2025

PART 4:

THE APPENDICES

MIAMI-DADE
DEPARTMENT OF
EMERGENCY
MANAGEMENT

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1 Appendix A: List of LMS Changes

Page/Part	Location	Change
P1	Through out	Removed references to LMS Coordinator and replaced with LMS Chair
P1-7	LMS Sub-Committees	Added description regarding the formation and disbandment of sub-committees
P1-8	Five-Year Update	Section was updated to include the LMS-PUMP
P1	Municipal Integration of Mitigation Measures	This section was updated based on submissions from respective municipalities and moved to the appendix
P1-24	Mitigation Goals and Objectives	Updates made based on input from partners focusing in on vulnerable populations and future expected conditions
P1-31	Analysis of all Hazards from THIRA	Updates to criteria for inclusion or exclusion of hazards based on partner input, epidemics/pandemics and extreme heat added for further consideration for LMS
P1-30	Hazard Identification and Risk Assessment	Updates to information about hazards based on Miami-Dade County 2020 THIRA and partner input
P2-6	Prioritizing Mitigation Projects	Section renamed from Prioritizing Mitigation Initiatives. The criteria to rank mitigation initiatives was replaced with the qualitative BRIC criteria
P2-19	Project List	Project list was updated based on information submitted by partners on WebEOC – No longer considered appendix
P2-55	Case Studies	What used to be Part 6–Completed Projects in the 2020 LMS, was moved to Part 2 - Appendix 3 and updated with recently completed projects – No longer considered appendix
P3	The Funding	This part was edited to present more information about funding sources, funding sources were removed or added based on availability
P3-1	The Funding	Added table of contents
P4-6	Appendix A	Updated with changes made for this revision
P4-9	Appendix B	Updated with current membership
P4-12	Appendix C	Updated with current membership
P4-19	Appendix H	Updated with latest information from integrated documents
P4-35	Appendix J	Updated with latest version from THIRA
P4-80	Previously Appendix K	Removed appendix that had unnecessary maps
P5-2	Introduction	Updated status of CRS communities
P5-9	Assessing the Hazard - Flooding	Updated figures 1-3 with most recent versions

Page/Part	Location	Change
P5-12	Rainy Season	Updated with information from most recent rainy season
P5-13	Significant Flood Events	Updated with information from most recent THIRA
P5-22	Flood Regulations in Miami-Dade County	Updated Table 6 with most recent data
P5-24	Flood Regulations in Miami-Dade County	Updated Figure 11 with most recent data and changed the way data is mapped
P5-25	Flood Regulations in Miami-Dade County	Updated data in Table 7 with most recent data
P5-27	Flood Regulations in Miami-Dade County	Updated Figures 12 – 15 with most recent data, changed the way data is mapped
P5-31	Flood Regulations in Miami-Dade County	Updated Table 8 with most recent data
P5-34	Storm Surge	Updated Table 9 with most recent data
P5-35	Storm Surge	Updated Figures 17 – 23 with most recent data, changed the way data is mapped
P5-48	Repetitive Losses	Updated Figures 26 and 27 with most recent data, changed the way data is mapped
P5-50	Repetitive Losses	Updated tables 12 and 13 with most recent data
P5-73	Appendix B	Updated excerpts with information from the latest Hurricane Guide
P5-76	Appendix C	Updated news press releases with recent samples

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Appendix B: LMS Working Group and Subcommittee Agencies 2025 [1]

Chair: Robin Yang, Miami-Dade County Department of Emergency Management

Co-Chair: Sherry Capers, Miami-Dade County Department of Emergency Management

Colleges and Universities

Agency	Position Title	Name
Florida International University	Assistant Vice President, Division of Operations and Safety	Amy B. Aiken
Miami-Dade College	Senior Director, Resource Development	Phillip Dickey
University of Miami	Executive Director of Emergency Management	Matthew Shpiner

Miami-Dade County Departments and Constitutional Offices

Agency	Position Title	Name
Aviation Department	Assistant Aviation Director	Ralph Cutie
Regulatory and Economic Resources Department	Division Chief of Stormwater Management	Marina Blanco-Pape
Cultural Affairs Department	Capital Projects Chief	Marie Denis
Solid Waste Department	Administrative Officer 3	Paulette Philippe
Transportation and Public Works Department	Project Engineer	Daryl Hildoer
Internal Services Department	Division Director	Terrence Thompson
Libraries	Grants Analyst	Jeff Rosenberg
Public Housing and Community Development Department	Assistant Director	Elissa Plancher
Miami-Dade Sherrif's Office	Grants Administrator	Dorcas Perez
Seaport	Grants Administrator	Kelli Gay
Water & Sewer Department	Chief Resilience & Sustainability Officer	Debbie Griner
Animal Services Department	Grants Coordinator	Veronica Navarrete
Fire Rescue Department	Grants Bureau Manager	Katrina Hollis-Baker
Resilience Office	Resilience Program Manager	Karina Castillo
Parks, Recreation and Open Spaces Department	Assistant Director, Planning, Design and Construction Excellence Division	Joe Cornely

[1] EMAP (2016) 4.2.4

Municipalities

Agency	Position Title	Name
Aventura	Public Works & Transportation Director	Jake Ozyman
Bal Harbour	Grants Consultant	Kristina Brown
Bay Harbor Islands	Public Works Director	David Hernandez
Biscayne Park	Village Clerk	Pamela Latimore
Coral Gables	Internal Audit & Grants Coordinator	Elsa Fuentes
Cutler Bay	Public Works Director	Alfredo Quintero
Doral	Media & Emergency Management Specialist	Natalie French
El Portal	Village Manager	Christia E. Alou
Florida City	Executive Director	Jon Ward
Golden Beach	Administrative Lieutenant	Yovany Diaz
Hialeah	Building Inspector	Lilibet Muniz
Homestead	Emergency Manager	Stephen Taylor
Indian Creek Village	Village Manager	Guillermo Olmedillo
Key Biscayne	Village Manager	Steven C. Williamson
Medley	Chief	Jeanette Said Jinete
Miami	Hazard Mitigation/Disaster Recovery Specialist	Loretta P. Jeanty
Miami Beach	Grants Management Division Director	Krystal M. Dobbins
Miami Gardens	Assistant Director Public Works	Bernard Buxton-Tetteh
Miami Lakes	Grants and Governmental Affairs Manager	Olivia Shock
Miami Shores	Public Works Director	Chris Miranda
Miami Springs	Assistant Public Works Director	Lizette Fuentes
North Bay Village	Public Works Director	Marlon Lobban
North Miami	Public Works Director	Wisler Pierre-Louis
North Miami Beach	Director of NMB Water	Andrea Suárez Abastida
Opa Locka	Capital Improvement Programs Manager	Adelina Gross
Palmetto Bay	Grant Administrator	Daphney Acevedo Calvert
Pinecrest	Administrative Services Manager	Eduardo Pozas
South Miami	Capital Improvement Program Project Manager	Aurelio J. Carmenates
Sunny Isles Beach	City Manager	Kelly Ajo
Surfside	Town Manager	
Sweetwater	Engineering Manager	Elena Proto
Virginia Gardens	Mayor	Fred Deno
West Miami	Grants Manager	Jenny Polynice-Hall

Hospitals and Health Care

Agency	Position Title	Name
Jackson Health System	Senior Grant Writer	Leslie Ann-Bolden
Mount Sinai Medical Center	AVP, Safety, Security, EM	April Hoyt

Other Government Agencies

Agency	Title	Name
Miami-Dade Public Schools	Director, Property Loss Control	William B. Wever Jr.

Non-Profit Organizations

Agency	Title	Name
Camillus House, Inc.	Director, Grants	Shelley-Anne Glasgow-Wilson
Casa Familia, Inc.	Senior IDD Housing Consultant	Deborah Lawrence
MACtown, Inc.	Consultant	Robert Ruano
Vizcaya Museum and Gardens	Director of Corporate, Foundation & Government Relations	Talmage Thornhill

Appendix C: LMS Committees

Local Mitigation Strategy Steering Committee: 2024

Agency	Title	Name
Florida International University	Research Associate	Tiffany G. Troxler
National Weather Service, Miami Field Office	Warning Meteorologist	Robert Molleda
City of Doral	Emergency Management Specialist	Natalie French
City of Miami	Hazard Mitigation/Recovery Specialist	Loretta Jeanty
University of Miami	Emergency Preparedness Manager	Anna Simko
Mount Sinai Medical Center	Administrative Director, Engineering	April Hoyt
FIU International Hurricane Research Center	Associate Director and Meteorologist	Erik Salna
Town of El Portal	Volunteer	Hugh Gladwin
Miami-Dade College	Senior Director, Resource Development	Philip Dickey
Miami-Dade Office of Resilience	Resilience Program Manager	Karina Castillo
South Florida Water Management District	Intergovernmental Coordinator	Armando Vilaboy
Jackson Health System	Senior Grant Writer	Leslie-Ann Bolden

LMS Sub-Committees

In order to streamline the LMSWG's activities, subcommittees may be formed, each addressing an area of concern, as needed. The formation and disbandment of sub-committees is done in correlation with the trending issues that are addressed by the LMSWG members. Examples of potential sub-committees is listed below.

