sustainable Design charrette goals and expectations
- Establish program stacking and massing early on.
- Develop all envelope strategies for sun mitigation, heat gain, and materiality
- Analyze and develop strategies in coordination with Landscape Guidelines
- All Urban design Guidelines must be coordinated and met, such as setbacks, scale criteria and public space definition
- All program elements and their infrastructure requirements must be defined and coordinated with all disciplines.
- Energy Model and day lighting analysis must accompany all phases and validated with data and metrics even after completion.
- All phase documentation requirements must be met to assure overall phase alignment with project goals and drivers.

- Presentation, review and approvals are required as a part of the Design Review Process.
- Presentation, review and approval to President are required.
- End user review and approval must be achieved thru Steering committee guidance and coordination.
- All sustainable Design Guidelines must be consistently measured during all phases.
- Update Program criteria on all phases
- Update Budget cost model on all phases
- Provide samples of all materials
- Three dimensional massing and envelope details will be required to validate energy modeling, budget and maintenance.
- Interior and exterior material board must be presented to the steering committee prior to the President Presentation.
- All program areas must be developed with layout details, systems strategies in order to validate functionality and efficiency of the planning criteria.
- Site must be fully developed to ensure there are no conflicts with existing conditions.

15.2 SUSTAINABLE DESIGN GUIDELINES

It is the intent of these guidelines to establish that FIU's expectations is to build in an environmentally responsible manner which is sensitive to geography, sensitive to energy and resource consumption as well as supporting regional resources and strong local relationships.

These guidelines are aimed to establish direction for a successful outcome of new Buildings.

All buildings at FIU campuses will be required to follow the USGBC guidelines for a minimum LEED level of Silver certification. The criteria outline by the USGBC score card should be utilized and monitored at every phase of project.

All buildings must also meet basic Energy Star criteria and must comply with all the FIU building standards regarding Master plan infrastructure strategies and overall sustainable Campus practices.

The FIU sustainable office must review and comment during all phases of the project to Assure campus wide best practices are being taken into account.

All new buildings must meet all FIU building standard criteria that refers to hurricane preparedness assuring all building systems, envelop and infrastructure strategies are not in conflict or will enhance sustainable criteria, such as with storm water management, and overall water collection systems, day lighting, power redundancies, envelop materials and design.

The following drivers should be taken into consideration:

- Set goals and benchmarks for each building aligned with budget.
- Conduct site survey and evaluation of existing conditions
- Analyze various methods of meeting goals and benchmarks and use results to make decisions.
- This analysis should be repeated during all phases to further refine and validate decisions.
- Expected outcome must be reviewed and monitored during construction.
- This outcome should be measured to determine success and establish benchmarks or lessons learned for future projects.

15.3 INTEGRATED DESIGN PROCESS

The design process of each new Building must be coordinated with all the criteria outlined within the Urban Design Guidelines, Landscape Guidelines, FIU Building Standards, the Office of Sustainability and all applicable Codes and State regulations.

All these must be equally integrated into the design with a particular emphasis on creating a process of collaboration and dialogue amongst all project leadership, participants, design team and FIU leadership.

A clear and precise process must be outlined by the design team prior to commencing the design of new buildings. Workshops, focus groups and presentations must be integrated to the review process required by FIU and its committees.

This process will allow for designs to emerge as a consolidated result of consensus building, integration of all disciplines, and coordination of all Master plan guidelines.

The following process activities should be achieved:

- Project kick off meeting where all team members are introduced, protocol of communication, schedule and budget and project specific expected goals are discussed.
- Programming program verification workshop should be part of initial responsibilities, to align budget and scope.
- Visioning Session with all disciplines and FIU selected steering committee should establish early on all project drivers, expectations and special requirements.
- Sustainable Design Charrette should be done to initiate project during Pre-Schematic design phase. Lessons learned and overall campus criteria should be shared by the University with the Design team, in conjunction with a Life-Cycle Cost analysis.
- Each phase should carry a minimum of two workshops, to present initial development and to present adjustments based on comments and previous

workshop outcomes.

- All disciplines are required to present development at all phases.
- During all phases the cost model and value management of budget should be discussed, reviewed and validated. Process and participants will depend on the deliver method.

15.4 Design Review Process

The Design Review Process is managed by Facilities Management and serves to ensure that all projects comply with the Master Plan guidelines. It is coordinated with the President, the Director of Facilities, and the Office of Development.

Three main stages will regulate the approvals:

- Conceptual Design Approval

This stage will carry the overall purpose to assure all main Master plan guidelines are being followed, as well as programmatic, budget and technical requirements are being considered and successful implanted within an innovative contextual design.

- Design Development Approval

This stage will required all complete documentation of the design with overall site plan, elevations, plans, sections and all necessary renderings to successful showcase all design elements important to the overall program and budget. Architectural and Engineering technical drawings will not be required but utilized if necessary to explain concepts or solutions. Landscape drawings and overall campus location and surroundings must be fully developed and at this stage will receive final approval.

- Final Project Approval

This stage will require a final review of the project. All necessary documentation to explain, validate or clarify any previously received comments or action items will be required. All previously issued comments must have been addressed and documented properly approvals. Any pertinent approvals, external or internal, must have been met prior to this stage.

Each of these stages will carry specific requirements and the design team will be responsible to formally present at all stages.

The material will be reviewed and evaluated during the presentation with comments and action items issued to the team in writing after each review.

15.5 ARCHITECTURAL GUIDELINES

15.5.1 Architectural Characteristics

The Architectural language of the various campuses has developed thru the years with a diversity of characteristics, allowing for individuality and flexibility of expression to create a vibrant and plural fabric. The Master plan continues to celebrate the diversity of spaces, buildings and general atmosphere, but establishes very clear guidelines to bring more commonality to specific campus spaces, avenues or edges.

While encouraging diversity and creativity each Campus must establish a coherent architectural vocabulary that while achieving contemporary innovation and character, establishes an overriding architectural character linking individual buildings.

This practice will assure a strong building context that should strive always to inform, define, enhance and re-enforce student life, healthy and welcoming public spaces as well as pedestrian connectivity. Maintaining consistency of this context will allow for each campus to develop singular and recognizable brands.

There various potential approaches to the architectural character of the three campuses; Traditional, Non-traditional but Contextual and a Design responsive to Contemporary Concerns or of Singular Character such as specialty buildings or Structures.

A Traditional Design would be necessary if in relation to an existing building but must focus on its response not on imitation but on relationships of scale, proportions, formal elements, materials or colors.

The Non-Traditional but Contextual Approach is one that will allow to be more responsive to the adjacent context without direct referencing. This approach is the most suitable for most campuses since it focuses on strategies that will bring continuity and re-enforces a sense of connectedness among different structures and building types.

A Design responsive to Contemporary Concerns or of Singular Character may suggest the Potential to allow a design based on innovation, clarity or specificity of program, transparency or relationship to outdoor environments, sustainability and the integration of Art. In this approach, a rich vocabulary can emerge that responds to the needs of South Florida such as large expanses of glass, green roofs, overhands, sunshades, new building technology and materials.

FIU has a strong legacy of the integration of Art in its' Campus and Buildings. This is one of the most important characteristics to retain and re-enforce on all new buildings. Incorporating art into the fabric of the campus as well as allowing for exterior spaces to work in partnership with interior spaces, creating potential outdoor learning experiences will create a strong sense of community.

In summary, these guidelines contemplate a place for both singular and contextual

buildings, with an overriding architectural character of all campuses to be based on a response to contemporary concerns, with a focus on activity and functionality, transparency, sustainability, art and people.

15.5.2 Framework Elements:

Materials

Exterior:

Materials used in all new construction should respond to the adjacent context, follow any criteria outline in the building standards for both exterior and interior. They must support permanence and integration while allowing for efficiencies in maintenance and repair. Precast is a required primary material in all new buildings. Furthermore, the guidelines are specific about a light colored precast that will allow for heat reduction of building envelop. Variation of colors may be considered as part of the building design, but are encourage to follow more neutral contextual colors in order to reinforce the continuity of the campus fabric.

Metal panels are allowed but are discourage near public or pedestrian accessible areas in order to prevent scratching or staining from irrigation and service zones.

Proper research and specifications must be presented when utilizing new materials. Glazing must be high performance, non-reflective, and low-e coated glass. Ceramic frit, shadow boxes as well as spandrel glass is accepted when necessary. Reflective glass or tinted glass is not allowed and all assemblies and mullion finished should follow the criteria of the building standards.

Silver color powder coating is encouraged. Any material that helps reduce heat gain to the envelope of the building is highly encouraged, such as reflective metals or light colored components.

Natural materials, mainly from the region, are highly encouraged as long as they can be easily maintained and are not endangered.

Incorporating Art at ground levels is highly encouraged, as well as durable tactile materials that can enhance the pedestrian experience.

Interior:

Interior materials are outlined in the Building Standards, but both interior and exterior should work in harmony to follow sustainable criteria and develop constant language on all building experiences.

Materials should be kept light and transparent to enhance day lighting and visual

connectivity on all areas when possible. This transparency will enhance collaboration, social interaction and passive safety measures while elevating the efficiency of energy consumption, by diminishing the use of interior lights.

Scale

All buildings must comply with the Urban Design Guidelines according to zones, spaces, axis, avenues or edges.

While most of the buildings are encouraged to keep an average of 6 stories, taller buildings are allowed in certain areas such as campus edges or main campus quads and avenues.

Unless otherwise noted on the Guidelines all buildings are to minimize their footprint, comply with the setbacks required and allow for light and breezes to be maintained or enhance at adjacent public spaces

Massing must be developed to ensure proper building performance and efficiencies of scale.

Transparency and Connectivity

The guidelines encourage maximum transparency as appropriate, based on program, solar orientation, and function.

All glazing must be studied and energy modeling must be part of the Schematic Design Phase. This analysis must be validated at all phases to ensure the proper balance between day lighting and energy efficiency. Refer to materials for proper Glazing Guidelines.

All new buildings must enhance connectivity, utilizing three main strategies:

- Incorporation of covered walkways within their footprint.
- Creating detached covered walkways to adjacent buildings.
- Allowing for pedestrian connectivity thru the ground level of the building thru breezeways, canopies or building overhangs.

Siting and Context

All new buildings must respond to their context thru proper alignment with existing building massing, while following the criteria of setbacks set forth within the urban design guidelines. However, all new buildings must be carefully studied for solar orientation, wind patterns pedestrian circulation, vehicular circulation, emergency and service vehicle access, impact on utility corridors, and master plan regulating lines.

Buildings must follow the siting criteria within depending to their location such as with courtyards, plazas, campus axis, main avenues, pedestrian corridors, quads, Campus edges, and Special purpose .

Building Performance and Hardening

The guidelines highly encourage for early analysis of building performance to assist in the design process. This will help understand and inform siting, scale, materials and energy efficiencies.

The guidelines encourage a minimum of 25% reduction of energy consumptions based on ASHRAE standards as well as a maximization of water re-use strategies on site.

It is encouraged to look into potential capturing of water condensation as well as rain water, into cisterns that can supply the building and it's irrigation during normal operations peaks as well as help on emergency conditions such as hurricanes or water shortages.

All new buildings must follow FIU's Hurricane Preparedness Standards and all County, City and State regulations.

Way finding, Branding and Signage

Each building must carry a strong Way finding strategy internally and externally, while following Campus standards for internal and external signage.

Branding is highly encourage since, together with Way finding, it will help re-enforce FIU's identity and brand on all campuses.

While these guidelines highly encourage these characteristics, it is also important to make sure that they are in balance and harmony with the Building design, this in order to create environments that flow from building to building without competing with each other on color, location, scale of brand or signage.

Together with the University's Building Standards, these criteria must be in concert with adjacent buildings and overall Branding strategies of FIU.

16.0 LANDSCAPE DESIGN GUIDELINES ELEMENT

The purpose of the Landscape Design Guidelines is to provide the campuses of Florida International University with a framework for landscape and hardscape treatments in order to maintain a high level of design quality to new spaces and to the enhancement of existing landscaped areas. It is the intent of the Landscape Design Guideline Element to provide an overall landscape framework, which unifies each campus with its distinct built and natural environment.

A defined hierarchy of spaces has been identified and main circulation routes should be reinforced with identifiable landscape treatments. Significant pedestrian corridors should continue link the academic cores within the campus. As the overall character of the FIU campus continues to mature, various spaces will be defined following these guiding principles:

- Integrate architectural, site design and infrastructure improvements 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 buildings and infrastructure improvements.
- 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 primary axes and regulating lines.
- Blend new development sites with the character of the mature campus landscape and natural areas. Retain islands of vegetation in new development areas and/or creating new and similar vegetative that seamlessly integrates buildings and site facilities into the surrounding context.
- Maintain a selective palette of indigenous and site-adaptive plant species that express the subtropical environment configured to promote Xeriscape and principles and Florida appropriate design.

16.0 LANDSCAPE DESIGN GUIDELINES ELEMENT

GOAL: Create high quality, environmentally sound campus landscape settings which afford outdoor comfort, security, and a rich visual quality. Express the uniqueness and diversity of South Florida's subtropical environments while creating a unifying character that binds the campuses together (Figure 16.1).

Objective 1.1 Implement the Landscape Framework for the Modesto A. Maidique Campus, Engineering Center and Biscayne Bay Campus.

In the event that provisions contained in the Landscape Framework conflict with provisions contained in the adopted Campus Master Plan then the Master Plan shall prevail and control.

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Policy 1.1.1 Reinforce the critical elements of the spatial organization defined in the Master Plan for a consistent landscape character as outlined in the Landscape Framework. The framework is developed as a guide to further define the character of spaces, streets, and edges within the campuses. The Landscape Framework is not intended to be a typical design solution for each area, but a set of standard principles of how a space shall be developed, enhanced and maintained so that it remains in context with the overall campus.

Policy 1.1.2 Locate and orient all future buildings to define the open spaces depicted in the adopted Urban Design Plan.

