18.0

COASTAL MANAGEMENT

18.0 COASTAL MANAGEMENT ELEMENT

The Biscayne Bay Campus of Florida International University, situated in a unique sub-tropical, coastal setting, exemplifies the integration of FIU's strategic pillars and focus areas—enhancing the FIU experience, advancing research, and fostering mission-aligned engagement with a particular emphasis on environmental resilience, health, and technology/innovation. This coastal environment poses unique challenges for our Master Planning process, including maximizing the benefits of this locale while mitigating vulnerabilities to hurricanes, tropical storms, and flooding, and simultaneously safeguarding critical natural resources. [Figures 13.1, 13.2, and 13.3]

In response to legislative mandates, the State University System requires an assessment of each campus's facilities to ensure adequate public shelter space for our community in times of disaster, aligned with local emergency management partnerships. This assessment is crucial in designing facilities that are not only safe shelters but also embody our commitment to sustainability and resilience.

Additionally, our Master Plan emphasizes coordination with the Department of Environmental Resources Management (DERM), especially critical at the Biscayne Bay Campus due to its proximity to shoreline and coastal wetlands. This includes complying with DERM regulations such as obtaining Class II permits for any discharges in Miami-Dade County and Class I permits for activities affecting tidal waters or coastal wetlands, ensuring that our development respects and enhances the campus's natural settings while advancing our strategic goals.