- Financial and Grants
- National Flood Insurance Program and the Community Rating System
- Training
- Bylaws

Appendix D: 2025 Miami-Dade County Resolution Adopting the LMS and Municipal Resolutions

49 Appendix E: 2025 State of Florida Approval Letter

50 Appendix F: 2025 FEMA Approval Letter

Appendix G: Metropolitan Form of Government

Miami-Dade County has a unique metropolitan form of government, which varies greatly from typical county powers, in that it provides for resolutions, laws, rules, regulations passed by the county to be fully and automatically inclusive of all municipalities within the County.

Specific lines in the Charter that would apply to a document such as the LMS (which is adopted by resolution) being automatically applicable to all municipalities are:

> Section 1.01. Board of County Commissioners: Powers
> Section 1.01, A, 5:
> Prepared and enforce comprehensive plans for the development of the county. *(LMS is a part of the Comprehensive Emergency Management Plan)*
>
> Section 1.01, A, 21:
> Exercise all powers and privileges granted to municipalities, counties, and county officers by the Constitution and laws of the state, and all powers no prohibited by the Constitution or by this Charter
>
> Section 1.01, A, 22:
> Adopt such ordinances and resolutions as may be required in the exercise of its powers, and prescribe fines and penalties for the violation of ordinances
>
> Section 6.02. Municipalities: Municipal Powers
> Each municipality shall have the authority to exercise all powers relating to its local affairs not inconsistent with this Charter. Each municipality may provide for higher standards of zoning, service, and regulation than those provided by the Board of County Commissioners in order that its individual character and standards may be preserved for its citizens.
>
> Section 9.04 General Provisions: Supremacy Clause This Charter and the ordinances adopted hereunder shall in cases of conflict supersede all municipal charters and ordinances, except as herein provided, and where authorized by the Constitution, shall in cases of conflict supersede all special and general laws of the state.

Specific lines in the Florida Constitution of 1968 that would further apply to a document such as the LMS (which is adopted by resolution) being automatically applicable to all municipalities within Miami-Dade County are:

> Section 6. Schedule to Article VIII. –
> (f) DADE COUNTY; POWERS CONFERRED UPON MUNICIPALITIES. To the extent not inconsistent with the powers of existing municipalities or general

law, the Metropolitan Government of Dade County may exercise all the powers conferred now or hereafter by general law upon municipalities.

Specific lines in the Miami-Dade County Ordinance 8b that would further solidify something like the LMS (which is adopted by resolution) being automatically applicable to all municipalities within Miami-Dade County are:

> Sec. 8B-8. Duties of the Director of the Office of Emergency Management
> 1) The Director or designee shall prepare a Comprehensive Emergency Management Plan and program for the emergency management of Miami-Dade County pursuant to F.S. 252, including, but not limited to elements addressing mitigation activities, preparedness, responses to disasters and emergencies, and recovery operations and submit the Plan and program to the Director of the Division of Emergency Management. State of Florida for review and certification for consistency with the State Comprehensive Emergency Management Plan and compliance with Federal emergency management mandates.

Additionally, the most recent resolution (R-452-10) adopting the LMS further reiterates the fact the municipalities are included in the line:

> **Whereas**, the State of Florida Department of Community Affairs and/or Florida Division of Emergency Management enters into agreements with Miami-Dade County to provide the funding for the County and municipalities to jointly develop a Local Mitigation Strategy to become a component of the Statewide Mitigation Strategy …
>
> **Whereas,** the Local Mitigation strategy meets the State agreement requirements and was accomplished with the participation of local governments, the Schools Board of Miami-Dade County.

Effective comprehensive planning has also been a central focus of the Miami-Dade government from the onset. The power to "prepare and enforce comprehensive plans for the development of the county" was one of twenty-four specified in the County Home Rule Charter in 1957 and a Department of Planning is one of the four departments required by the County Home Rule Charter. The County adopted its first land use plan in 1965 and has since enacted a series of increasingly more refined growth management plans and procedures as required by the Local Government Comprehensive Planning Act of 1975 as amended from time to time. In summary, Miami-Dade has a fifty-two year history of intergovernmental coordination for effective comprehensive planning and plan implementation.

Miami-Dade County Municipalities and Public Schools

Aventura
Bal Harbour
Bay Harbor Islands
Biscayne Park
Coral Gables
Cutler Bay
Doral
El Portal
Florida City
Golden Beach
Hialeah
Hialeah Gardens
Homestead
Indian Creek Village
Key Biscayne
Medley
Miami
Miami Beach
Miami Lakes
Miami Gardens
Miami Shores
Miami Springs
North Bay Village
North Miami
North Miami Beach
Opa-locka
Palmetto Bay
Pinecrest
South Miami
Sunny Isles
Surfside
Sweetwater
Virginia Gardens
West Miami
Public Schools

Adjacent Counties

Broward
Collier
Monroe

Adjacent Municipalities

Hallandale Beach
Pembroke Park
Miramar

Appendix H: Integration Document[2]

Integration of Policies and Guidance:

The Miami-Dade Local Mitigation Strategy (LMS) integrates essential policies, strategies, and actions to build a disaster-resistant and resilient community. This section reflects the latest developments from key resilience strategies and plans, ensuring alignment with local, state, and federal mitigation policies. The following plans are incorporated into the LMS to ensure Miami-Dade County is better prepared for current and future hazards:

- MDC Resilient305 Strategy
- MDC Sea Level Rise Strategy
- MDC Thrive305 Action Plan
- DEM Post Disaster Redevelopment Plan (PDRP)
- 2050 Long Range Transportation Plan (LRTP)
- MDC Heat Action Plan 2022
- DEM Recovery Support Function (RSF) Mitigation Annex
- DEM Flood Response Plan
- DEM Recovery Plan (July 2022)
- Southeast Florida Regional Climate Action Plan (RCAP) 3.0

Resilient305 Strategy

The Resilient305 Strategy was developed as a roadmap to address the unique resilience challenges of Miami-Dade County, the City of Miami, and the City of Miami Beach. The strategy emphasizes addressing natural and man-made disruptions such as sea level rise, flooding, economic inequality, and infrastructure vulnerabilities. It is designed to build on existing networks and to protect the region's people, homes, and economy through collaborative efforts. The strategy is organized into three pillars: **Places**, **People**, and **Pathways**.

Key Integration Points:

1. **Places**: This focuses on addressing the vulnerabilities associated with sea level rise, flooding, and critical infrastructure. Projects are prioritized to ensure climate-resilient communities by strengthening physical infrastructure,

[2] EMAP 4.4.3

particularly those exposed to environmental risks like flooding. The focus is on research, planning, and the design of resilient urban areas and ecosystems. The LMS integrates these challenges by prioritizing projects that build climate-resilient communities and mitigate flooding risks.

2. **People**: This pillar highlights socio-economic resilience by targeting underserved populations. Resources and programs aim to address economic inequities by ensuring equitable distribution of resources, especially in vulnerable communities. The goal is to strengthen their capacity to respond to and recover from both natural and economic challenges. The LMS prioritizes mitigation projects that serve underserved populations, focusing on underserved areas to enhance community resilience.

3. **Pathways**: Emphasizes creating networks and collaboration across the public, private, and non-profit sectors. This integration is critical to enhancing regional planning and partnerships, ensuring that resilience goals are embedded into the strategic actions of various stakeholders. The LMS adopts this model to strengthen partnerships and ensure resilience efforts are integrated into regional planning.

Updated Recommendations:

- **Continue to engage with Resilient305 PIVOT Team:** This ensures that resilience goals are continuously aligned with evolving conditions and strategic needs. The PIVOT team will manage the implementation and progress of the Resilient305 Strategy, ensuring that the long-term objectives are met through cross-sector collaboration.

- **Adopt Resilience Metrics:** Implementing resilience metrics aims to create a clear and measurable framework to track the progress of interventions in vulnerable areas, ensuring that resources are effectively addressing the most critical resilience challenges.