Policy 1.1.3 Incorporate Art exhibits as an element unique to FIU. Create an inventory of all University installations on-campus and define the parameters for future locations of new art projects on-campus.

Policy 1.1.4 Provide a continuous tree canopy (as appropriate) in all remaining surface parking lots and sufficiently screen all surface parking areas without compromising security.

Policy 1.1.5 Prior to construction, relocate and incorporate existing valuable plant material in the areas of future construction and development.

Policy 1.1.6 Emergency access facilities shall be kept clear of any impeding landscape elements.

- Policy 1.1.7 Screen all trash collection facilities from pedestrian or vehicular traffic view with either a fence or wall consistent with architectural guidelines and/or evergreen plant material.
- Policy 1.1.8 Screen maintenance facilities from pedestrian and vehicular traffic with a fence, wall, or evergreen plant material.
- Policy 1.1.9 Incorporate within the general campus landscape area, gardens and natural habitats as an opportunity for botanical and environmental education and as campus amenities.
- Policy 1.1.10 Improve the integration of existing and new storm water retention areas as landscape enhancement elements.

Objective 1.2 Develop, enhance and preserve existing and proposed Regulating Axes on campus. Place future buildings and landscape features to preserve and reinforce the significance of each visual and pedestrian corridor's significance.

UNIVERSITY WIDE

- Policy 1.2.1 Avenues provide circulation, wayfinding and branding opportunities. For many pedestrians, these paths provide the image of the campus. The main path should generally be uninterrupted by buildings or landscape materials. The path should be a minimum for 15 ft. in width. Hardscape materials should vary from the Campus Standards elevating the specialty of the path. Canopy trees and / or palms should be used in a consistent pattern to provide shade to pedestrians and further define the avenue. Understory materials should be intentionally low to define the limits of the avenue and preserve visibility. Avenues may incorporate people spaces, areas for small gatherings along the edges of the path (Figure 16.2-16.7).

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- Policy 1.2.2 Avenue of the Sciences:
Implement a minimum 15 ft. wide sidewalk with enhanced hardscape material beyond the limits of the Foundation Court. Use canopy trees on both sides of the walk to provide shade. The use of low understory plantings should reinforce the limits of the axis while maintaining clear sightlines. Include opportunities for seating along the edges of the path. Utilize the Campus Standards for lighting, site furniture and materials.

Policy 1.2.3

Avenue of Professions:

The Avenue of the Professions has two distinct characters.

- West of Green Library: Implement a minimum 15 ft. wide sidewalk with enhanced hardscape material. The sidewalk alignment should meander to mimic the informal nature of the Central Quad as well as provide direct routes to primary building entrances and pedestrian access points to allow efficient pedestrian circulation between distant points.
- The use of canopy trees to shade the sidewalk should blend within the composition of the quad. As an element within the central quad, utilize the Campus Standard for lighting, site furniture and materials.
- East of Green Library: Implement a minimum 15 ft. wide sidewalk with enhanced hardscape material. The sidewalk alignment should be direct, connecting the Library to SW 107th Avenue. Use palm trees on both sides of the walk to provide shade and emphasize the ceremonial and wayfinding nature of the axis. The use of low understory plantings should reinforce the limits of the axis while maintaining clear sightlines. Include opportunities for seating along the edge of the path. Utilize the Campus Standards for lighting, site furniture and materials.

Policy 1.2.4

Avenue of the Students:

Implement a minimum 15 ft. wide sidewalk with enhanced hardscape material. Use canopy trees on both sides of the walk to provide shade. Utilize the Campus Standards for lighting, site furniture and materials.

Policy 1.2.5

Avenue of the Arts:

Sculptures are the emphasis of the axis. Recent canopy tree plantings will provide shade for the sidewalk. Maintain existing minimal landscape character.

Objective 1.3

Enhance the existing and proposed Campus Spaces to better define a consistent character across the three campuses.

Campus spaces are the binding element of the campus, defining where future buildings should be located, how those buildings should engage the campus, how pedestrians move through the campus and preserving valuable open space. There are four types of Campus Spaces: Quads, Courtyards, Promenades, and Plazas.

Quadrangles

A quadrangle is an open space usually square or rectangular in plan, the sides of which are entirely or mainly defined by buildings and reinforced by the landscape design (Figure 16.8). The single most important aspect of a quadrangle is clear spatial definition. The specific qualities of each quad vary with size, purpose and context but all are primarily informal spaces, characterized by open usable green space for social gatherings, art placement, and opportunities for teaching with a combination of shade trees planted in asymmetrical groups balanced with large areas of lawn and paths configured to provide direct pedestrian access to key buildings and spaces beyond.

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Quad M1_Foundation Court

The historic center of the campus, Foundation Court is the central outdoor gathering space for the campus. As part of the Avenue of the Sciences, providing a clear, legible directional connection from the southwest corner to the northeast corner of the space is critical. While providing shade through the majority of the space helps to energize the space, significant areas provide little tree cover. This leads to areas that are void of activity. Recent renovations have utilized materials that are inconsistent with that of the campus. A comprehensive renovation of the space should look at the entire quad as a singular space rather than several elements divorced from one another. Educational signage should be incorporated to provide a history of the space and its significance to FIU. Utilize the Campus Standards for lighting, site furniture and materials.

Quad M2_Green Library Quad

It is critical to improve the Avenue of the Students along the northern edge of the space as well as creating a continuous pedestrian linkage along the eastern edge of the quad (Figure 16.9). The quad has an existing palm collection used for teaching and research. Educational signage should be incorporated. Utilize the Campus Standards for lighting, site furniture and materials.

Quad M3_Ryder Lawn

The open field character of the lawn with the formal plantings of palm trees creates a unique, ceremonial space on campus. The enhancement of the Avenue of the Students at the center of the quad should be enhanced to establish a defined pedestrian experience within the space. Utilize the Campus Standards for lighting, site furniture and materials.

Quad M4_Science Quad

A hierarchy of walkways should be established to emphasize the Avenue of the Sciences and Avenue of the Professions. The intersection of the Avenue of the Sciences and the north-south walkway between CP and the Graham Center provides a central gathering node within the quad. The node should incorporate architectural or landscape shading material. Utilize the Campus Standards for lighting, site furniture and materials.

Quad M5_Panther Village

The space has a symmetric character reinforced and well defined by the building facades and square shape of the quad (Figure 16.10). The diagonal walkway along the Avenue of the Sciences should be enhanced to with formal landscape treatment create a hierarchy within the space as well as a connection to the academic core of the campus. Given the surrounding building use, minimal plantings is encouraged to maintain flexibility for resident activities. Utilize the Campus Standards for lighting, site furniture and materials.

Quad M6_Arts Quad

The visual connections from the SW 107th Avenue entrance and the Performing Arts Center should be maintained. Minimal planting is encouraged to preserve the north-south circulation movement as well as the visibility of the sculptures. The existing tree canopy needs to time establish (Figure 16.11).

Quad M7_Central Quad

Despite the pressure to infill the edges with new buildings, the existing character and plant materials of the quad should be preserved. The natural state of the space compliments the emerging architectural styles and is a truly unique space on campus. Thru the development of meandering walkways and informal plantings, the flowing character of the circulation and landscape shall be showcased and allow for flexibility of use, circulation and gatherings.

A key goal should be preserving the visual connection between the Rafael Diaz Ballart Hall and the Green Library as part of the Avenue of the Professions through the use of canopy trees and lawn.

Quad M8_Academic Health Sciences Quad

This space should be the most prominent on campus and have multifunctional characteristics. Future walkways on the eastern and western edges shall be wide to frame multidirectional paths that encourage a dynamic space. The west walkway should engage existing and proposed buildings with minimal landscape materials. Canopy trees should be strategically placed to both sides of the walkways to provide shade while maintaining flexibility within the lawn areas for gatherings and recreational needs.

Quad M9_FIU Quad

This space by virtue of its location should become the most iconic space on the campus when viewed from the surrounding communities. A diagonal walkway should be developed from the intersection to the core of the campus. The space shall balance between rigid and informal. Palm trees identify the Avenue of the Sciences and connects it with a large water body that provides needed stormwater infrastructure. The remaining portion of the quad should incorporate canopy trees with secondary circulation paths and lawn. Utilize the Campus Standards for lighting, site furniture and materials.

Quad M10_Parkview Quad (No comments)

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Quad B1_North Quad

Expanding the North Quad through the removal of surface parking will strengthen the importance of open space at BBC. The expanded portion of the quad should incorporate canopy trees with secondary circulation paths and lawn. Utilize the Campus Standards for lighting, site furniture and materials.

Quad B2_Academic Quad

With future buildings defining the western and southern edges of the space, landscape material should be used to provide comfortable areas for outdoor gatherings. The current plaza adjacent to Academic One and Two is not well configured for interaction. Additional shade structures should be incorporated into the space. The western edge of the quad shall incorporate canopy trees with

secondary circulation paths and lawn. Utilize the Campus Standards for lighting, site furniture and materials.

Courtyards

Courtyards are spaces between buildings but are more compact than quads (Figure 16.12). They offer either private or semi-private spaces providing immediately accessible opportunities for informal outdoor gathering, studying, teaching and collaborating. Courtyards are often tied to the program of the building. Courtyards are predominately hardscape places with landscape material along their edges or as a central focal point. The use of palms or flowering trees is encouraged to provide shade. The use of foundation plantings is encouraged to further define the limits of the space. Clear visibility from the surrounding buildings is critical. Hardscape materials and site furnishings should vary from the University Standards to compliment to the adjacent buildings materials. Moveable seating should be encouraged to allow flexibility in use.

Courtyard M11_Engineering & Computer Science – North (No comments)

Courtyard M12_Engineering & Computer Science – South (No comments)

Courtyard M13_Architecture (No Comments)

Courtyard M14_Education (No Comments)

The existing space is austere and uncomfortable (Figure 16.13). The incorporation of minimal landscape materials, including palm trees, would soften the space while providing some amount of shade.

Courtyard M15_Ballart Hall – North (No comments)

Courtyard M16_Ballart Hall – South (No comments, Figure 16.14)

Courtyard M17_CSC (No comments, Figure 16.15)

Courtyard M18_Business Complex (No comments)

Courtyard M19_Stempel (No comments)

Promenade

A promenade is a pathway for learning. It is a public place for walking that directly connects one point to another (Figure 16.16). More than just a wide sidewalk or trail, a promenade is of significant importance with differing hardscape materials and more formal canopy tree plantings. Promenades may define one edge or bisect a larger space. Promenades should have continuous areas shaded and protected from the rain by structures. Hardscape materials and site furnishings should vary from the University standards.

Promenade M20_Alumni Walk

The continuation of palms along the north facade of the Gold Parking Garage east will provide cohesiveness within the space (Figure 16.17). Preserving the existing canopy trees are critical to providing immediate shade. Additional canopy trees will provide shade within the space. While the space is predominately hardscape, large planting masses should be incorporated along the parking garage facades. Unique seating furniture should be incorporated for large gatherings and distinguish the space from the campus. Hardscape materials and site furnishings should vary from the University Standards.

Plaza

Plazas occur at points of entry or gateways to the campus, various districts and key buildings throughout the campus (Figure 16.18). The specific landscape qualities of each may vary but all will be primarily characterized by hardscape elements with canopy trees reinforcing the spatial geometry of the space. Plazas should incorporate significant spaces shaded by and protected from the rain by structures. Hardscape materials and site furnishings should vary from the University Standards. Moveable seating should be encouraged to allow flexibility in use.

ENGINEERING CENTER

Plaza E1_Engineering Plaza

A future plaza located at the vehicular entry from SW 107th Avenue entrance will provide a signature gateway to the campus. Walkways should define a strong pedestrian connection from the street to the existing academic building entry. Formal plantings of palm trees shall distinguish the space from its surrounding context. Comfortable pedestrian seating should be grouped together and under appropriate shelter. Utilize the Campus Standards for lighting, site furniture and materials.

BISCAYNE BAY CAMPUS

Plaza B3_ Academic Plaza

Continue to enhance the existing plaza with improved pavement materials, various shade structures and additional landscaping (Figure 16.19-16.20). The use of palms should be supplemented with canopy trees to provide additional shade. Comfortable pedestrian seating should be incorporated as part of the design strategy. Utilize the Campus Standards for lighting, site furniture and materials.

Policy 1.4

Enhance the existing and proposed Special Purpose Landscapes to provide for pedestrian connectivity, open space preservation and outdoor teaching and research environments.

Special Purpose Landscapes provide opportunities for teaching and research, passive and active recreation opportunities, gatherings or community engagement (Figure 16.21). The type of space is often determined by the landscape materials, structure and use. Areas may include a vast ground plane of lawn that promotes active and passive recreation. They might also include wetlands or woodlands that provide educational opportunities and stormwater infrastructure. Special landscape areas are generally larger spaces and their edges are not necessarily defined by buildings. Often they provide a picturesque, natural backdrop to the more urban texture of the campus

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Policy 1.4.1

Hennington Island

Incorporate a walking trail around the periphery of the area as part of a larger pedestrian circulation network that promotes health and wellness while increasing accessibility to and visibility of the space.

Policy 1.4.2

The Preserve

Incorporate a walking trail around the periphery of the area and a boardwalk within the Preserve as part of a larger pedestrian circulation network that promotes health and wellness while increasing accessibility to and visibility of the space (Figure 16.22). Utilize the Campus Standards lighting and site furniture materials

Policy 1.4.3

President's Garden

Create a direct connection across the existing lake to the emerging Academic Health Science District as a focal point within the campus.

Develop the area around the President's house as a formal garden that will allow for outdoor gatherings as well as a reflective space that buffers the adjacent commercial street corridor. Landscape material should balance a need for visibility to the campus and privacy for the residency through the use of canopy trees, large plant massings and lawn. Utilize the Campus Standards lighting and site furniture materials

Policy 1.4.4

Palm Collection

As identified as in the improvements for the Green Library Quad, complete a sidewalk and/or boardwalk path connection between the Green Library and the Owa Ehan along the east side of the space (Figure 16.23). Incorporate educational signage along the Avenue of the Students detailing the research study to date. Identify each palm species with tree identification tags.