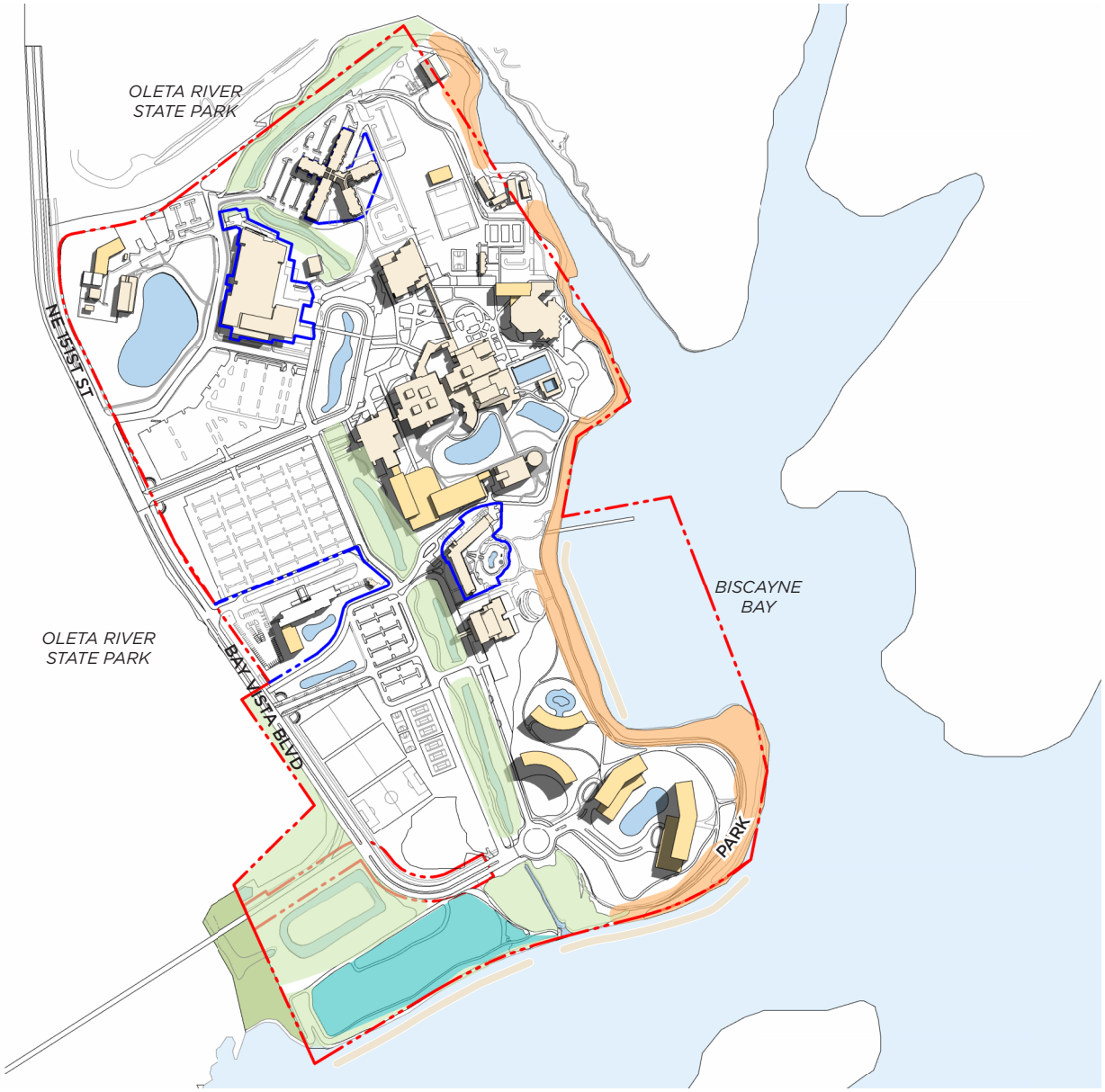

FIGURE 18.1 - BBC COASTAL MANAGEMENT PLAN

LEGEND

- PROPERTY LINE
- EXISTING MANGROVES
- MANGROVE RESTORATION*
- WETLAND RESTORATION*
- SHORELINE VEGETATION
- SURFACE WATER
- BEACH RIP RAP SHORELINE
- EXISTING BUILDING
- FUTURE PROJECT

N

0 400 1,000 FT

GOAL 1

Manage FIU development activities to protect, conserve, and maintain coastal and estuarine resources on the University property at Biscayne Bay Campus.

OBJECTIVES AND POLICIES

Objective 1.1
Implement and manage coastal and estuarine resource policies through the use of appropriate University faculty and staff.

Policy 1.1.1

Leverage the expertise of FIU's knowledgeable faculty and staff to oversee the implementation of the coastal resource management policies outlined in the Conservation and Coastal Management Elements of this Campus Master Plan, reflecting our commitment to environmental resilience, one of our key strategic focus areas.

Within one year of the Master Plan's adoption, these experts will develop any necessary additional policies, guidelines, procedures, and implementation schedules. Subsequent amendments to the Campus Master Plan will incorporate these elements as required. A designated staff member from the FIU Office of Sustainability and the Faculty Senate Environment and Planning Subcommittee will serve as the Environmental Coordinator. This role is crucial in managing the activities related to our strategic pillars of fostering mission-aligned engagement and enhancing research capabilities.

The Environmental Coordinator will periodically review proposed University improvements and activities to ensure compliance with our internal policies and external conservation and coastal management standards set by local, state, and federal authorities. This oversight is integral to maintaining our commitment to the health and well-being of our community and advancing technological innovation in environmental management.

Objective 1.2

Protect and maintain coastal and estuarine resources on 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 the 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 nonwater 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 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 runoff 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 culverts under crossroads to maintain drainage into estuarine and coastal habitats.

Policy 1.2.10

Where feasible, comply with recommendations in the state-approved Miami-Dade County Manatee 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 in 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 beaches, beach strand, or dunes.

Policy 1.3.6

As an element of landscape and pedestrian access improvements to open spaces along the Biscayne Bay shoreline, 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 the City of North Miami and Oleta River State Park to reduce the re-infestation potential on campus.

Objective 1.6

Maintain and enhance water quality in estuarine and aquatic areas on the 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 stormwater 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 13.0 Conservation Element).

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

Improve pedestrian connections along the Biscayne Bay shoreline. Construct a bike path and pedestrian promenade that maximizes bay views and creates glimpses throughout the restored mangrove area. 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 the Biscayne Bay Campus.

OBJECTIVES AND POLICIES

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.

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 earlier. Provide transit vehicles as necessary to ensure that all residents are safely evacuated to the Modesto A. Maidique Campus no less than 12 hours prior to projected landfall.

Policy 2.1.2

Relocate students who reside on the BBC and MMC campuses 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.

Objective 2.2

Hurricane Shelter Space:

Maintain Special Needs shelter requirements as necessary to maintain agreement with Miami-Dade and accommodate all students, facility, and staff needing evacuation. No public sheltering to be expanded.

Policy 2.2.1

Continue to follow construction standards for the construction of University facilities to serve as hurricane shelters.

Policy 2.2.2

Should emergency helicopter landing be needed at Biscayne Bay Campus, existing surface parking lots shall be utilized.

Policy 2.2.3

In conjunction with its host communities, FIU will continue to update a post-disaster plan to recover from the disruption of University activities.

DLRGROUP

FIU

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