- **Expand Community-Driven Planning:** This focuses on increasing public engagement, ensuring that community feedback is incorporated into project prioritization. It aims to empower communities to take part in resilience planning, thereby tailoring projects to local needs.

Sea Level Rise Strategy

The Sea Level Rise Strategy aims to provide a proactive framework for Miami-Dade County to address the effects of rising sea levels on its communities, infrastructure, and environment. It emphasizes adaptation and resilience to long-term sea level changes while promoting sustainable development, environmental conservation, and community involvement.

Key Integration Points:

1. **Adaptation to Sea Level Rise**: The strategy incorporates various adaptive measures, including elevating infrastructure and enhancing stormwater management systems to address long-term sea level risks. It emphasizes the use of engineered solutions like stormwater parks, integration of green and blue infrastructure into projects, and elevating critical equipment to mitigate the risks of future flooding. LMS integrates measures such as elevating infrastructure and improving stormwater management to address sea level rise risks.

2. **Resilient Infrastructure**: Infrastructure investments are prioritized, specifically focusing on raising roads and improving stormwater systems. The strategy also advocates the use of green infrastructure to reduce flooding and protect communities. Infrastructure investments, including raising roads and improving seawalls, are prioritized in the LMS.

3. **Community Engagement**: The plan underscores the importance of engaging communities, particularly those historically underserved or disproportionately affected by environmental changes. This ensures an inclusive approach to addressing sea level rise. LMS prioritizes mitigation measures that focus on underserved communities affected by sea level rise.

4. **Environmental Sustainability**: There is a strong emphasis on protecting natural ecosystems, such as wetlands and mangroves, which serve as critical buffers against flooding and rising sea levels. This approach promotes sustainable development and environmental conservation. The LMS emphasizes protecting natural ecosystems, such as wetlands and mangroves, as natural barriers.

Updated Recommendations:

- **Implement Key Adaptation Projects:** Focus on implementing critical projects in flood-prone areas, including infrastructure upgrades and stormwater management systems. This step aims to mitigate future risks by targeting the most vulnerable regions.

- **Strengthen Building Codes:** Update local building codes to enforce stricter standards for flood resilience, ensuring that new developments can better withstand rising sea levels and the associated risks.

- **Monitor and Update Adaptation Strategies:** Continuously monitor data related to sea level rise and flooding, and regularly revise adaptation plans to

reflect the latest scientific and environmental findings. This ongoing process ensures that the county's strategies remain effective in the long term.

Thrive305 Action Plan

The purpose of the Thrive305 Action Plan is to create a community-driven policy framework aimed at addressing systemic issues across Miami-Dade County. These issues include housing, public safety, transportation, and climate resilience, with a focus on equity, inclusivity, and resilience. The plan is based on extensive community input from over 27,000 residents, ensuring that residents' voices drive government priorities.

Key Integration Points:

1. **Community Engagement and Equity**: The Thrive305 Action Plan integrates the principles of community engagement and equity by ensuring that resilience planning is inclusive and that underserved communities are prioritized in mitigation projects. This involves collaborating with civic groups to expand opportunities for traditionally underrepresented groups to participate in decision-making processes. The LMS integrates Thrive305's principles by prioritizing mitigation projects in underserved communities and ensuring that resilience planning is inclusive.

2. **Resilience and Sustainability**: The plan emphasizes future projects that focus on sustainable infrastructure, energy efficiency, and flood resilience. This includes initiatives like the retrofit of older, less efficient housing to make them more resilient to climate risks while also reducing the financial burdens on residents through improved energy efficiency. LMS emphasizes sustainable infrastructure, energy efficiency, and flood resilience in future mitigation projects.

3. **Housing and Infrastructure**: Affordable and resilient housing is a key priority. The plan integrates energy and flood resilience into housing developments to ensure that low-income and vulnerable communities are not disproportionately affected by climate risks. Projects focus on both the development of new housing and the retrofitting of older housing stock to meet modern resilience standards. The LMS ensures affordable, resilient housing developments are a priority, incorporating energy and flood resilience.

4. **Public Safety and Emergency Preparedness**: The Thrive305 Action Plan aligns its mitigation projects with public safety goals, focusing specifically on early intervention and preparedness for vulnerable neighborhoods. This ensures that these communities are better equipped to respond to

emergencies, including natural disasters. Mitigation projects are aligned with public safety goals, focusing on vulnerable neighborhoods.

Updated Recommendations:

- **Expand Community Engagement:** Thrive305 recommends increasing efforts to engage marginalized and underserved communities in resilience planning. This includes expanding community discussions, outreach, and participation in policy formation, ensuring that all voices are heard and that the needs of these communities are prioritized.
- **Prioritize Resilient Housing Projects:** The updated recommendations stress the importance of focusing on housing developments that integrate both energy efficiency and flood mitigation. These resilient housing projects should cater to low-income residents, ensuring their homes are safe, affordable, and sustainable in the face of climate challenges.
- **Integrate Public Safety Initiatives:** To support early intervention and preparedness, Thrive305 calls for the integration of public safety measures into all mitigation projects. This includes improving emergency response systems, increasing awareness of resilience planning, and ensuring that all communities, especially the most vulnerable, have access to critical resources during emergencies.

Post Disaster Redevelopment Plan (PDRP)

The Post Disaster Redevelopment Plan (PDRP) aims to integrate long-term recovery, redevelopment, and reconstruction opportunities into the community planning process of Miami-Dade County. It seeks to provide a strategic framework to manage limited resources efficiently during the redevelopment process, ensuring a smooth transition from short-term recovery operations to long-term redevelopment after a disaster. The PDRP outlines the County's vision to build back stronger and smarter after a disaster.

The Post Disaster Redevelopment Plan (PDRP) aims to integrate long-term recovery, redevelopment, and reconstruction opportunities into the community planning process of Miami-Dade County. It seeks to provide a strategic framework to manage limited resources efficiently during the redevelopment process, ensuring a smooth transition from short-term recovery operations to long-term redevelopment after a disaster. The PDRP outlines the County's vision to build back stronger and smarter after a disaster.

Key Integration Points:

1. **Long-Term Recovery Priorities**: The Local Mitigation Strategy (LMS) integrates the County's long-term recovery goals, prioritizing housing, infrastructure, and economic revitalization after disasters.
2. **Resilient Infrastructure and Housing**: The LMS emphasizes rebuilding infrastructure and housing with higher resilience standards to withstand future disasters.
3. **Sustainable Land Use**: The plan incorporates sustainable land use planning strategies that aim to protect vulnerable coastal and flood-prone areas, minimizing risks.
4. **Economic Recovery**: The LMS supports mitigation projects that safeguard critical economic sectors such as tourism, small businesses, and infrastructure, ensuring a stable and revitalized post-disaster economy.

Updated Recommendations:

- **Aligning Long-Term Recovery Strategies:** The updated recommendations include aligning the County's long-term recovery strategies with the PDRP's resilience goals, ensuring that all redevelopment efforts are focused on sustainability and resilience**.**
- **Coordination with RSFs:** The plan highlights the importance of coordinating with Recovery Support Functions (RSFs) to ensure a collaborative recovery approach that involves federal, state, and local partners.
- **Public Engagement:** Engaging the public in recovery planning is emphasized to ensure community needs are reflected, enhancing the inclusivity and effectiveness of recovery strategies.

2050 Long Range Transportation Plan (LRTP)

The 2050 Long Range Transportation Plan (LRTP) serves as a comprehensive blueprint for the development, management, and operation of a safe, equitable, and efficient multi-modal transportation network for Miami-Dade County. It aims to enhance mobility, safety, security, and resiliency while integrating emerging technologies and ensuring cost-effective solutions for both current and future infrastructure needs. The plan prioritizes improving accessibility, sustainability, and economic competitiveness to support the region's growth and prosperity.

The LRTP's goals include achieving world-class transportation that promotes mobility, safety, innovation, sustainability, equity, and economic competitiveness. It also seeks to ensure seamless connectivity, bolster resilience to climate impacts, and foster economic vitality through strategic investments.

Key objectives include engaging public participation to address future mobility needs, setting measurable goals to assess infrastructure performance, prioritizing transportation projects based on regional needs and cost feasibility, and ensuring alignment of transportation strategies with both local and statewide plans.

Key Integration Points:

1. **Mobility and Connectivity**: The LRTP emphasizes integrating transportation infrastructure that improves access and resilience, particularly during and after disasters. This involves enhancing public transit and non-motorized transportation options to ensure consistent mobility for residents even in disaster scenarios. LMS integrates transportation infrastructure projects that improve access and resilience, especially during and after disasters.