Policy 1.4.5

The GreenWay

Create a pedestrian connection linking the Wertheim Performing Arts Center north to Hennington Island and west to the Preserve (Figure 16.24). The landscape should remain informal as the path weaves through various spaces within the campus. A wide sidewalk should reinforce the informal nature of the GreenWay (Figure 16.26). The incorporation of stormwater infrastructure and associated informal plantings should strengthen the limits of the space. Incorporate educational signage within the GreenWay documenting the various infrastructure approaches to stormwater.

BISCAYNE BAY CAMPUS

Policy 1.4.6

The GreenSpine

The mangrove stands provide an opportunity for teaching and research while reinforcing the sustainably imitative of the campus. Sidewalks shall be placed on both sides of the mangrove stands running north to south (Figure 16.27). The eastern sidewalk will define the edge of the space. A linear row of canopy trees should be planted to define the eastern edge of the spine. Outside of the mangrove stands, canopy trees should be placed randomly within the space to provide shade. Lawn should be the primary ground plane vegetation. Utilize the Campus Standards lighting and site furniture materials.

Policy 1.4.7

The BayWalk

The existing bike path should be the only pedestrian and vehicular hardscape along the water's edge (Figure 16.25). The understory should remain clear with the existing service trail remediated to match the surrounding ground plane. Canopy trees should be

located in groupings and sited to maximize views of the Bay while still providing shading opportunities for pedestrians. The ground plane should be predominately lawn with natural coastal plantings along the edges. Utilize the Campus Standards lighting and site furniture materials.

Objective 1.5 Develop a hierarchy of landscape treatment for Campus Streets

UNIVERSITY WIDE

Policy 1.5.1 Reinforce and improve the campus circulation hierarchy by developing distinct, identifiable landscape treatments for each road type, campus entrances and pedestrian/vehicular intersections (Figure 16.28).

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Policy 1.5.2 The GreenBelt (Primary loop road)
Establish a 'boulevard' treatment with Live Oaks as the dominate canopy tree (Figure 16.29 & 16.30). Canopy trees should be located on both sides of the road within an 11 ft. planting strip with lawn as the ground plane. Other hardwoods and palms are permissible at significant pedestrian and/or vehicular intersections. Existing hardwoods deemed in good condition should not be replaced. There are various land use characteristics that will define the design of the loop road. More urban development shall have a different character than areas reserved for open space. There are four different types of character proposed for the loop road:

1. Parkway / Typical – Minimum 6 ft. sidewalk to each side of the street, which is separated from the street with an 11 ft. planting strip. Predominantly lawn as the ground plane with canopy trees (Figure 16.31).
2. Urban – Located within the Academic Health Center and similar to a city streetscape.
3. Main Street – Located at the proposed mixed-use student housing south of Panther Village, similar in character to an urban street with canopy trees on regular spacing, with hardscape and limited groundcovers. A proposed widened northern sidewalk with decorative hardscape materials, benches, and lightning to create a gathering area for markets, tailgating opportunities and other outdoor activities (Figure 16.32).

4. Major Intersections – A consistent landscape treatment at all internal intersections will provide traffic calming, pedestrian crossings, and visual reference within the campus. The landscape material will be characterized with palms, limited understory planting and a ground plane, that incorporates lawn and ornamental groundcovers. Concrete pavers may be utilized to identify to pedestrian crossings. Pedestrian crosswalk markings will be in place to identify to vehicles that pedestrian crossing is primary.
5. Secondary – Located south of the recreation center and north of Panther Village and similar in structure to the Greenbelt. Canopy trees shall be spaced evenly with pedestrian walkways on both sides. It is anticipated this road will become a pedestrian oriented corridor between the existing parking garages and the residential district. It is vital that it remains operable for service and emergency vehicles.

BISCAYNE BAY CAMPUS

Policy 1.5.3

As part of the GreenSpine that creates a connection between the existing academic campus and the existing conference center, the development of the street element component of the space will have a large impact on the perception of the campus.

The character of the street is similar to that of a main street with formal planting arrangements, large canopy trees at regular spacing, wide sidewalks and limited ground plane plantings. Crosswalks should be articulated with concrete pavers at the sidewalk level and striping's across the vehicle lanes. The eastern edge of the street is similar to that of a park with informal tree groupings and open lawn areas.

Entrances

MODESTO A. MAIDIQUE CAMPUS

Policy 1.5.4

Primary Entrance: Develop the SW 17th Street at SW 117th Avenue similar to the level of detail and plant palette of the SW 16th St. at SW 107th Avenue entrance. With the growth of the school, an increase in athletic activity associated with the expanded FIU stadium, and exiting access to the Florida Turnpike, this entrance will take on a more significant role. The use of palms should visually define the space while understory plantings should screen the existing uses. Sidewalks should be placed on both sides of the entry drive. This treatment will maintain the SW 112th Avenue as the

symbolic main entrance to the campus.

Policy 1.5.5 Secondary Entrances: Develop the SW 13th Street at SW 117th Avenue entrance with a similar plant palette to the SW 17th Street entrance. Utilize palms in a formal arrangement as the primary canopy tree. The need for significant monument signage is not necessary. Understory plantings should be used to screen the adjacent uses. Sidewalks should be provided on both sides of the entrance.

Policy 1.5.6 Secondary Entrances: Develop SW 109th Avenue at SW 8th Street entrance as an urban street with evenly spaced canopy trees, wide sidewalks and minimal ground plane vegetation. This intersection is a critical connection to the Sweetwater community. In conjunction with the proposed pedestrian bridge, appropriate landscape material should be utilized to express the importance of this connection, providing shading and opportunities for small gatherings.

ENGINEERING CENTER

Policy 1.5.7 Primary Entrance: Develop an entry feature at West Flagler Street for vehicular and pedestrian access that is similar in plant palette, formal structure and visual hierarchy to that of Modesto A. Maidique Campus's SW 16th Street entry. The sidewalks should be relocated to allow for a planting strip between the existing drive lanes and sidewalks. The entrance should use palms within the median and on both sides of the entry drive. Understory plantings and ground plane vegetation shall be minimal to allow for sightlines to and from the park edge.

Policy 1.5.8 Secondary Entrance: As the campus grows, the NW 107th Avenue entrance will become a more prominent vehicular entrance to the campus. The existing fence line should be removed and placed closer to the existing parking lot to allow for a more significant and inviting entrance to be developed. Sidewalks should be located on either side of the entrance but separated from the drive lanes by a planting strip. The use of palms, understory plantings and ground plane vegetation similar to Modesto A. Maidique Campus's SW 16th Street entry shall create consistency between the campuses.

Objective 1.6 Develop an enhanced and consistent quality for the Campus Edges (Figure 16.35 – 16.38).

MODESTO A. MAIDIQUE CAMPUS

Policy 1.6.1 Develop an urban edge to the campus along SW 107th Avenue. As identified in the Academic Health Center Master Plan, SW 107th Avenue is an urbanizing commercial corridor (Figure 16.33). Future building placement should position buildings closer to the street creating an urban edge similar to downtown cityscapes. Provide hardwood canopy trees and limited/low growing ground plane vegetation located within a defined planting strip between the vehicular drive lanes and sidewalk. Canopy trees should be spaced to allow for a continuous shaded walk.

Policy 1.6.2 Develop an urban edge along SW 8th Street 600 ft. west of the SW 107th Street intersection. Future building placement should position buildings closer to the street creating an urban edge similar to downtown cityscapes. Provide hardwood canopy trees and limited/low growing ground plane vegetation located within defined a planting strip between the vehicular drive lanes and sidewalk. Canopy trees should be spaced to allow for a continuous shaded walk.

Policy 1.6.3 Reinforce the existing park edge along SW 8th Street to SW 117th Avenue (Figure 16.34). A park edge is similar to that of a public park. While edges are often defined by street trees and sidewalks, the remaining space has groupings of canopy trees, minimal hardscape and predominately lawn as the ground plane.

Policy 1.6.4 Develop a landscape edge along SW 8th Street west from the park edge. The planting should be informal in arrangement. Canopy trees, along with palms and flowering trees, should define the landscape edge. Understory plantings should be encouraged to visually screen adjacent uses both into and from the campus. Groupings of palms and flowering trees are encouraged to break the pattern of canopy trees. A decorative perimeter fence integrated within the vegetation massing will further define the limits of the campus.

ENGINEERING CENTER

Policy 1.6.5 Develop a park edge along West Flagler Street. Plantings should be limited to random groupings of canopy trees and some flowering trees located near proposed walks in order to provide shade.

Hardscape should be minimal with pedestrian walks creating connections between the campus and the external uses. The ground plane should be predominately lawn.

- Policy 1.6.6 Develop a landscape edge along NW 107th Avenue that enhances the visual quality of the campus while screening the parking from view. The planting should be informal in arrangement. Canopy trees along with palms and flowering trees should define the landscape edge. Understory plantings are encouraged to visually screen adjacent uses both into and from the campus. Groupings of palms and flowering trees are encouraged to break the pattern of canopy trees. A decorative perimeter fence integrated within the vegetation massing will further define the limits of the campus. Use sidewalks to create pedestrian connections and further enhance the aesthetic quality of the campus.

BISCAYNE BAY CAMPUS

- Policy 1.6.7 Develop a landscape edge along Bay Vista Blvd that enhances the visual quality of the campus while screening the parking from view. The planting should be informal in arrangement. Understory plantings are encouraged to visually screen the adjacent existing surface parking. Groupings of palms and flowering trees are encouraged to break the pattern of canopy trees. A decorative perimeter fence integrated within the vegetation massing will further define the limits of the campus. A bike path should be incorporated to allow for both pedestrian and bicycle circulation.

- Policy 1.6.8 Continue to develop, preserve, and enhance views to Biscayne Bay along the BayWalk. Additional groupings of appropriate coastal plants should be located to further define view corridors from the campus and conference center. Groupings located adjacent to the existing bike loop shall incorporate additional site furnishings of benches and picnic tables.

- Objective 1.7** **Plant materials shall further inform the five underlying goals of incorporating research and teaching opportunities, improving walkability, enhancing Art, incorporate sustainable strategies and increase the amount and quality of student spaces while eliminating use of invasive exotic species and those which necessitate excessive maintenance.**

UNIVERSITY-WIDE:

- Policy 1.7.1 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. 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, soil type and plant community context (Figure 16.45-16.48). In addition, selection of native species should be based on tolerance of existing site conditions, compatibility with other indigenous species and sustainability of the landscape to promote water conservation, to reduce maintenance considerations and to ensure a sustainable landscape or for educational purposes. 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. Prohibited plants as identified by Miami-Dade as well as the Exotic Pest Plant Council's "Florida's Most Invasive Species List" shall not be permitted in any future plantings.

Policy 1.7.2 Each project should look to the immediate context of the site for guidance in plant material choices. It is the intent of the landscape to bind the individual buildings into a cohesive landscape.

Policy 1.7.3 Monitor conformance of future construction projects with revised plant lists through University design review procedures.

Policy 1.7.4 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. 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 on campus.

Objective 1.8 Modify and adopt a hardscape materials list. Identify the standard hardscape material for various conditions and allow for variations given certain conditions that are appropriate to traditional University campus settings.

UNIVERSITY-WIDE

Policy 1.8.1 Hardscape materials serve as a primary unifying element within the campus landscape (Figure 16.39 – 16.42, 16.49 - 16.50). The use of consistent materials, patterns and design establishes a distinct campus identity, provides a visual hierarchy of circulation, differentiates vehicular traffic from pedestrian circulation, and creates social gathering spaces. All new paving shall comply with the University Standards.

To the degree possible, hardscape treatments shall utilize the University Standard materials in order to create a consistency to the campus. Overtime this consistency will further strengthen the open space environment, assure a level of quality at installation, and reduces the level of maintenance required over the life of the material.

Policy 1.8.2 As identified in the Landscape Guidelines, variation from the University standard materials shall be permitted based on the review and approval during the design review process. Variations shall be appropriate to the type space and the surrounding context.

Policy 1.8.3 Size requirements for pavement widths will vary and shall be determined on a case-by-case basis. Regulating Axes shall utilize specialty paving materials. Primary pedestrian pathways shall be constructed of scored concrete. Secondary paths may utilize pervious material such as crushed stone or other permeable paving.

Policy 1.8.4 New projects and major renovations should be seen as opportunities to utilize new pervious paving. The use of pervious pavers in appropriate locations, such as courtyards, plazas and service drives to reduce stormwater runoff and improve water quality is encouraged. All materials shall comply with universal accessibility requirements.

Objective 1.9 Furnishings, Lighting and Graphics: Follow the University standards for furnishings, lighting fixtures and signage depicted.

Policy 1.9.1 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 1.9.2 As identified in the Landscape Guidelines, coordinate site furnishings, lighting fixtures, campus signage and graphic system with the identified manufacture and model numbers from selected materials used on campus and other acceptable products (Figure 16.43-16.44). As existing furnishings and lighting become unusable or deteriorated implement replacement furnishings according to approved University standards.

- Policy 1.9.3 Follow the design review procedures established in 15.0 Architectural Design Guidelines Element to ensure that coordination of the landscape, furnishings and graphics on the campus are in accordance with the guidelines.
- Policy 1.9.4 Bicycle facilities should use one selected type of bicycle rack with adequate adjacent pavement that is easily accessible. Bike racks should be under cover when feasible. Plantings should be kept away from area a sufficient distance to allow for bicycle maneuverability.
- Policy 1.9.5 Public transportation facilities should 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.
- Policy 1.9.6 Interpretative signage that meets the campus signage and wayfinding standard should be incorporated within all Special Purpose Landscape to identify the intent of the space and/or collection.
- Objective 1.10 Retention/Stormwater Elements: Adopt standards for landscape edge treatments surrounding ponds, lakes and storm water features.**
- UNIVERSITY-WIDE
- Policy 1.10.1 Consistent with regulatory requirements, plant native wetland littoral vegetation along gradually sloping banks of lakes and water features located wherever appropriate.
- Policy 1.10.2 Consistent with regulatory requirements, provide where necessary "hard edge" pedestrian treatments of water bodies in intensely developed areas.
- Policy 1.10.3 Follow the design review procedures established in 15.0 Architectural Design Guidelines Element to ensure conformance of future construction projects with referenced standards.
- Objective 1.11 Implement landscape improvements in three phases, consistent with the scheduling of new academic, housing, recreation, and support buildings to which landscape improvement components will be allocated.**

UNIVERSITY-WIDE

- Policy 1.11.1 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 1.11.2 Implement the Landscape Guidelines by allocating each future and existing building a proportional share of overall planned landscape improvement cost.