2. **Resilient Infrastructure**: To address flood risks and climate change, the LRTP incorporates projects focused on flood resilience, such as elevated roads and improved stormwater systems. These initiatives aim to reduce disruptions caused by extreme weather conditions and ensure the longevity of infrastructure. LMS includes flood-resilient projects like elevated roads and enhanced stormwater management systems.

3. **Economic Competitiveness**: By supporting transportation projects that maintain business operations during disasters, the LRTP plays a role in preserving economic stability. This focus also aligns with promoting sustainable development to keep Miami-Dade County economically vibrant amid challenges from climate change. The LMS supports transportation projects that ensure business continuity during disasters.

Updated Recommendations:

- **Prioritize Resilient Transportation Projects:** Enhance flood resilience by designing infrastructure capable of withstanding extreme weather, such as elevated roadways and stormwater management systems.
- **Coordinate with the SMART Program:** Collaborate with the SMART Program to implement transit solutions that are not only sustainable but also climate-resilient. This includes integrating emerging technologies and innovative transit options**.**
- **Promote Equitable Access:** Ensure that transportation improvements reach underserved and historically disadvantaged communities, addressing mobility challenges and fostering inclusivity across Miami-Dade County.

Heat Action Plan 2022

The **Heat Action Plan 2022** aims to mitigate the health and economic impacts of rising temperatures in Miami-Dade County, with a focus on protecting vulnerable populations and underserved communities. The plan's primary goals are to reduce heat-related health risks, increase the availability and efficiency of cooling infrastructure, and expand urban heat mitigation efforts in high-risk areas. Key objectives include safeguarding outdoor workers and individuals without access to cooling systems, prioritizing cooling infrastructure projects in underserved neighborhoods, and enhancing green infrastructure, such as the urban tree canopy, to reduce temperatures in at-risk areas.

Key Integration Points:

1. **Mitigating Heat-Related Health Risks**: The Local Mitigation Strategy (LMS) incorporates measures aimed at protecting those most at risk, such as outdoor laborers, elderly populations, and individuals without access to air conditioning. This could include early warning systems, public education campaigns, and the creation of energy resilient cooling centers for emergency use.

2. **Cooling Infrastructure**: LMS projects will focus on enhancing shelters and housing through energy-efficient cooling solutions, such as retrofitting buildings with modern HVAC systems and promoting passive cooling techniques like green roofs. Special attention will be given to economically disadvantaged communities that often lack access to reliable cooling options.

3. **Urban Heat Mitigation**: The LMS will promote urban design strategies to reduce heat in densely populated or high-risk areas. Expanding the tree canopy will increase shade and reduce surface temperatures, while installing cooling features such as public misting stations, water fountains, and shaded bus stops will offer immediate relief from heat in public spaces.

Updated Recommendations:

- **Expand Tree Canopy and Cooling Features:** This includes planting more trees and integrating cooling systems, like shade structures and water features, in parks, playgrounds, and public areas. Underserved communities, often most affected by heat, will be prioritized for these interventions.

- **Ensure Energy Resilience in Critical Facilities:** Critical facilities such as emergency shelters will be equipped with backup power systems, including renewable energy sources like solar panels with battery storage, to ensure cooling capabilities remain operational during power outages caused by heat waves or other climate events.

- **Monitor Heat Risk Reduction Efforts:** This involves establishing a framework for tracking and evaluating the success of heat risk interventions.

Metrics might include reductions in heat-related illnesses and deaths, temperature moderation in targeted areas, and improved public access to cooling infrastructure.

Recovery Support Function (RSF) Mitigation Annex

The **Recovery Support Function (RSF) Mitigation Annex** in Miami-Dade County's Emergency Operations Center Recovery Plan ensures the incorporation of long-term risk reduction strategies into the disaster recovery phase. It emphasizes the coordination and alignment of recovery operations with mitigation efforts to build resilience and protect against future hazards. This is part of a larger plan that integrates the **Local Mitigation Strategy (LMS)** into recovery operations, ensuring resilience is at the forefront of redevelopment efforts post-disaster. The overarching purpose of this annex is to reduce risks and enhance resilience during long-term recovery operations post-disaster. This aligns with the County's recovery goals of rebuilding more resiliently than pre-disaster conditions, through hazard mitigation and sustainable redevelopment.

Key Integration Points:

1. **Mitigation Integration in Recovery:** The Local Mitigation Strategy (LMS) actively integrates hazard mitigation into recovery efforts, making sure that every aspect of redevelopment considers long-term risk reduction and resilience. By aligning the LMS with recovery efforts, Miami-Dade County is better equipped to address vulnerabilities exposed during disasters and reduce future risks.

2. **Coordination Across Sectors:** The alignment between LMS and RSF promotes efficient resource allocation and recovery. By ensuring that housing, transportation, and public health sectors are working collaboratively under a unified framework, all aspects of the recovery can be addressed in a coordinated manner, improving outcomes and minimizing delays.

Updated Recommendations:

- **Align LMS with RSF Priorities:** This recommendation calls for deeper integration between Local Mitigation Strategies and RSF frameworks to ensure that all aspects of the recovery plan are harmonized. This alignment will streamline decision-making and resource distribution, ensuring that long-term recovery objectives are met effectively.

- **Leverage RSF Partnerships:** Expanding partnerships across RSFs will enhance the availability of resources for both recovery and mitigation efforts. By involving more stakeholders, including private sector entities and non-

profits, Miami-Dade County can better support its recovery initiatives and ensure that risk reduction measures are adequately funded and implemented.

Flood Response Plan

The Miami-Dade County Flood Response Plan aims to enhance preparedness, response, and recovery efforts related to flood hazards. Given the county's vulnerability to various types of flooding, this plan consolidates the efforts of multiple stakeholders, including local, state, and federal agencies, to minimize the impacts of flooding.

Key Integration Points:

1. **Flood Preparedness and Response:** Integration with the Local Mitigation Strategy (LMS) to incorporate stormwater management strategies and flood barrier installations. This includes continuous monitoring of flood risks and strengthening flood defense mechanisms in vulnerable areas. By proactively managing these risks, the LMS ensures the county's readiness for high-risk flood events and minimizes infrastructure damage.

2. **Coordination with Emergency Management**: LMS promotes coordination with the County's Department of Emergency Management (DEM) to ensure an effective, unified response. This collaboration ensures efficient deployment of resources, streamlined communication, and mitigation strategies to reduce risks across the county. Agencies like the U.S. Army Corps of Engineers (USACE) and the South Florida Water Management District (SFWMD) are integral partners in operating and maintaining the canal system to manage floodwaters.

Updated Recommendations:

- **Strengthening Flood Mitigation Projects:** This involves reinforcing infrastructure improvements, such as elevating critical roadways and enhancing stormwater drainage systems. Projects are designed to minimize flood impact on essential services and reduce the vulnerability of the county's infrastructure. The expansion of these projects includes both urban and coastal flood defenses, considering future risks related to climate change and sea level rise.

- **Expanding Community Awareness Programs:** These programs emphasize educating residents on flood preparedness, flood insurance, and emergency response. Public education campaigns are conducted in multiple languages (English, Spanish, Haitian Creole) to ensure inclusivity and accessibility. The programs particularly target vulnerable populations, including the elderly, low-

income households, and those living in flood-prone areas, providing them with the tools to better understand and mitigate their risk.

Recovery Plan (July 2022)

The Miami-Dade County Recovery Plan provides an operational overview and organizational framework implemented during short-term and intermediate phases of the disaster recovery process. As the disaster response evolves into recovery operations, County departments, non-governmental organizations and other partners collaborate to continue operational initiatives until the County has fully recovered or transitions into the long-term recovery phase, if required, when the Post Disaster Redevelopment Plan (PDRP) is activated.
This Plan details a coordinated roadmap for resilient recovery operations, identifies the operational concepts, and provides an overview of organizational structures which bridges the gap between responses to a more resilient recovery. The Recovery Plan addresses policies that promote an all-hazards disaster resilient recovery process amongst all stakeholders including public and private sector agencies and organizations; non-profit and faith-based organizations; municipalities and independent districts, including water control districts and school districts.

Key Integration Points:

1. **Mitigation Integration in Recovery**: The Local Mitigation Strategy (LMS) is a central component in integrating hazard mitigation into recovery efforts. By including LMS in recovery, the aim is to build resilience over the long term. This integration ensures that recovery is not merely a return to the pre-disaster state but involves reconstructing stronger, more resistant infrastructure and communities. LMS ensures that post-disaster recovery incorporates resilient building standards and hazard mitigation.