Figure 16.1. Campus Spaces

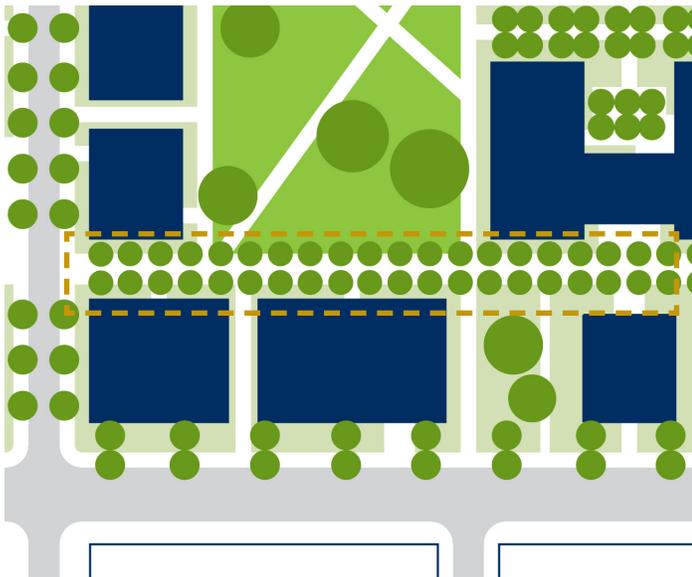


Figure 16.2. Campus Spaces - Avenues

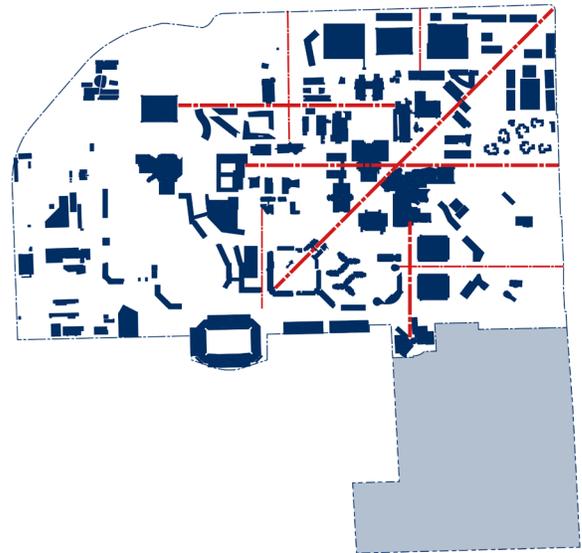


Figure 16.5. Avenues - Modesto A. Maidique Campus

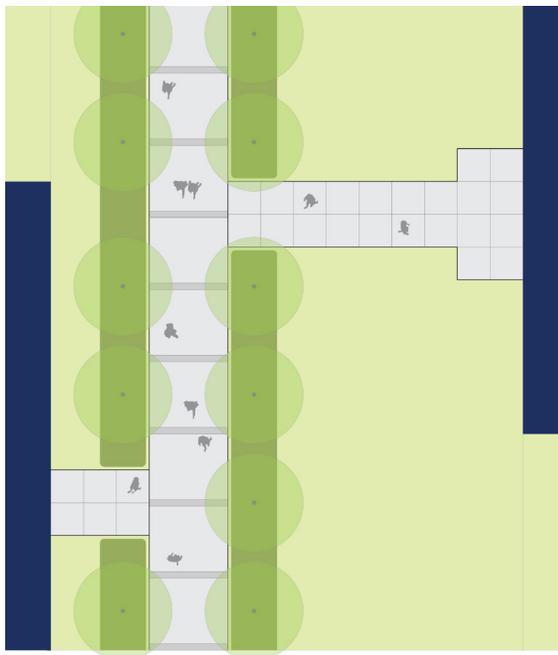


Figure 16.3. Avenue - Plan

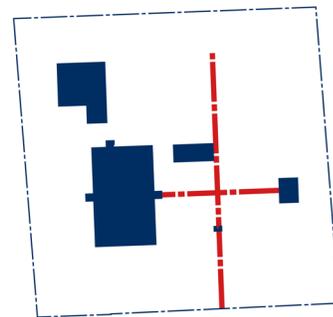


Figure 16.6. Avenues - Engineering Center

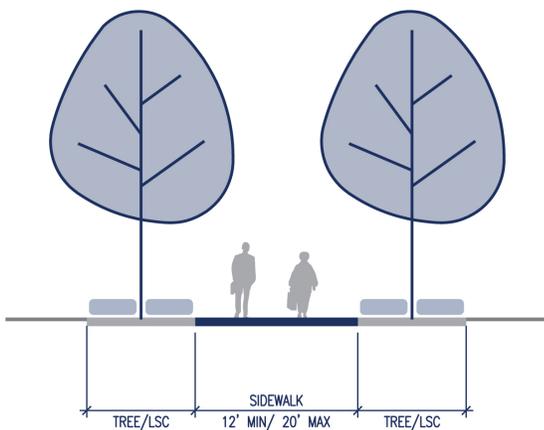


Figure 16.4. Avenue - Section

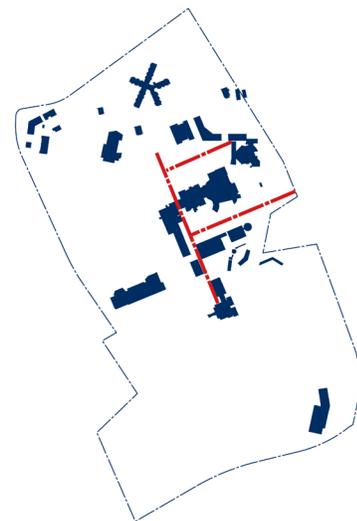


Figure 16.7. Avenues - Biscayne Bay Campus



Figure 16.8. Campus Spaces - Quads



Figure 16.9. Green Library Quad



Figure 16.10. Panther Village Quad



Figure 16.11. Art Quad

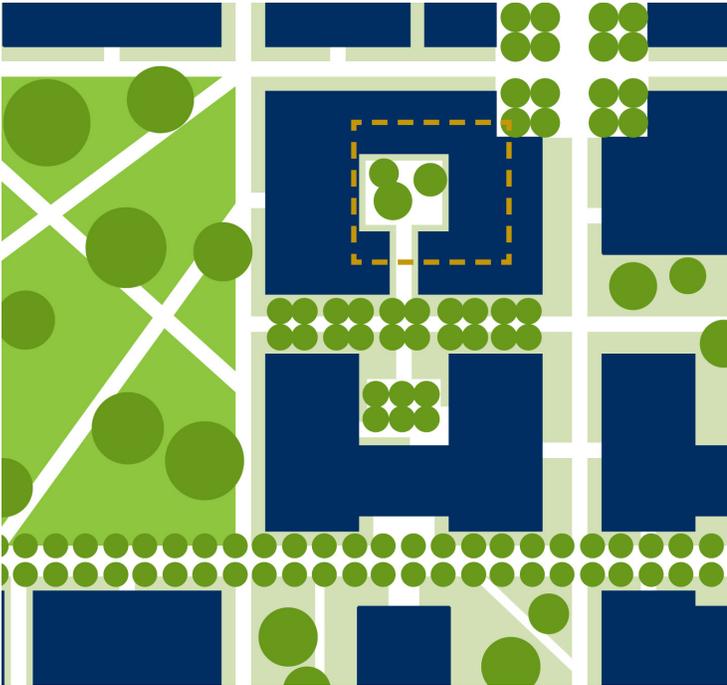


Figure 16.12. Campus Spaces - Courtyard



Figure 16.13. Education Courtyard



Figure 16.14. Ballart Hall Courtyard



Figure 16.15. CSC Courtyard

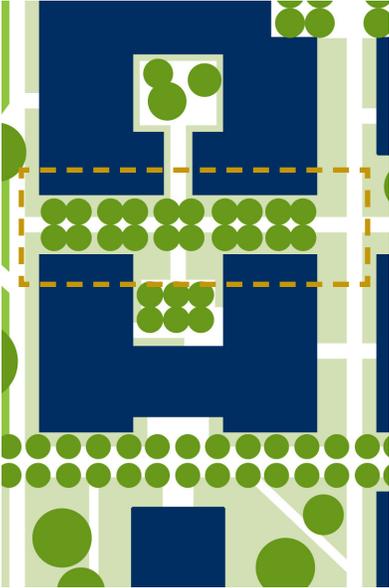


Figure 16.16. Campus Spaces - Promenade



Figure 16.17. Alumni Walk

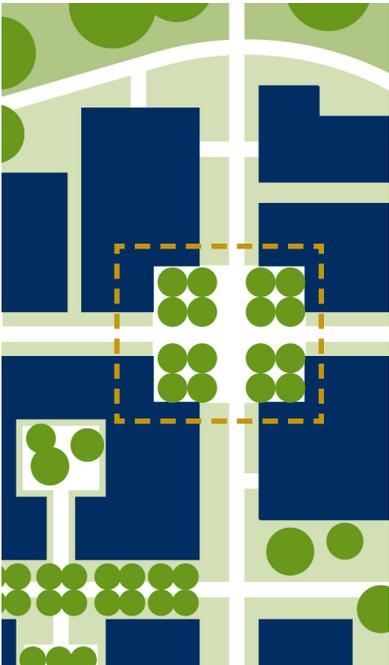


Figure 16.18. Campus Spaces - Plaza



Figure 16.19. Academic Plaza at Biscayne Bay Campus



Figure 16.20. Academic Plaza at Biscayne Bay Campus

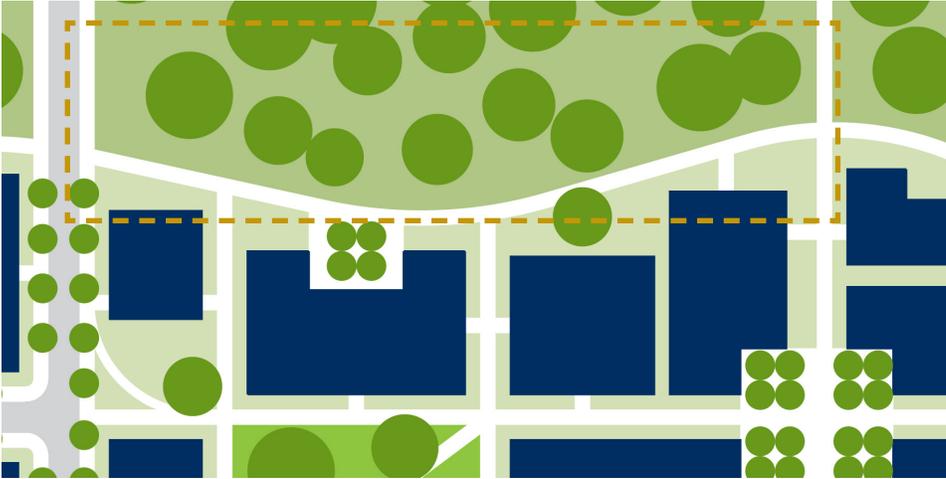


Figure 16.21. Special Purpose Landscape



Figure 16.22. The GreenWay



Figure 16.23. Palm Collection at the Green Library Quad



Figure 16.24. The Preserve



Figure 16.25. The BayWalk at Biscayne Bay Campus

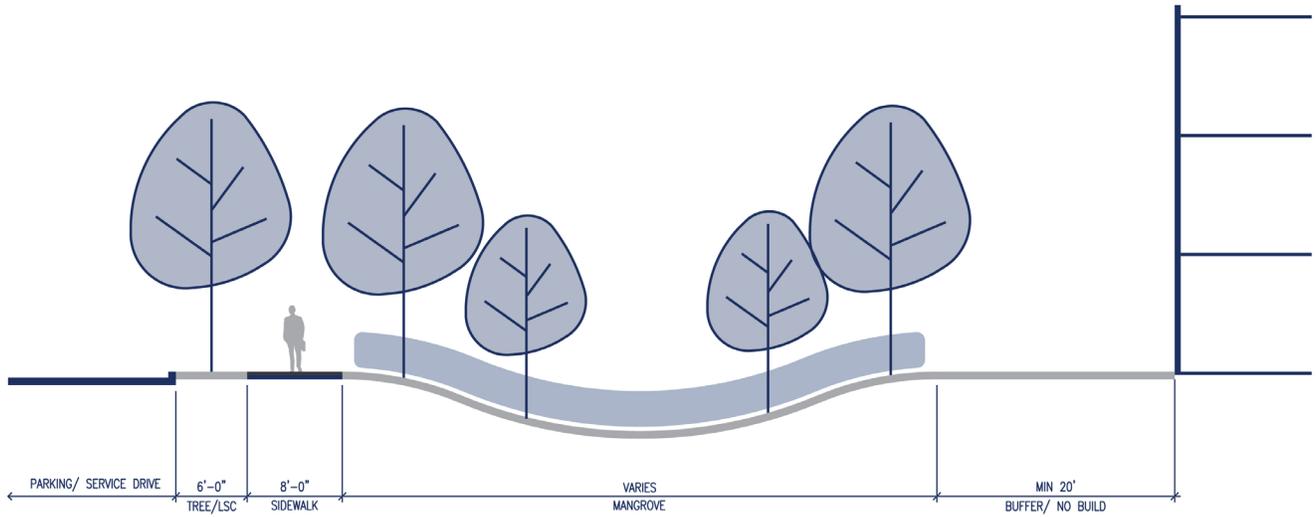


Figure 16.26. The GreenWay

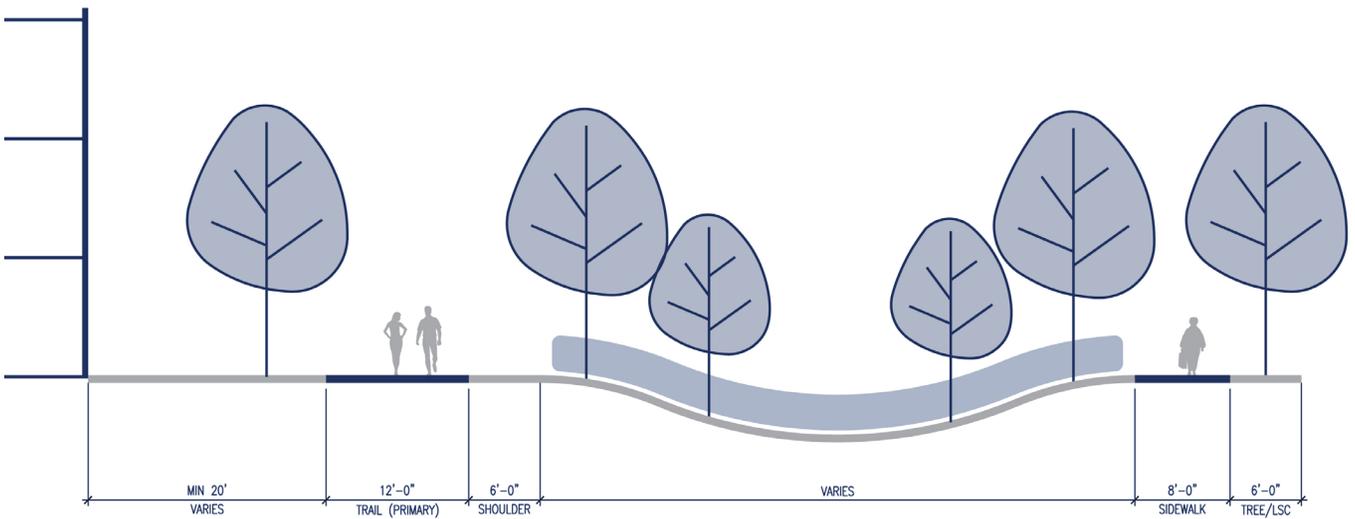


Figure 16.27. The GreenSpine

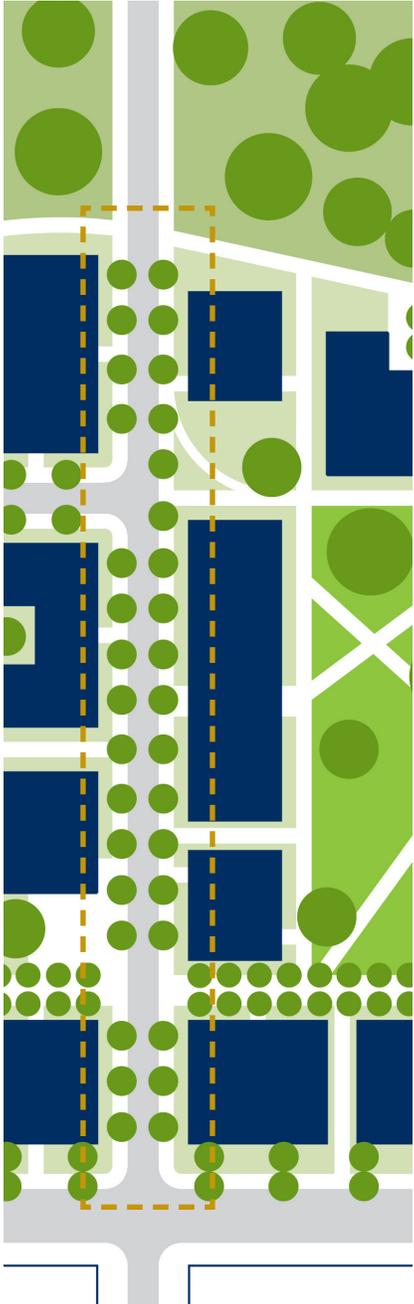


Figure 16.28. Campus Streets



Figure 16.29. Shaded Pedestrian Walkway



Figure 16.30. Shade Trees along the Campus GreenBelt

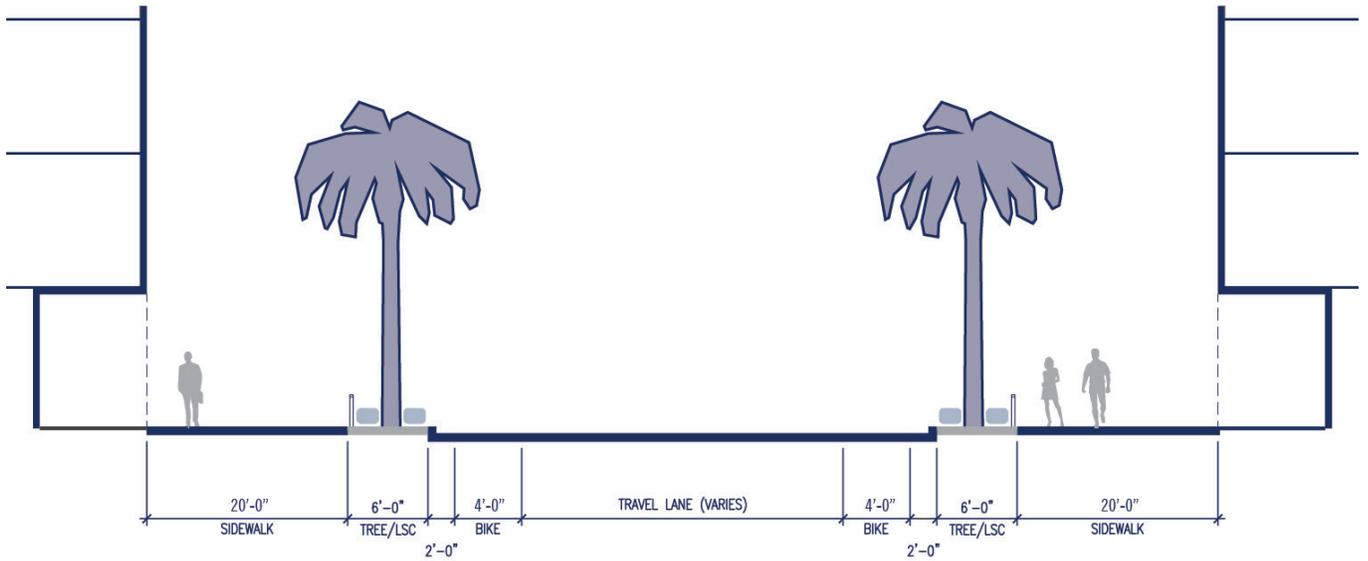


Figure 16.31. Campus GreenBelt - Main Street

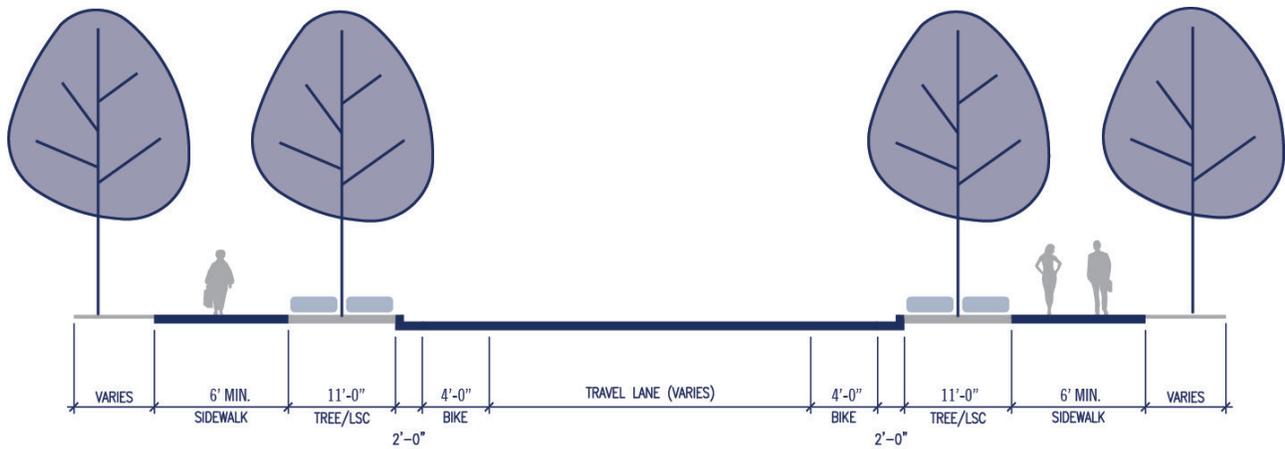


Figure 16.32. Campus GreenBelt - Parkway

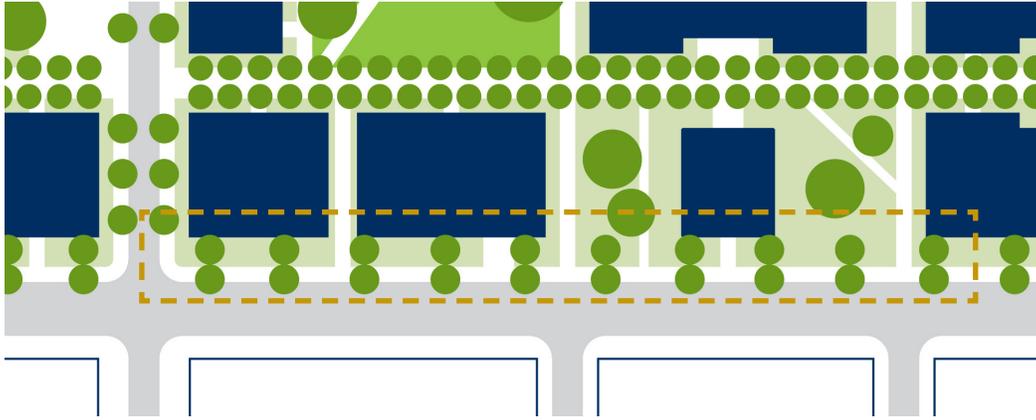


Figure 16.33. Campus Edges



Figure 16.34. Passive Major Edge along SW 8th Street

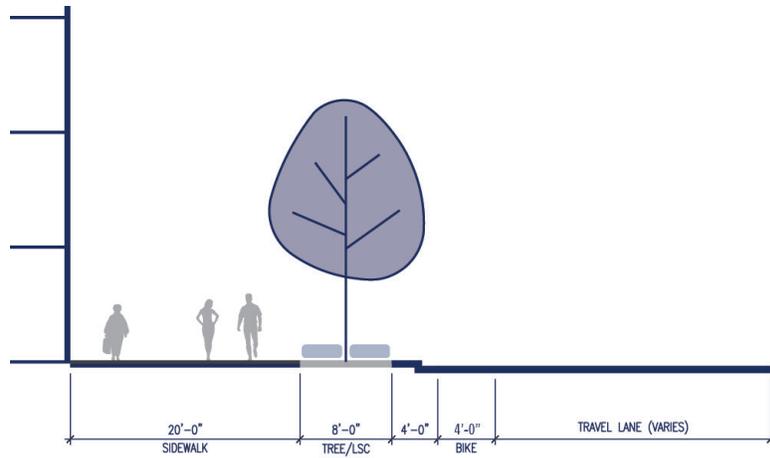


Figure 16.35. Campus Edge - Active Major

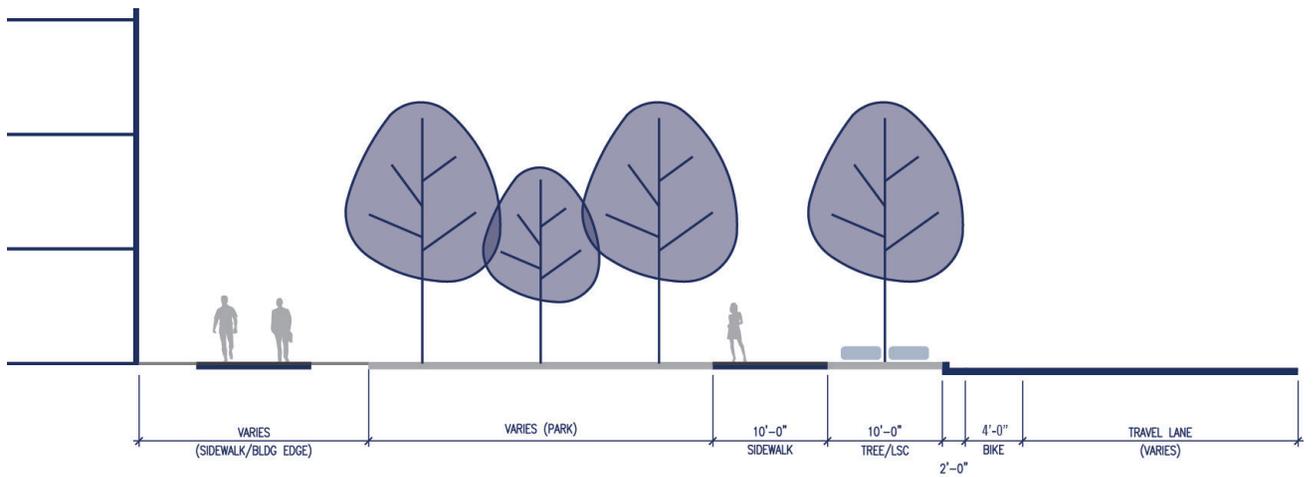


Figure 16.36. Campus Edge - Active Minor

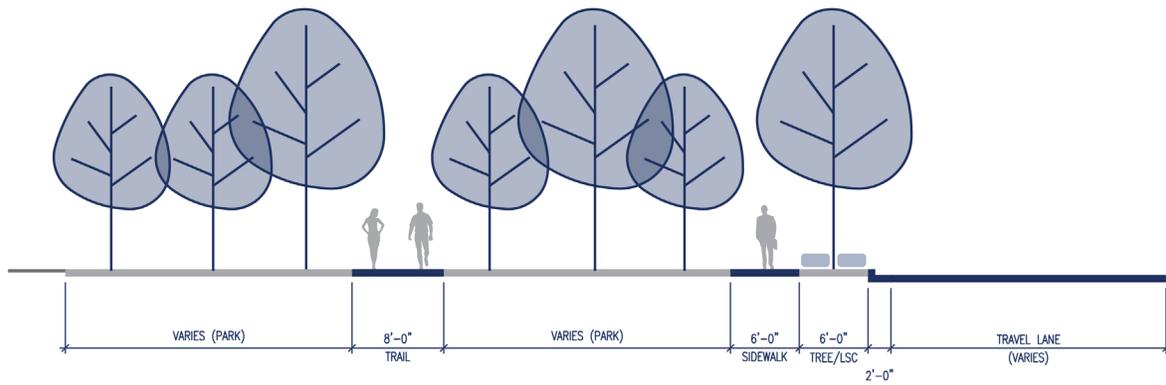


Figure 16.37. Campus Edge - Passive Major

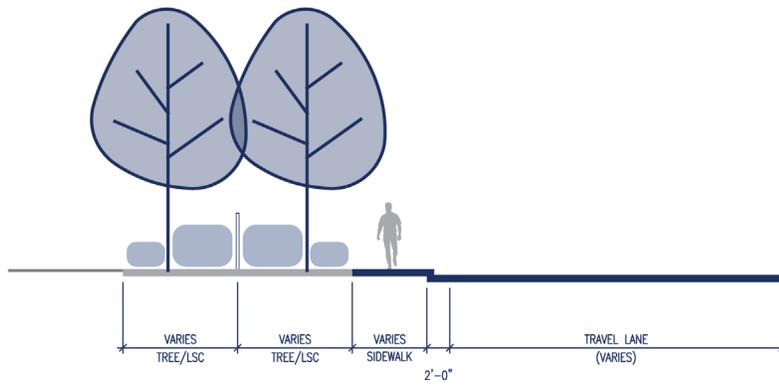


Figure 16.38. Campus Edge - Passive Minor

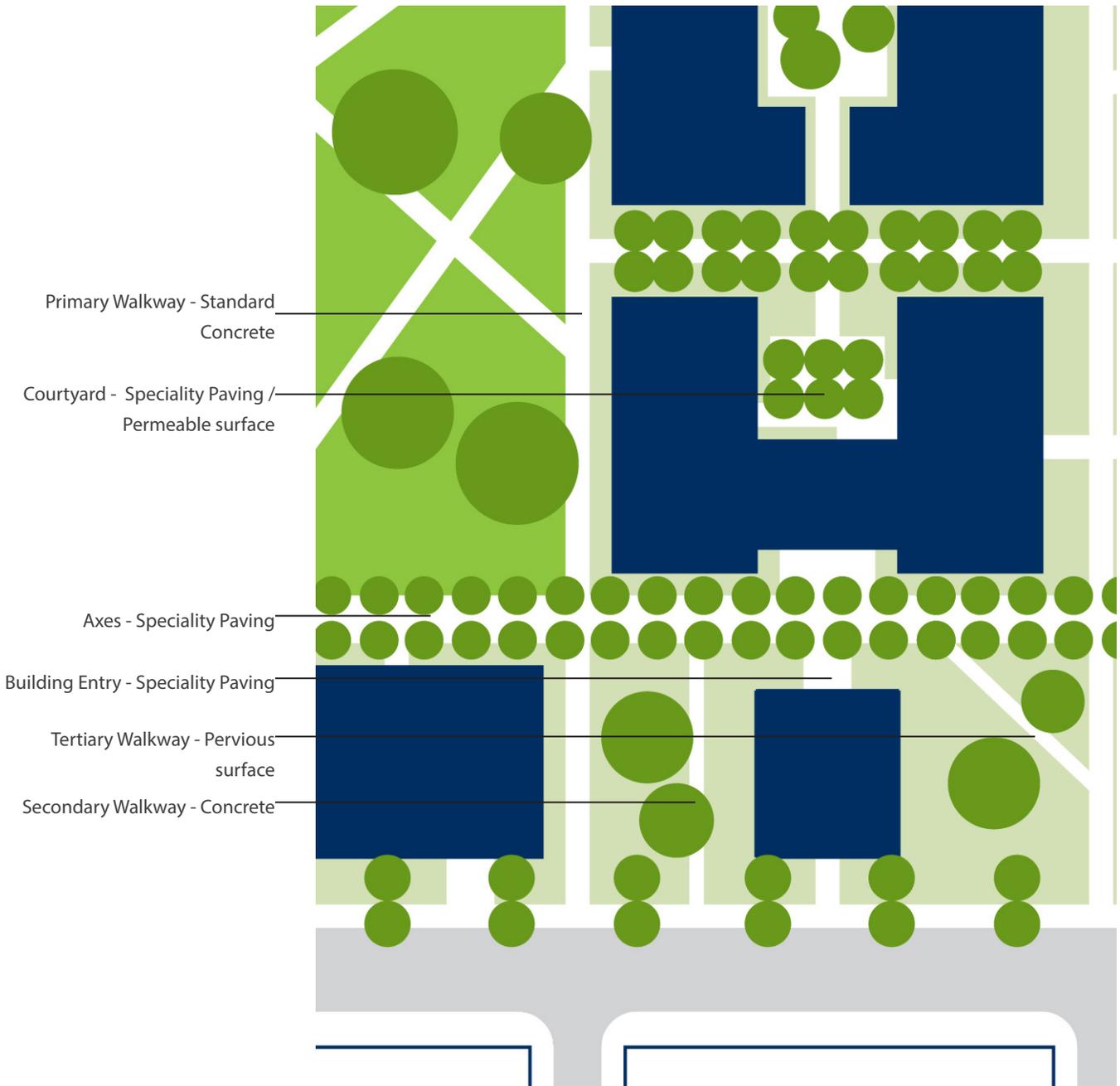


Figure 16.39. Walkway Types

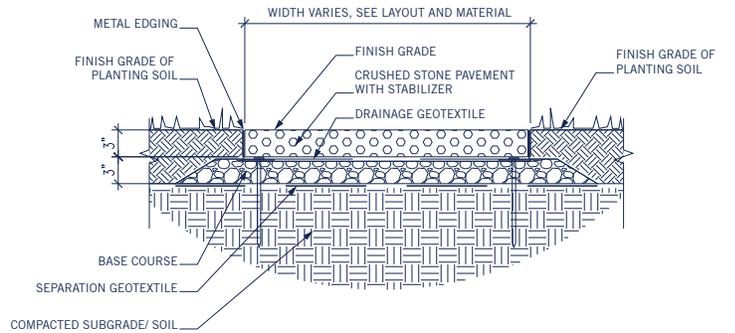
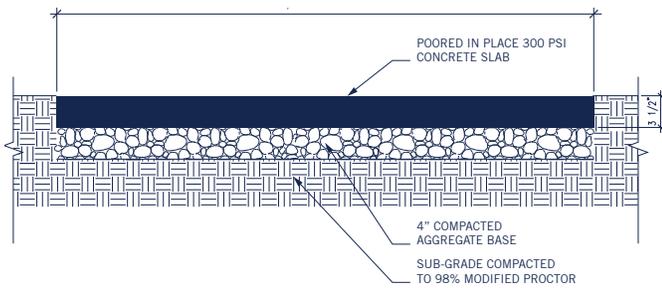


Figure 16.40. Type -Primary & Secondary Walkway

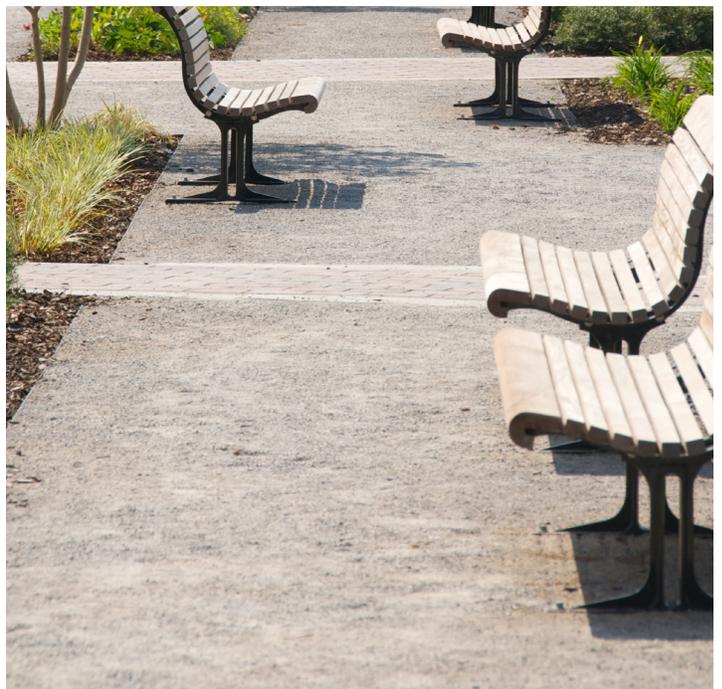


Figure 16.41. Type - Tertiary Walkway

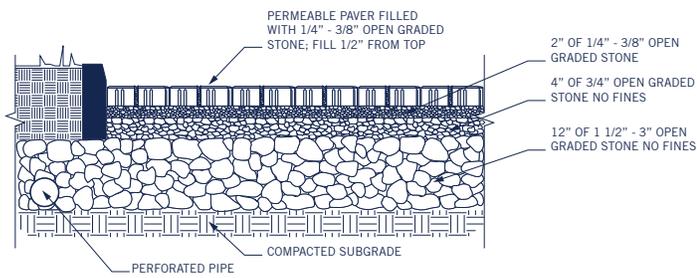


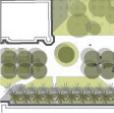
Figure 16.42. Type - Pervious Paving



Figure 16.43. Standard Pedestrian Light



Figure 16.44. Standard Wayfinding Signage

Landscape Type	Campus Space					Campus Street		
Sample Plant Selection:								
Scientific Name	Quad	Promenade	Plaza	Courtyard	Special Purpose Landscape	Parkway	Mainstreet	Secondary Street
Common Name								