2. **Coordination Across Sectors**: The Recovery Plan emphasizes the importance of aligning the Local Mitigation Strategy with the Recovery Support Functions (RSF) structure, which brings together key sectors such as housing, transportation, and public health. This coordination ensures that all sectors are working toward a common goal of reducing risk and enhancing resilience. It also facilitates the flow of information and resources across different recovery activities, which is crucial for timely and effective implementation of mitigation strategies. LMS will align with the Recovery Plan to ensure communities are involved in shaping recovery priorities.

Updated Recommendations:

- **Align LMS with RSF Priorities:** The updated recommendation calls for a direct alignment between the Local Mitigation Strategy and the RSF priorities. This alignment is essential for creating a coordinated approach to long-term recovery. By ensuring that LMS and RSF work together, the county can prioritize actions that reduce risk and support sustainable rebuilding efforts.
- **Engage Communities in Recovery Efforts:** Another key recommendation involves leveraging partnerships within the RSF framework to expand available resources for both recovery and mitigation efforts. These partnerships include public and private sectors, non-governmental organizations, and other stakeholders who can contribute expertise, funding, and resources. By collaborating across these groups, the county can pool resources and enhance the overall capacity for disaster recovery and long-term mitigation.

Southeast Florida Regional Climate Action Plan (RCAP) 3.0

The **Southeast Florida Regional Climate Action Plan (RCAP) 3.0**, developed by the Southeast Florida Regional Climate Change Compact, aims to provide a regional approach to climate adaptation, focusing on the impacts of climate change in Southeast Florida. The RCAP's overarching goals are to promote climate resilience, mitigate risks, and reduce greenhouse gas emissions. It serves as a voluntary framework guiding local and regional efforts to accelerate climate action and adaptation to achieve net-zero emissions by 2050 and strengthen the resilience of communities, institutions, and the regional economy.

Key Integration Points:

1. **Regional Climate Adaptation**: The Local Mitigation Strategy (LMS) incorporates RCAP's focus on sea level rise and flood resilience, ensuring that climate risks such as extreme weather events, rising temperatures, and storm surges are central to local adaptation efforts.
2. **Sustainability and Emissions Reduction**: Prioritizing green infrastructure and emission reduction projects is a core strategy for achieving long-term sustainability. This includes focusing on renewable energy sources and promoting energy efficiency initiatives. LMS projects will prioritize green infrastructure and emission reduction strategies.
3. **Multi-Jurisdictional Collaboration**: Collaborative partnerships among regional stakeholders are essential for addressing shared climate risks. These partnerships involve local governments, academic institutions, and private sector entities working together on climate resilience projects, leveraging

resources for comprehensive adaptation. The LMS will strengthen collaboration with regional partners to address shared climate risks.

Updated Recommendations:

- **Integrate RCAP Goals:** The updated recommendations emphasize aligning Local Mitigation Strategy (LMS) projects with RCAP's goals, particularly in promoting regional climate resilience. This involves ensuring all projects contribute to the broader climate adaptation strategy while meeting specific local needs.
- **Coordinate with Regional Partners**: Leveraging the expertise and resources of regional partners is critical for effective climate adaptation. This includes engaging with local governments, state agencies, and private sector stakeholders to implement projects that address both current and projected climate risks, such as sea level rise, infrastructure adaptation, and public health concerns.

Appendix I: Municipal Integration of the LMS

LMS participating municipalities have incorporated mitigation into their planning processes, policies and/or ordinances. The municipalities continuously strive to expand and improve upon their mitigation measures as is illustrated below and with the extensive listing of mitigation projects identified in *Part 2*.

Aventura

The City of Aventura reported the last update on Municipal Integration occurred on September 8, 2020, when Resolution No. 2020-62 was approved as the city's Floodplain Management Plan.

City of Aventura Comprehensive Plan[3]
Transportation Element
Policy 1.9: The City of Aventura, in consultation with the Florida Department of Transportation, shall evaluate the impacts of proposed development and redevelopment on its transportation system, Strategic Intermodal System facilities, and the adopted level of service standards of transportation facilities, and identify strategies to alleviate or mitigate such impacts in coordination with the developer and other agencies as appropriate. The City shall coordinate with FDOT, Miami- Dade County, and other jurisdictions in the county in the development of common methodologies for measuring such impacts.
Infrastructure Element
Objective 4: Aventura shall protect and preserve the biological and hydrological functions of the wetlands identified in the Land Use Element. Future impacts to the biological functions of publicly and privately-owned wetlands shall be mitigated. Publicly acquired wetlands shall be restored and managed for their natural resource, habitat and hydrologic values.
Capital Improvements Element
Objective 3: Future development will be permitted only when the adopted level of service standards for those services listed in the CIE will be upgraded or maintained at adopted levels of service, or when demonstrated negative impacts on hurricane evacuation clearance times will be mitigated, by ensuring that adequate fiscal resources are made available including, the proportionate cost of improvements necessitated by the development.
Conservation & Coastal Management Element
Policy 10.2: Structures which suffer recurring damage to pilings, foundations or load-bearing walls shall be required to rebuild landward of their current location to modify the structure to structurally enhance the structure, institute or mitigation measures or delete the areas most prone to damage. **Policy 10.14:** The City shall implement its local mitigation strategy in accordance with the guidelines provided in the Local Mitigation Strategy: A Guidebook for

[3] https://www.cityofaventura.com/DocumentCenter/View/184/Comprehensive-Plan-PDF?bidId=

Florida Cities and Counties in order to fulfill the State requirements relating to post-disaster planning, repair, and reconstruction.

Bal Harbour

Below is the section of this Village's Comprehensive Plan that integrates with the Miami-Dade County LMS.

Comprehensive Plan for Village of Bal Harbour	December 1988
Future Land Use Element	
Objective 9J-5.006(3)(b)4: Protect natural and historical resources. Policy: Developments and construction that adversely impact on the quality of the natural environment shall not be allowed.	
Coastal Management Element	
Objective 2.2 Hazard Mitigation and Coastal High-Hazard Areas: the Village of Bal Harbour shall ensure that building, development and redevelopment activities are carried out in a manner which minimizes the danger to life and property from hurricanes. Development within coastal high-hazard areas shall be restricted and public funding for facilities with coast high-hazard areas shall be curtailed. • Policy 2.2.01: The hazard mitigation section of the Dade County Hurricane Procedure Plan shall be reviewed and updated on a 5-year basis. In the rewrites, the Emergency Management Director shall identify specific actions that could be implemented to reduce exposure to natural hazards. • Policy 2.3.06: The Recovery Task Force shall propose comprehensive plan amendments which reflect the recommendations in any interagency hazard mitigation reports or other reports prepared pursuant to Section 406 of the Disaster Relief Act of 1974 (PL 93-288). • Policy 2.3.07: If rebuilt, structures which suffer damage in excess of fifty (50) percent of their appraised value shall be rebuilt to meet all current requirements, including those enacted since construction of the structure. • Policy 2.3.08: Structures which suffer recurring damage to pilings, foundations, or ·loadbearing walls shall be required to rebuild landward of their current location, to modify the structure to structurally enhance the structure, institute other mitigation measures or delete the areas most prone to damage.	

Bay Harbor Islands

Below is the section of this Village's Comprehensive Plan that integrates with the Miami-Dade County LMS.

The most recent actions taken by the town were:

- On August 8, 2016 the Town of Bay Harbor Islands passed Ordinance No. 991 amending Chapter 23 of the Town's adopted Code of Ordinances entitled Zoning and Planning relating to the allowable height of docks.

- On May 13, 2019 the Town of Bay Harbor Islands passed Ordinance No. 1032 amending the Code of Ordinance that repeals the town's existing Chapter 7 ½ entitled Flood Damage Prevention. This updated ordinance updated the flood plain maps, designated a flood plain administrator, and adopted procedures and criteria for development in flood hazard areas, etc.

- September 14, 2020 Town of Bay Harbor Islands passed Resolution No. 2210 for adoption of the 2020 Miami-Dade County Local Mitigation Strategy as the city's Floodplain Management Plan.

Town of Bay Harbor Islands Code of Ordinances	**December 2013**
Article 1 General Provisions	

Sec. 11-5. - Seasonal and periodic flooding; protection of lives.

(a)The regulation of areas subject to seasonal and periodic flooding as provided in the comprehensive plan, policies 1.1(4) (page 35), 3.2 (page 36), 5.2 (page 37), and objectives 3 (page 36) and 5 (page 37) shall be implemented by the Code of Ordinances, including sections 5-17, 5-23.1(A)(3), (4) and sections 23-11(A)(5) and 23-12(12).