TREES								
Bursera simaruba* Gumbo Limbo								
Coccoloba diversifolia Pigeon Plum								
Coccoloba uvifera* Seagrape								
Conocarpus erectus* Buttonwood								
Lysiloma latisiliqua Wild Tamarind								
Pinus elliottii var. densa S. Florida Slash Pine								
Quercus virginiana* Live Oak								
Simarouba glauca Paradise Tree								
Swietenia mahogany* Mahogany								
FLOWERING TREES								
Bombax ceiba Red Silk-Cotton								
Bulnesia arborea Vera Wood								
Caesalpinia granadillo Bridalveil								
Jacaranda acutifolia Jacaranda								
Tabebuia caraiba Silver Trumpet								
Cordia boissieri White Geiger								
Cordia sebestena Orange Geiger								
Peltophorum pterocarpum Yellow Poinciana								
PALMS								
Acoelorrhaphes wrightii* Paurotis Palm								
Bismarckia nobilis* Bismarck Palm								
Cocos nucifera** Coconut Palm								
Ptychosperma elegans Alexander Palm								
Roystonea elata Royal Palm								
Thrinax radiata* Thrinax Palm								
Thrinax morrisii* Key Thatch Palm								
Veitchia montgomeryana Montgomery Palm								
SHRUBS								
Callicarpa americana Beauty Bush								
Capparis cynophallophora Jamaica Caper								
Chrysobalanus icaco* Cocoplum								
Galphimia gracilis Thryallis								
Ilex cassine Dahoon Holly								
Ilex vomitoria Yaupon Holly								
Myrcianthes fragrans var. simpsonii Simpson Stopper								
Myrsine guianensis Myrsine								

* (Plant Species is suitable for coastal environments - can be used at Biscayne Bay Campus)

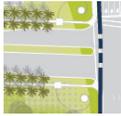
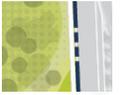
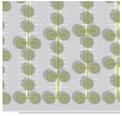
** (Plant Species is specific to coastal environments - should only be used at Biscayne Bay Campus)

Figure 16.45. Materials Matrix

Landscape Type Sample Plant Selection: Scientific Name Common Name	Campus Space				Special Purpose Landscape	Campus Street		
	Quad	Promenade	Plaza	Courtyard		Parkway	Mainstreet	Secondary Street
SHRUBS CON'T								
Myrica cerifera Wax Myrtle								
Muhlenbergia capillaris Pink Muhly Grass								
Pennisetum setaceum 'Rubrum' Purple Fountain Grass								
Psychotria undata Wild Coffee								
Raphiolepis indica Indian Hawthorne								
Rosemarinus officinalis Rosemary								
Scaevola pumieri* Inkberry								
Strelitzia reginae Bird of Paradise								
Tripsacum dactyloides Fakahatchee Grass								
GROUNDCOVERS								
Borrchia frutescens** Sea Oxeye Daisy								
Ernodea littoralis var. littoralis** Beach Golden Creeper								
Evolvulus glomerata Blue Daze								
Hemerocallis spp. Daylily								
Hymenocallis latifolia* Spider Lily								
Lantana depressa Pineland Lantana								
Lantana montevidensis Weeping Lantana								
Liriope spp. Lily Turf								
Stenotaphrum secundatum St. Augustine Turf								
Tulbaghia violacea Society Garlic								
Vinca minor Periwinkle								
Zamia pumila Coontie								
VINES								
Bougainvillea spp.* Bougainvillea								
Ficus pumila Creeping Fig								
Ipomoea spp.** Beach Morning Glory								
Trachelospermum jasminoides Confederate Jasmine								