(b)While it is hereby declared that Dade County has retained the primary responsibility for seasonal and periodic flooding throughout the county as provided in county Ordinance Nos. 57-22 and 57-30, as amended, the town's Code of Ordinances shall further implement the goals and objectives of the county ordinances by requiring compliance with all minimum federal flood insurance elevations for all new construction and for which land use densities and intensities have been adopted in further support thereof.

(c)The protection of lives as provided in the comprehensive plan, policy 5.2 (page 37), shall be implemented by the Code of Ordinances, including section 5-1, and by virtue of the Miami-Dade County retention of primary responsibility for hurricane evacuation, including responses to lifesaving and other types of emergency evacuation. The town shall continue to coordinate and assist the county by providing minibus mass transportation to designated areas, information dissemination, and such other acts as shall complement the overall mass transit/public notice and evacuation procedures implemented by Miami-Dade County, Florida. While the county has retained the right to regulate land subdividing through the subdivision regulations, nevertheless the town shall continue to coordinate its efforts with the appropriate county agencies.

(d)The town has adopted and shall maintain in full force and effect written hurricane procedures, as amended from time to time.

(e)Drainage facilities for flooding and a nonpoint pollution, as provided in the town's comprehensive plan, policies 1.1.1, 1.1.2 (page 58); 1.3.1 (page 59); 2.1.1 and objective 2 (page 60); capital improvements policies 1.2, 1.3, 1.4 (page 19); and land use policy 1.3 (page 37) shall be implemented by the Code of Ordinances, including

sections 5-1 and 5-17, in that the town collects and discharges storm water runoff through inlets for the residential districts and into two drainage wells for the commercial districts. The town shall continue to coordinate its efforts with Dade County, particularly with reference to protecting and preserving Biscayne Bay. The town shall continue to review its land development regulations to ensure the standards as indicated in the town's comprehensive plan.

(Ord. No. 488, § 5, 5-29-90; Ord. No. 733, § 4, 12-8-03)

Article III Provisions for Flood Hazard Reduction

Sec. 7½-26. - General standards.

In all areas of special flood hazard, all development sites including new construction and substantial improvements shall be reasonably safe from flooding, and meet the following provisions:

(1) New construction and substantial improvements shall be designed or modified and adequately anchored to prevent flotation, collapse, and lateral movement of the structure resulting from hydrodynamic and hydrostatic loads, including the effects of buoyancy.

(2) New construction and substantial improvements shall be constructed with materials and utility equipment resistant to flood damage.

(3) New construction and substantial improvements shall be constructed by methods and practices that minimize flood damage.

(4) Electrical, heating, ventilation, plumbing, air conditioning equipment and other service facilities, including duct work, shall be designed and/or located so as to prevent water from entering or accumulating within the components during conditions of flooding.

(5) New and replacement water supply systems shall be designed to minimize or eliminate infiltration of floodwaters into the systems.

(6) New and replacement sanitary sewage systems shall be designed to minimize or eliminate infiltration of floodwaters into the systems and discharges from the systems into floodwaters.

(7) On-site waste disposal systems shall be located and constructed to avoid impairment to them or contamination from them during flooding.

(8) Any alteration, repair, reconstruction or improvements to a building that is in compliance with the provisions of this chapter shall meet the requirements of "new construction" as contained in this chapter.

(9) Any alteration, repair, reconstruction or improvements to a building that is not in compliance with the provisions of this chapter, shall be undertaken only if said nonconformity is not furthered, extended, or replaced.

(10) All applicable additional federal, state, and local permits shall be obtained and submitted to the floodplain administrator along with the application for development permit. Copies of such permits shall be maintained on file with the development permit. State permits may include, but not be limited to, the following:

(a) *South Florida Water Management District:* in accordance with F.S. § 373.036(2)(a)—Flood protection and floodplain management.

(b) *Department of Community Affairs:* in accordance with F.S. § 380.05—Areas of critical state concern, and F.S. Chapter 553, part IV—Florida Building Code.

(c) D*epartment of Health:* in accordance with F.S. § 381.0065—On-Site Sewage Treatment and Disposal Systems.

(d) *Department of Environmental Protection, Coastal Construction Control Line:* in accordance with F.S. § 161.053—Coastal Construction and Excavation.

(11) Standards for subdivision proposals and other new proposed development (including manufactured homes):

(a) Such proposals shall be consistent with the need to minimize flood damage.

(b) Such shall have public utilities and facilities such as sewer, gas, electrical, and water systems located and constructed to minimize or eliminate flood damage.

(c) Such proposals shall have adequate drainage provided to reduce exposure to flood hazards.

(12) When proposed new construction and substantial improvements are partially located in an area of special flood hazard, the entire structure shall meet the standards for new construction.

(13) When proposed new construction and substantial improvements are located in multiple flood hazard risk zones or in a flood hazard risk zone with multiple base flood elevations, the entire structure shall meet the standards for the most hazardous flood hazard risk zone and the highest base flood elevation.

Biscayne Park

Below is the section of this Village's Comprehensive Plan that integrates with the Miami-Dade County LMS.

2025 Comprehensive Plan Adopted Component	September 25, 2023
Chapter 6: Conservation Element	
Policy 4.2 The Village will encourage the implementation of low impact development techniques and green building standards that reduce the negative environmental impacts of development and redevelopment by: reducing building carbon footprints to the maximum extent feasible, and locating building sites away from environmentally sensitive areas; promoting the preservation of natural resources; providing for on-site mitigation of impacts (i.e. retention and treatment of stormwater runoff, water reuse, Master Stormwater Management Systems); promoting energy conservation through design, landscaping and building techniques (i.e. solar power, increased tree canopies); promoting water conservation and recycling through landscaping and building design; ensuring sustainably sourced building practices (i.e. use of environmentally friendly building materials, recycled materials), and; considering the development and implementation of a green building certification program, with associated regulations, incentives and standards.	
Public Facilities Element	
GOAL- DRAINAGE: **Drainage** THE DRAINAGE GOAL FOR DRAINAGE IS FOR THE VILLAGE OF BISCAYNE PARK IS TO MAINTAIN AND ENHANCE THE LOCAL DRAINAGE SYSTEM TO AFFORD REASONABLE PROTECTION FROM PREDICTABLE FLOODING. Drainage objectives to achieve the goal and which also address the requirements of paragraphs 163.3177 (6) (c), F.S for this mandatory plan element: **OBJECTIVES AND POLICIES** Objective 1 To review on an annual basis information on the performance of stormwater drainage facilities. **Policy 1.1** The Village will continue to comply with the 10-Year Design Storm Level of Service Standard for stormwater drainage until such time that changed or projected flooding conditions necessitate employment of a different standard. **Policy 1.2**	

The Village will continue to maintain and monitor local drainage. The Village must ensure the flood protection level of service provided to residents is maintained and/or improved.

Policy 1.3
All stormwater shall remain on-site before and after construction. Stormwater shall be required to be retained onsite utilizing a properly designed drainage system (e.g., seepage or infiltration). Any grading and draining improvements, reconstruction within any parcels will require a review and approval, demonstrating with signed and sealed engineering calculations, that the required retention of stormwater onsite is being achieved with a properly engineered stormwater management system that the reconstruction, grading, and drainage improvements shall not negatively impact the adjacent properties.
At a minimum, the County Flood Criteria adopted in Miami-Dade County in October 2022 or subsequent standards in effect at the time of review and approval shall be required. Most current and stringent groundwater data available at the time of the review and approval from the Village, County, or other agencies, shall be used.

Coral Gables

Below is the section of this City's Comprehensive Plan that integrates with the Miami-Dade County LMS.

City of Coral Gables Comprehensive Emergency Management Plan, Annex I, Mitigation	**October 2009**
Annex I, Mitigation	
• **Section B:** Coral Gables Mitigation Programs and Department Responsibilities • Note: Details and further information is contained in the Miami-Dade County Local Mitigation Strategy. (Page 3.) • • • **Mitigation Projects Completed.** • The City's Local Mitigation Strategy identifies mitigation projects that have been completed and provides a list of future projects to be implemented as funding becomes available. (Page 6.)	
Public Safety Element	

Objective SAF-2.2:
Assure that future development or redevelopment maintains or reduces hurricane evacuation times. The City establishes an out-of-county hurricane evacuation time for a category 5 hurricane of 16 hours. Mitigation is permitted to achieve and maintain these standards.
Policy SAF-2.3.2: Annually incorporate recommendations of interagency hazard mitigation into the Comprehensive Plan and Post-Disaster Redevelopment Plan. The redevelopment plan shall identify areas which may warrant post-disaster redevelopment, including elimination of unsafe conditions and inappropriate land uses, and limitation of redevelopment in areas of likely repeated damage.

Cutler Bay

On September 16, 2020 the Town of Cutler Bay passed Resolution No. 20-52 for adoption of the 2020 Miami-Dade County Local Mitigation Strategy; authorizing the Town Manager to identify and prioritize hazard mitigation grant program projects to become a part of the Local and Statewide hazard mitigation strategy. The Town also adopted a Climate Change Element via Ordinance 16-09 in October 19, 2016.

Town of Cutler Bay Growth Management Plan
Future Land Use Element
Policy FLU-8C: New schools will minimize negative impacts on surrounding areas through site location, configuration, access and development. Conversely, new development and redevelopment shall minimize and/or mitigate negative impacts on existing school facilities. **Policy FLU-9M:** The Town shall require developers to identify and mitigate constraints based on soils, topography, and floodplains.
Housing Element
Monitoring Measures H2-1: 1. Land Development Regulations that mitigate regulatory barriers or provide incentives for the provision of a variety of housing types. 2. Number of cost burdened households by income, age, and special needs group and tenure; and 3. Housing costs
Coastal Management Element
Policy CM-3C: The Town will establish development standards in the Land Development Regulations for siting future water-related uses that address land use compatibility, availability of upland support services, existing protective status of ownership, hurricane contingency planning, protection of water quality, water depth, environmental disruptions, mitigation actions, availability for public use, economic need, and feasibility **Objective CM-4:** Through compliance with Federal Emergency Management Agency (FEMA) regulations and by targeting repetitive flood loss and vulnerable properties for mitigation, the Town will reduce natural hazard impacts.

Objective CM-7: The Town will coordinate with the Miami-Dade County Office of Emergency Management (OEM) to develop and implement post-disaster redevelopment and hazard mitigation plans that reduce or eliminate exposure of life and property to natural hazards towards the protection of health, safety, and welfare.

Policy CM-7A: Inconsistencies are found with the policies under this objective and the post disaster redevelopment and hazard mitigation plans of the Miami-Dade County Office of Emergency Management (OEM), the Town will notify and coordinate with OEM.

Policy CM-7D: Recovery Task Force shall review and decide upon emergency building permits; coordinate with Miami-Dade County, state and federal officials to prepare disaster assistance applications; analyze and recommend to the Town Council hazard mitigation options including reconstruction or relocation of damaged public facilities; develop a redevelopment plan; and recommend amendments to the Growth Management Plan and other appropriate policies and procedures.

Objective CM-8: The Town will reduce the exposure of life and property to hurricanes through the planning and implementation of pre-disaster hazard mitigation measures. Pre-disaster planning for post-disaster redevelopment shall direct population concentrations away from the undeveloped identified high-risk areas during post-disaster redevelopment.

Policy CM-8C: During pre-disaster planning, hazard mitigation proposals shall be developed by the Town in conjunction with other agencies and, where appropriate, included in the Town's Emergency Response Plan or the Growth Management Plan.

Policy CM-8D: As the Town locates facilities, the Town shall determine the feasibility and necessity of relocating public buildings away from high-risk areas. The Town shall develop a formal process and guidelines for evaluation alternative to the replacement or repair of public facilities damaged by hurricanes such as abandonment, relocation, or repair and reconstruction with structural modifications. The costs; environmental impacts; mitigation effects; community impacts; economic development issues; employment effects; legal issues; consistency with local, regional and state plans; time period for implementation; and availability of funds should be evaluated for each alternative.

Objective CM-9: During post-disaster recovery and redevelopment, the Town shall implement its Emergency Response Plan (ERP) and applicable Growth Management Plan policies and assist hurricane damaged areas with recovery and hazard mitigation measures that reduce the potential for future loss of life and property.

Policy CM-9D: The Town will enforce applicable recommendations of post-disaster hazard mitigation plans required under Section 406 of the Disaster Relief Act of 1974.

Conservation Element

Policy C-6A: Wetlands that are to be protected will be identified based on the type of wetland, function, size, conditions, location, and overall resource value. The wetlands shall be used for purpose that are compatible with their natural values and functions, and shall be protected by using such tools as compensatory wetland mitigation and dedication of conservation easements for preserving open space. All development with the potential to impact wetland areas shall be consistent with SFWMD regulations, and the minimum standards afforded by Chapter 24 of the Miami-46
Dade County Code. Activities in wetland areas may be permitted provided all applicable local, regional, state and federal external environmental agency permits have been obtained and one of the following standards is satisfied:

1. Such an activity is necessary to prevent or eliminate a public hazard.
2. Such an activity would provide direct public benefit, which would exceed those lost as a result of the modification.
3. Such an activity is proposed for habitats in which the functions and values currently provided are significantly less than those typically associated with such habitats and cannot be reasonably restored.
4. Because of the unique geometry of the site, it is the unavoidable consequence of development for uses that are appropriate given site characteristics.

Climate Change Element

Policy CC-2A: The Town of Cutler Bay shall encourage greener, more energy-efficient and climate resilient construction practices by:
1. Requiring that the construction or renovation of Town-owned facilities meets Florida Green Building Coalition, US Green Building Council Leadership in Energy and Environmental Design (LEED), or other acceptable commercial building standards;
2. Encouraging commercial builders to require that the construction or renovation of commercial facilities meets Florida Green Building Coalition, US Green Building Council Leadership in Energy and Environmental Design (LEED), or other acceptable commercial building standards;
3. Encouraging licensed Town personnel to maintain LEED Green Associate certification;
4. Re-evaluating finish floor elevation standards with respect to projected sea level rise scenarios and flooding potential, and;
5. Incorporating building design specifications that increase resistance to more frequent and/or intense storm events.
Policy CC-2B: The Town of Cutler Bay shall evaluate risk from sea level rise or climate change related impacts in the location and design or new infrastructure, as well as the fortification or retrofitting of existing infrastructure, specifically within areas east of Old Cutler Road.
Policy CC-2C: The Town of Cutler Bay shall make the practice of adapting the built environment to the impacts of climate change an integral part of its planning

processes, including comprehensive planning, building codes, land development regulations, resource management, flood control and stormwater management, coastal management, community development and capital planning.
Policy CC-2E: The Town of Cutler Bay shall implement strategies and practices to improve resilience to coastal and inland flooding, salt water intrusion, and other climate change impacts.
Policy CC-2G: The Town shall develop a sea level rise checklist for use when analyzing new Town projects.
Policy CC-3A: New roadways in the Town of Cutler Bay shall be designed to: prevent and control soil erosion; minimize clearing and grubbing operations; minimize storm runoff; minimize exposure to and risk of climate change impacts such as increased flooding, and; avoid unnecessary changes in drainage patterns.
Policy CC-3B: The Town of Cutler Bay shall require new construction, redevelopment, additions, retrofits or modifications of property to: incorporate permeable driveways consisting of porous concrete, open cell unit pavers (turf block), flagstone, or brick pavers; reduce total impervious area, and; employ other techniques to reduce run-off, capture and reuse rain water, allow the infiltration of water into the underlying soil, and recharge the Biscayne Aquifer.
Policy CC-4A: The Town of Cutler Bay shall coordinate with the Miami-Dade County to identify any existing septic tanks that may be currently at risk of malfunctioning due to high groundwater levels or flooding, and develop programs to abandon these systems and/or connect users to the public sewer system.
Policy CC-4D: The Town of Cutler Bay shall continue to develop regulations that require new construction, and redevelopment to: manage stormwater runoff; incorporate porous materials; reduce total impervious area, and; employ other techniques to reduce runoff, capture and reuse rainwater, and recharge the Biscayne Aquifer.

https://www.cutlerbay-fl.gov/com-dev/page/growth-management-plan
https://www.cutlerbay-fl.gov/townmanager/page/town-master-plans
https://www.cutlerbay-fl.gov/publicworks/page/flood-awareness

Doral

On September 9, 2020, the City of Doral adopted Resolution 20-189 which adopts the current Miami-Dade County Local Mitigation Strategy in accordance with the National Flood Insurance Program Community Rating System Requirements as the City's Floodplain Management Plan.

City of Doral Comprehensive Master Plan[4]
Future Land Use Element

[4] https://www.cityofdoral.com/_entity/sharepointdocumentlocation/a7d825a2-238c-ed11-81ac-001dd807078a?file=City-of-Doral-Comprehensive-Plan_%20Revisions_12_2022_Final.pdf

Policy 2.6.1: Coordinate with Miami-Dade County in implementing the approved Local Mitigation Strategy, by assessing the vulnerability of governmental, medical and public safety sites and structures in the City to storm damage, and in developing an action plan, if necessary, to address wind stability and flood protection for key buildings.