* (Plant Species is suitable for coastal environments - can be used at Biscayne Bay Campus)
 ** (Plant Species is specific to coastal environments - should only be used at Biscayne Bay Campus)

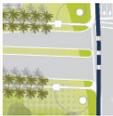
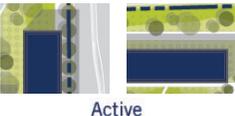
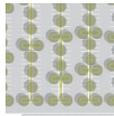
Figure 16.46. Materials Matrix

Landscape Type	Campus Street (Con't.)		Campus Edge				Other
Sample Plant Selection:							
Scientific Name	Gateway	Traffic Circle	Active		Passive		Parking Lot
Common Name			Major	Minor	Major	Minor	
TREES							
Bursera simaruba* Gumbo Limbo							
Coccoloba diversifolia Pigeon Plum							
Coccoloba uvifera* Seagrape							
Conocarpus erectus* Buttonwood							
Lysiloma latisiliqua Wild Tamarind							
Pinus elliottii var. densa S. Florida Slash Pine							
Quercus virginiana* Live Oak							
Simarouba glauca Paradise Tree							
Swietenia mahogani* Mahogany							
FLOWERING TREES							
Bombax ceiba Red Silk-Cotton							
Bulnesia arborea Vera Wood							
Caesalpinia granadillo Bridalveil							
Jacaranda acutifolia Jacaranda							
Tabebuia caraiba Silver Trumpet							
Cordia boissieri White Geiger							
Cordia sebestena Orange Geiger							
Peltophorum pterocarpum Yellow Poinciana							
PALMS							
Acoelorrhaphe wrightii* Paurotis Palm							
Bismarckia nobilis* Bismarck Palm							
Cocos nucifera** Coconut Palm							
Ptychosperma elegans Alexander Palm							
Roystonea elata Royal Palm							
Thrinax radiata* Thrinax Palm							
Thrinax morrisii* Key Thatch Palm							
Veitchia montgomeryana Montgomery Palm							
SHRUBS							
Callicarpa americana Beauty Bush							
Capparis cynophallophora Jamaica Caper							
Chrysobalanus icaco* Cocoplum							
Galphemia gracilis Thryallis							
Ilex cassine Dahoon Holly							
Ilex vomitoria Yaupon Holly							
Myrcianthes fragrans var. simpsonii Simpson Stopper							
Myrsine guianensis Myrsine							

* (Plant Species is suitable for coastal environments - can be used at Biscayne Bay Campus)

** (Plant Species is specific to coastal environments - should only be used at Biscayne Bay Campus)

Figure 16.47. Materials Matrix

Landscape Type	Campus Street Cont'd		Campus Edge				Other
Sample Plant Selection:							
Scientific Name			Active		Passive		
Common Name	Gateway	Traffic Circle	Major	Minor	Major	Minor	Parking Lot
SHRUBS CON'T							
Myrica cerifera Wax Myrtle							
Muhlenbergia capillaris Pink Muhly Grass							
Pennisetum setaceum 'Rubrum' Purple Fountain Grass							
Psychotria undata Wild Coffee							
Raphiolepis indica Indian Hawthorne							
Rosemarinus officinalis Rosemary							
Scaevola pumieri* Inkberry							
Strelitzia reginae Bird of Paradise							
Tripsacum dactyloides Fakahatchee Grass							
GROUNDCOVERS							
Borrichia frutescens** Sea Oxeye Daisy							
Ernodea littoralis var. littoralis** Beach Golden Creeper							
Evolvulus glomerata Blue Daze							
Hemerocallis spp. Daylily							
Hymenocallis latifolia* Spider Lily							
Lantana depressa Pineland Lantana							
Lantana montevidensis Weeping Lantana							
Liriope spp. Lily Turf							
Stenotaphrum secundatum St. Augustine Turf							
Tulbaghia violacea Society Garlic							
Vinca minor Periwinkle							
Zamia pumila Coontie							
VINES							
Bougainvillea spp.* Bougainvillea							
Ficus pumila Creeping Fig							
Ipomoea spp.** Beach Morning Glory							
Trachelospermum jasminoides Confederate Jasmine							

* (Plant Species is suitable for coastal environments - can be used at Biscayne Bay Campus)

** (Plant Species is specific to coastal environments - should only be used at Biscayne Bay Campus)

Figure 16.48. Materials Matrix

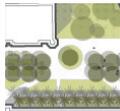
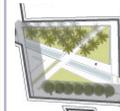
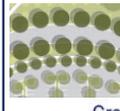
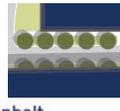
Landscape Type	Campus Space					Campus Street		
Elements	 Quad	 Promenade	 Plaza	 Courtyard	 Special Purpose Landscape	 Parkway	 Mainstreet	 Secondary Street
HARDSCAPE								
 Concrete						Both Sides	Both Sides	
 Colored Concrete								
 Concrete Paver								
 Stone								
 Stone Mulch								
 Special Paver								
SITE FURNISHINGS								
 Bench								
 Trash Receptacle								
 Wayfinding								
 Bicycle Racks								
LIGHTING								
Pedestrian								
 Path Light								
 Wall Light								
 Globe Light								
Vehicular								
ART								
Special Features					President's Garden			

Figure 16.49. Materials Matrix

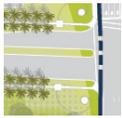
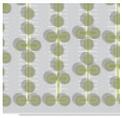
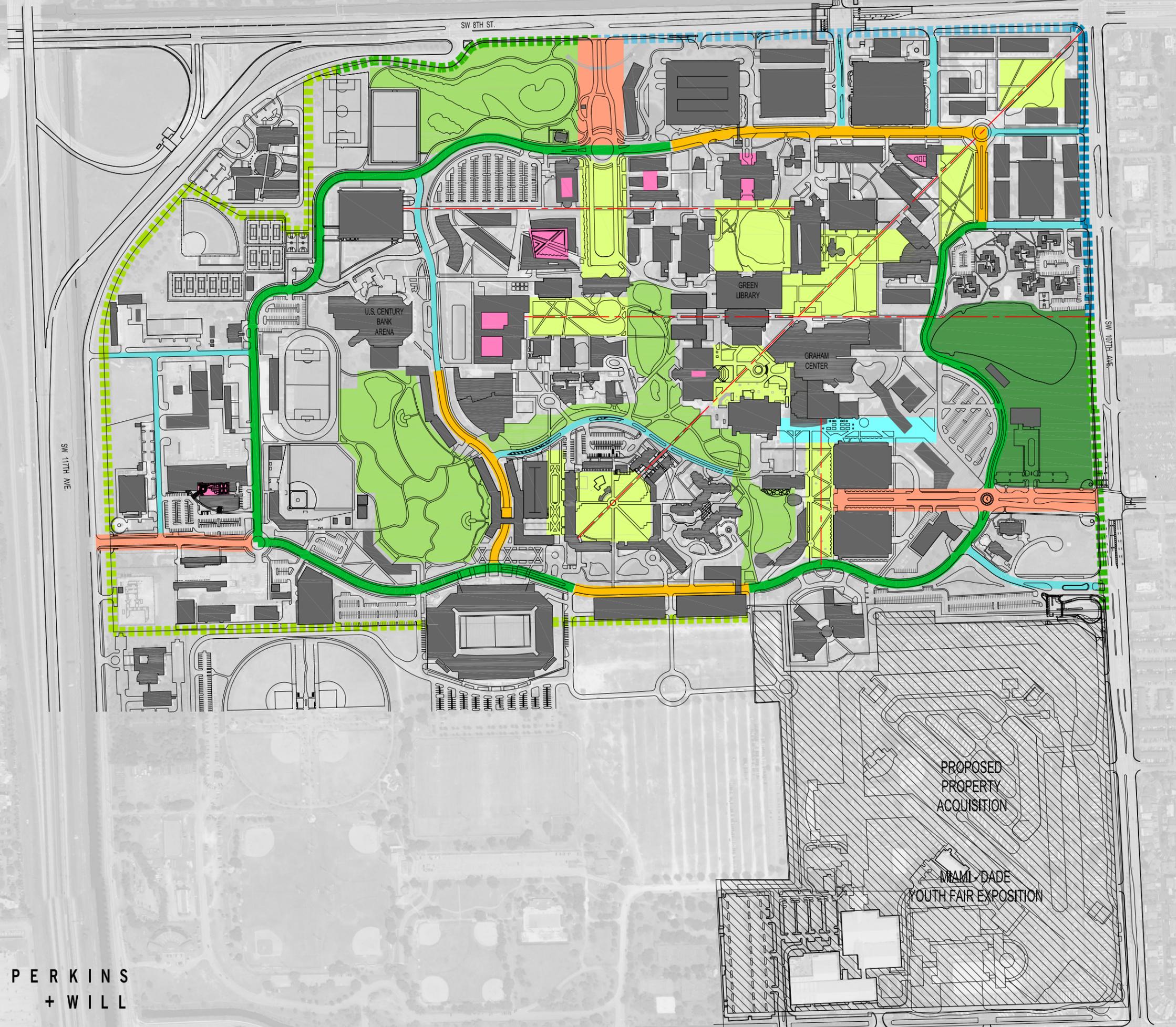
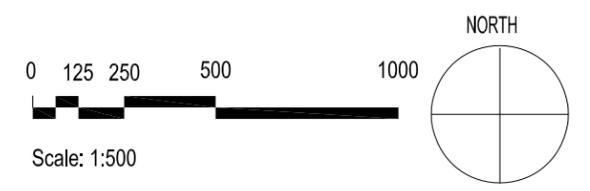
Landscape Type	Campus Street Con't		Campus Edge				Other
Elements			Active		Passive		
	Gateway	Traffic Circle	Major	Minor	Major	Minor	
HARDSCAPE							
 Concrete	Both Sides	Both Sides					
 Colored Concrete							
 Concrete Paver							
 Stone							
 Stone Mulch							
 Special Paver							
SITE FURNISHINGS							
 Bench							
 Trash Receptacle							
 Wayfinding							
 Bicycle Racks							
LIGHTING							
Pedestrian							
 Path Light							
 Wall Light							
 Globe Light							
Vehicular							
ART							
Special Features							

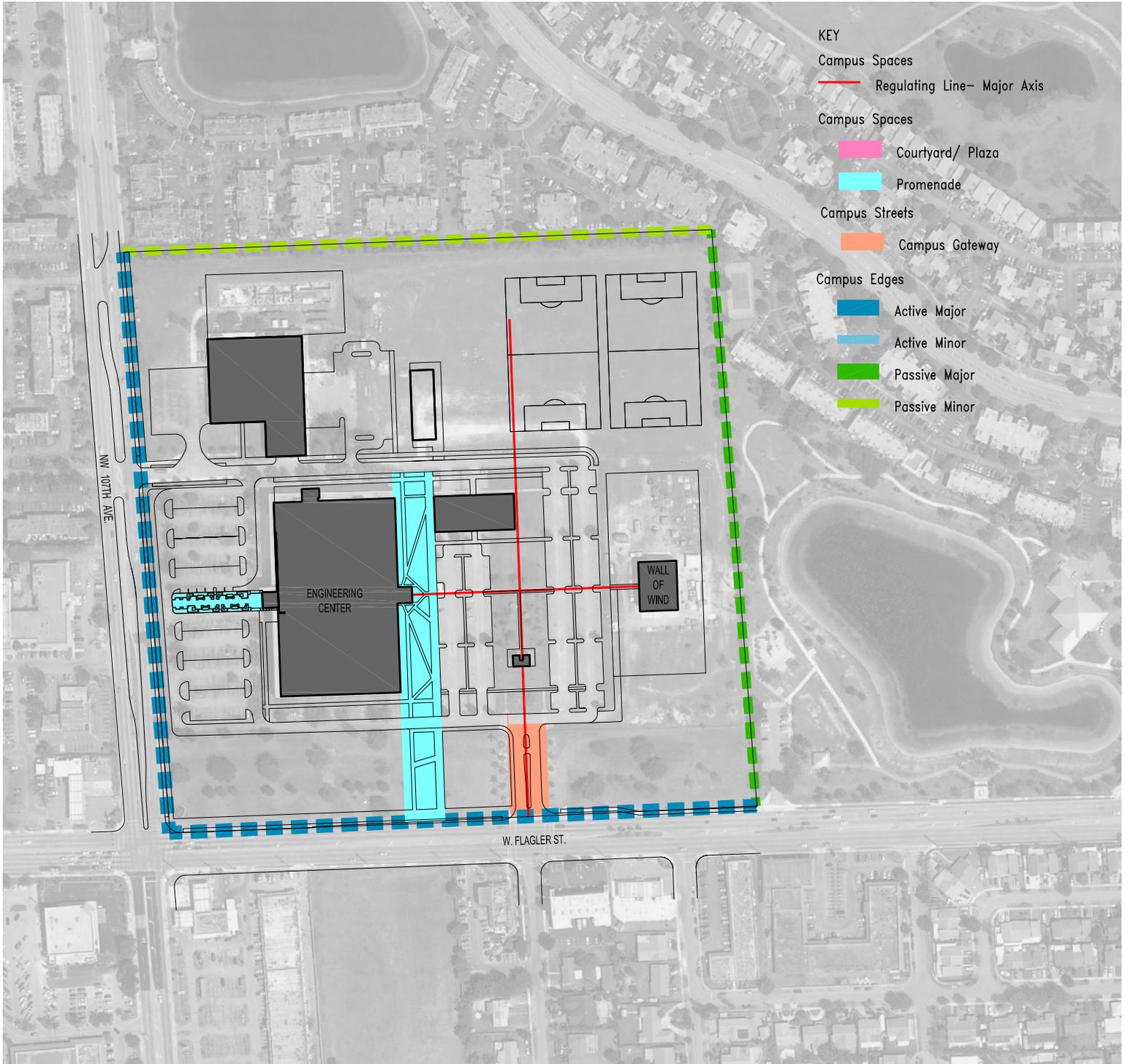
Figure 16.50. Materials Matrix

- KEY**
- Campus Spaces
- Regulating Line— Major Axis
- Campus Spaces
- Quads
 - Courtyard/ Plaza
 - Promenade
- Special Purpose Landscape
- Teaching and Research
 - Garden
- Campus Streets
- Campus Gateway
 - Campus Greenbelt – Parkway
 - Campus Greenbelt – Main Street
 - Secondary Street
- Campus Edges
- Active Major
 - Active Minor
 - Passive Major
 - Passive Minor



ELEMENT 16.1: LANDSCAPE DESIGN
MODESTO A. MAIDIQUE CAMPUS





ELEMENT 16.2: LANDSCAPE DESIGN
ENGINEERING CENTER



- KEY**
- Regulating Line— Major Axis
 - Campus Spaces**
 - Quads
 - Courtyard/ Plaza
 - Promenade
 - Special Purpose Landscape**
 - BayWalk
 - GreenSpine
 - Preserve
 - Campus Streets**
 - Campus Gateway
 - Campus Edges**
 - Active Major
 - Active Minor
 - Passive Major
 - Passive Minor

**ELEMENT 16.3: LANDSCAPE DESIGN
BISCAYNE BAY CAMPUS**

17.0 FACILITIES MAINTENANCE ELEMENT

Each of the Florida International University campuses boast both a core of buildings from the early 1970's and new "signature" buildings. Both of these architectural components of the FIU physical fabric should receive equal attention for maintenance and special review for any modifications including repainting, window and door replacements and infrastructure changes.

FIU utilizes the 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 Policies below document present procedures, while advocating for an expansion of the facility maintenance program. To meet needs for up-to-date learning, research and student life spaces, emphasis should continue to be placed both on long term scheduling of routine, preventive and deferred maintenance as well as strategic renovations and repurposing.

GOAL 1: Provide for the timely and cost effective maintenance of campus facilities and plan future facilities to have high levels of efficiency and limited maintenance requirements.

Objective 1.1 Optimize Building 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 Apply the following guidelines for exterior building materials.

GROUND LEVEL

Utilize durable, weather-resistant, climate-appropriate materials, including unpainted concrete, masonry and natural stone (keystone) accents, which require only periodic pressure cleaning. Discourage the use of stucco, wood and other materials which require high levels of maintenance, frequent painting or which are subject to deterioration.

UPPER LEVELS

Exposed concrete masonry or precast concrete masonry panels with inset masonry 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, epoxy terrazzo 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

Use 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 Make every effort to incorporate sustainable/green elements in the planning and systematic upgrade of facilities to conserve energy and reduce overall operation costs.

**Objective 1.2 Optimize Facility Use and Capacity:
Manage facility utilization efficiency so as to minimize use conflicts, overcrowding and retrofit costs.**

Policy 1.2.1 Apply SREF 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 Enhance the Facility Maintenance Program:
Strengthen the 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 Continue present facility maintenance procedures. Annually apply Campus Master Plan criteria to prioritize the deficiencies identified in the data sources cited below for annual inclusion in the five year CIP.

Balance facility maintenance priorities with available financial 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 database 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) Prepare classroom-laboratory utilization reports annually for use by Institutional Research, Space and Scheduling units of Academic Affairs to establish classroom management, schedules and 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 Monitor Maintenance Funding:
Ensure the availability of sufficient funding and other resources to support projected facility maintenance requirements. Include the necessary levels of support for achieving LEED Silver certification for Existing Buildings and Maintenance.**

- Policy 1.4.1 Incorporate projected life cycle maintenance expenses within building construction programs and funding requests. Hold these funds in a maintenance endowment account.
- Policy 1.4.2 Establish a maintenance endowment account for existing buildings through an amount to be determined as part of the Facilities Maintenance Program.
- Policy 1.4.3 Re-evaluate and revise maintenance cost formulas to reflect actual resources necessary to prevent building condition deterioration. Analyze expenses over the past 10 years to determine trends and unanticipated costs.
- .

18.0 COASTAL MANAGEMENT ELEMENT

Few university campuses worldwide are located in the type of sub-tropical, coastal setting in which Biscayne Bay Campus of Florida International University is found. This coastal environment offers many opportunities and challenges to the Campus Master Planning process. The challenges include optimizing the amenities offered by the coastal setting, while limiting the vulnerability of the campus to hurricanes, tropical storms, flooding, and sea level rise as well as protecting and enhancing important natural resources (see Element 18.3 and 13.0 Conservation Element Figures 13.1, 13.2 and 13.3).

The State University System is required 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.

Coordination with DERM is recommended for all aspects of this element. At the Biscayne Bay Campus this coordination is highly recommended to respond to and protect the shoreline and coastal wetlands existing on site. A DERM Class II permit is necessary to construct any outfall that will discharge to any surface in Miami-Dade County and a DERM Class I permit is required for any work in, on, over or upon tidal waters or coastal wetland in Miami-Dade County.

GOAL 1: Manage FIU development activities to protect, conserve and maintain coastal and estuarine resources on the University property at Biscayne Bay Campus.

Objective 1.1 Implement and manage coastal and estuarine resource policies through the use of appropriate University faculty and staff.

Policy 1.1.1 Utilize knowledgeable FIU experts to oversee the implementation of the coastal resource management policies defined in the Conservation and Coastal Management Elements of this Campus Master Plan. These individuals shall prepare any necessary additional policies, guidelines, procedures and implementation schedules within one year of the adoption of the Master Plan. The adopted Campus 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. 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 Protect and maintain 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 endeavor to 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 where feasible.

Policy 1.2.2 Protect and enhance shallow-water communities and sea grass beds in the waters of Biscayne Bay fronting Biscayne Bay Campus by reducing the impacts of contaminated and nutrient rich stormwater runoff to these areas.

Policy 1.2.3 The Environmental Coordinator 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 Environmental Coordinator. Piers and docks for recreation and research boats and vessels that require water access may be developed in accordance with local guidelines. 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 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 Perform engineering and design analyses prior to construction of facilities that border the coastal and estuarine habitats to ensure that facilities will not contribute polluted run-off into those habitats.

Policy 1.2.6 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 obtain required local, state and federal permits prior to trimming or altering mangroves where feasible.

Policy 1.2.7 Future development activity, except for pathways, landscape improvements and water-access-dependent facilities shall occur no closer than 100 feet from any Biscayne Bay shoreline.

Policy 1.2.8 Do not engage in water management practices that result in significant or permanent draw-down of the water table.

Policy 1.2.9 Design buildings, roadways and paths to facilitate and support proper drainage of water to estuarine and coastal habitats. Use structures to maintain drainage into estuarine and coastal habitats.

Policy 1.2.10 Where feasible, comply with recommendations in the state-approved Miami-Dade County Protection Plan regarding mangroves.

Objective 1.3 Protect beaches, beach strand and dune systems and restore them from the impacts of development.

Policy 1.3.1 Ensure that the placement of buildings and infrastructure does not encroach on shoreline areas, beach strand or mangrove restoration areas. No future buildings or infrastructure should be located 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 Establish designated areas for boat docking, and prohibit such use from the areas with beach strand vegetation.

Policy 1.3.4 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 on campus facilities does not alter the hydrologic regime needed to maintain beach strands.
- Policy 1.3.6 As an element of landscape and pedestrian access improvements to open spaces along the Biscayne Bay shoreline, protect and enhance existing native beach strand vegetation. Use native beach strand vegetation in enhancement plantings in these areas.
- Policy 1.3.7 Monitor existing shoreline stability. Take the appropriate steps to accomplish needed stabilization. Use native vegetation 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 Limit specific and cumulative impacts of development on natural resources.**
- Policy 1.4.1 In order to protect native vegetative communities, provide 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. Use visible barriers during construction or maintenance operations to delineate the boundaries of native plant communities and wetlands, where feasible.
- Policy 1.4.2 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 Monitor the surface water hydrology of on-campus areas determined to be jurisdictional wetlands on a seasonal basis. Use resultant hydrologic data to produce a plan to maintain or improve surface water flow into and out of jurisdictional wetlands. Design structures, including roadways and walkways, to maintain the surface water flow to wetland areas. Use visible barriers during construction and maintenance operations to delineate the boundaries of native plant communities and wetlands.
- Objective 1.5 Restore and enhance the coastal natural resources on Biscayne Bay Campus property.**

Policy 1.5.1 Remove invasive exotic plant species from natural vegetation associations. Give priority to removing exotic species from those native vegetation associations indicated in Element 13.3. Focus efforts on the removal of Brazilian pepper (*Schinus terebinthifolius*), melaleuca (*Melaleuca quinquenervia*) and Australian pine (*Casuarina equisetifolia*). Remove exotic species in a manner that minimizes impacts to native vegetation associations. Replant areas where exotic plants have been removed with appropriate native plant species. Removal of exotic species from natural vegetation associations shall be carried out quarterly during the first year and yearly thereafter, unless monitoring activities indicate that more frequent removal is warranted. Refer to Element 13.0, Conservation, for additional guidelines for the treatment of natural resources. Encourage removal of invasive species in mangrove areas near campus that are controlled by North Miami and Oleta State Park to reduce the re-infestation potential on campus.

Objective 1.6 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 Review existing and proposed development activities for compliance with the surface water policies of the South Florida Water Management District. Limit negative impacts of campus activities on soils, wetlands, hydrology and hydroperiod.

Policy 1.6.2 Test storm water runoff 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 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 Maintain Consistencies 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

and with all applicable regional, state and federal policies regarding development in the coastal zone.

Policy 1.7.1 On a regular basis, review the host communities' natural resources management plans. If necessary, amend the Campus Master Plan to be consistent .

Policy 1.7.2 On a regular basis, review 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. Confirm 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 Enhance pedestrian and visual access to beach and shoreline areas for FIU students, faculty and staff.

Policy 1.8.1 Due to the availability of oceanfront parks and nearby beach areas at Oleta River State Park, public access to the beach and shoreline at Biscayne Bay Campus is discouraged.

Policy 1.8.2 Improve pedestrian connections along the Biscayne Bay shoreline. Construct a continuous waterfront bike path and pedestrian promenade. Preserve and enhance the bayfront edge as open space. Locate the waterfront pedestrian promenade primarily on upland. Avoid and minimize impacts to coastal wetlands, tidal waters and mangroves.

GOAL 2: Provide adequate hurricane evacuation procedures and facilities for both Modesto A. Maidique Campus and Biscayne Bay Campus.

- Objective 2.1** **Hurricane Evacuation:**
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 2.1.1 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. Provide transit vehicles as necessary to ensure that all residents are safely evacuated to Modesto A. Maidique Campus no less than 12 hours prior to expected landfall.
- Policy 2.1.2 Order the relocation of all residents of Modesto A. Maidique Campus to on-campus shelters upon issuance of a Category 2 or greater hurricane warning. 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 2.1.3 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.
- Policy 2.1.4 Prior to the development of additional student housing or lodging on the Biscayne Bay Campus, FIU shall coordinate with the Miami-Dade County Office of Emergency Management and Greater Miami Convention and Visitors Bureau to develop an evacuation plan that, at a minimum, allows for early evacuation of residents and hotel guests, identifies an off-campus shelter or alternate hotel to accommodate evacuees and establishes a communication plan to notify residents and guests of hurricane evacuation procedures. Such plan should allow for the timely evacuation of residences and lodging facilities without increasing the overall evacuation time for the area as identified in the Miami-Dade County Comprehensive Emergency Management Plan.

**Objective 2.2 Hurricane Shelter Space:
Expand public shelter space at Modesto A. Maidique Campus as necessary to accommodate all students, faculty and staff needing evacuation and double the capacity for evacuating Monroe County residents.**

Policy 2.2.1 Continue to follow construction standards for the construction of University facilities to serve as hurricane shelters.

Policy 2.2.2 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 Modesto A. Maidique Campus.
- Students, faculty and staff requiring evacuation from off-campus areas, in areas appropriate for evacuation to the Modesto A. Maidique campus.
- Monroe County evacuees (expected to triple from 5,000 to 15,000 spaces).

Policy 2.2.3 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	1,650	40 s.f	66,000 s.f
Monroe County* evacuees	10,000	40 s.f	400,000 s.f
Est. Total Additional need at present			466,000 s.f

* In addition to 5,000 Monroe evacuees for which space is reserved.

Policy 2.2.4 Evaluate and measure the ability to expand shelter space within the Recreation Center 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 2.2.5 In coordination with Miami-Dade County and Monroe County Emergency Management, develop a phased action plan to establish timing for the retrofit 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 the Recreation Center
 - 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 U.S. Century Bank Arena.
 - Priority 4: Other existing or planned structures.
- Policy 2.2.6 Coordinate with American Red Cross for the designation of specific portions of existing open land, where feasible, or parking lots adjacent to the Recreation Center and the Graham Center 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 2.2.7 Should emergency helicopter landing be needed at Biscayne Bay Campus utilize existing open land rather than parking lots when possible.
- Policy 2.2.8 Calculate costs to provide expanded shelter space and negotiate a cost sharing formula with Miami-Dade County and Monroe County.
- Policy 2.2.9 In conjunction with its host communities, continue to update a post-disaster plan to recover from the disruption of University activities.

BAYVISTA BOULEVARD

LEGEND

- MANGROVES
- MANGROVE MITIGATION
- WETLAND RESTORATION
- SHORELINE VEGETATION
- BEACH RIP RAP SHORELINE
- WATER
- PROPOSED / EXISTING BUILDING
- 100' DEVELOPMENT ZONE

**ELEMENT 18.3: COASTAL MANAGEMENT
BISCAYNE BAY CAMPUS**