Policy 2.6.4: Following the National Response Framework principles, respond to all types of disasters and emergencies with the primary mission of saving lives, and protecting property and the environment. Activate procedures under mutual aid agreements with Miami-Dade County and other area cities when necessary based on event severity. In the case of hurricanes, the City will also immediately implement the recovery policies contained in its adopted Hurricane Preparedness and Recovery Plan.

Policy 2.6.5: All proposed large-scale amendments to this Comprehensive Plan and/or zoning applications shall be evaluated for their impact on hurricane evacuation routes and times, and effect on currently available off-site shelter capacities. Roadway improvements and shelter improvements shall be required, if deemed necessary, to mitigate negative impacts and phased with new residential development.

Infrastructure Element

Policy 5E.2.5: Appropriate local planning, development design standards, and special construction practices shall be required to ensure both short and long-term mitigation of impacts on groundwater created by activities occurring in stream-to-sink basins and in areas where the Floridan Aquifer is unconfined or semi confined. The following provisions shall apply:

a) All new development or modifications to existing development shall provide stormwater treatment.

b) Corrective action to retrofit or upgrade existing hazardous material facilities consistent with standards applicable to new facilities shall be required by the City. The Hazardous Materials Management Code and development regulations establish guidelines and minimum compliance standards for existing facilities.

c) New development activities that involve handling or storing of hazardous materials may be prohibited in areas and shall be subject to the general requirements, siting prohibitions, storage facility standards, secondary containment requirements, and monitoring provisions of the Hazardous Materials Management Code. Where such facilities exist and are proposed to be modified, development review and permitting activities shall include careful evaluation and implementation of engineering and management controls, setbacks and buffers, and monitoring. Existing facilities shall meet the requirements of the Hazardous Materials Management Code pertaining to such facilities.

Conservation Element

Policy 6.4.12: Provide for regular updates to the City's adopted Stormwater Master Plan.

Policy 6.4.13: Protect and enhance the stormwater management systems that recharge the Northwest Wellfield Area. **Policy 6.5.2:** Identify future wetlands to be protected based on the type of wetland, function, size, conditions/location, and overall resource value. These wetlands shall be used for purposes that are compatible with their natural values and functions, and land development regulations shall be adopted to provide these areas with the maximum feasible protection, by using such tools as upland buffers, exotic vegetation removal, hydro period restoration, compensatory wetland mitigation and dedication of conservation easements. Activities in wetland areas may be permitted provided all applicable federal, state, regional and local external environmental agency permits have been obtained.
Intergovernmental Coordination Element
Policy 9.1.18: Coordinate all disaster preparedness programs with the Miami-Dade County OEM to ensure consistency with the County's Comprehensive Emergency Management Plan and the Miami-Dade Local Mitigation Strategy (LMS) and in updating hurricane evacuation shelter assignments.
City's Land Development Code
Section 71-112 – "Required to withstand extreme wind conditions": No more than 15 percent of the required tree planting requirement pursuant to Chapter 71 "Landscaping and Buffers" of the City's Land Development Code, can be trees and palm trees which do not fare well in extreme wind conditions such as hurricanes and tropical storms. Examples are, avocado, black olive, carrot-wood, citrus tree, among other trees specified in Section 71-112.
Low Impact Development Master Plan
City of Doral Low Impact Development (LID) Master Plan: Provides the City with guidelines, recommendations and Best Management Practices (BMPs) to promote the implementation of green infrastructure in new development and re-development projects to maintain natural infiltration of Stormwater, reduce the discharge of specific pollutants into local waterways, provide more aesthetically pleasing developments and reduce the flood impacts in the City Stormwater system. The Planning Department is currently working on an update to the LID Master Plan which will add new LID techniques.
Low Impact Development
Section 74-881 - "Low Impact Development (LID) Practices": The City's Planning and Zoning Department is responsible for implementing the LID Master Plan through the incorporation of the LID BMPs in Section 74-881 of the Land Development Code. The LID's BMPs apply to all new development and re-development projects within the City of Doral. Concurrent with the update to the City's LID Master Plan, the Planning Department is revising Section 74-881 of the LDC which will clarify the goals, provide a list of non-structural and structural LID practices (derived from the Master Plan) and provide for maintenance of LID practices.

In September, 2021, the City of Doral adopted amendments to Section 74-881 Low Impact Development (LID) Practices as follows:

(i) Ensure the water quality and quantity requirements are met, per Section 11.0 of the 2021 LID Master Plan update and the SFWMD ERP Applicant's Handbook Volume II.
(j) Ensure the post-development annual runoff volume does not exceed the pre-development runoff volume, per Section 11.0 of the 2021 LID Master Plan update and the SFWMD ERP Applicant's Handbook Volume II.
(k) Implement erosion and sediment control best management practices during and after construction.
(l) Encourage a maintenance program and a 5-year permit recertification process to be included in the approval conditions, where the City has the authority to request maintenance records of the site's LID practices every five (5) years.

New buildings and redevelopment sites shall incorporate the following low impact development (LID) practices into project design, site and building plans: Developers shall implement the following non-structural LID practices to the maximum extent practical**:
a.) Preservation of Site Topography and Soil Profile
i. Selectively grade and clear land in order to maintain the natural flow path and reduce soil disturbance and compaction,
ii. Prioritize placement of impervious surfaces on clays (if any) and disturbed soils, and placement of infiltration-requiring LID features on highly permeable soils.
iii. Incorporate soil amendments that increase infiltration capacity, storage capacity, or pollutant removal capacity of the soil, and add the nutrients needed for vegetation to stabilize sandy soils.
b.) Preservation and Use of Native and Local Vegetation
i. Preservation and incorporation of conservation areas and wetland habitats
ii. Removal of exotic and invasive vegetation
iii. Retention of existing native vegetation and introduction of native vegetation appropriate to existing site conditions
iv. Conservation of existing native tree canopy
c.) Open Space Design and Conservation
i. Increase the amount of vegetation on the site
ii. Maximize use of open swale systems
iii. Maximize overland sheet flow
iv. Avoid total site clearing
d.) Minimization of Total Impervious Areas
i. Utilize alternative roadway, sidewalk, parking lot, and driveway designs to minimize imperviousness and promote natural infiltration.
ii. Utilize stabilized grass or other similar surfaces for parking spaces

provided above the minimum requirement
iii. Design buildings to maximize the ratio of square footage to roof area.
e.) Reduction of Directly Connected Impervious Areas
i. Direct the site drainage to stabilized vegetated areas
ii. Design site layout to break-up flow directions from large, paved surfaces
iii. Design roof drains to drain to vegetated areas
iv. Locate impervious areas so that they drain to permeable areas
**If not practical, developers must demonstrate that these practices cannot be implemented because of site constraints.

Developers shall implement a minimum of two (2) structural LID practices from the following list, where one meets the water quantity requirement and the other meets the water quality requirement, per Section 11.0 of the 2021 LID Master Plan Update and the SFWMD ERP Applicant's Handbook Volume II. **
a.) Bioretention Basins or Rain Gardens
b.) Tree Box Filters or Infiltration Planters
c.) Vegetated Swales
d.) Filter Strips or Vegetated Buffers
e.) Infiltration Trenches
f.) Exfiltration Trenches or French Drains
g.) Green Roof or Rain Barrels/Cisterns
h.) Permeable Pavement
i.) Retention Pond
j.) Detention Pond
k.) Wet Detention or Retention Pond with Aquatic Vegetation
l.) Parking Stormwater Chambers

**Developers may introduce or propose other LID practices not included in this list for review and consideration by the City.
Recommended design criteria, inspection, operation and maintenance requirements, and approaches for storage and infiltration calculation for the aforementioned LID practices are described in greater detail in the City of Doral Low Impact Development Master Plan Update (2021).

El Portal

Below is the section of this village's comprehensive plan that integrates with the Miami-Dade County LMS.

Village of El Portal Comprehensive Plan	May 2002
Coastal Management Element	
Policy 1.1.1. In conjunction with any redevelopment of the mobile home park Little Farm Trailer Park site, preserve (and mitigate where possible) the natural canal banks to further marine and wildlife habitat. **Policy 9.1.20** Work with Miami-Dade County in implementing the approved Local Mitigation Strategy for hazard mitigation, and by January 2007, the City shall	

Village of El Portal Comprehensive Plan	May 2002
develop a City Emergency Plan to increase public safety and reduce damages and public expenditures.	

Florida City

Below is the section of this town's comprehensive plan that integrates with the Miami-Dade County LMS.

Florida City Community Redevelopment Plan	February 2009
Policy 1.1: Acquire and demolish dilapidated and unsafe structures while providing relocation programs for displaced families if necessary. **Policy 7.1:** Work with appropriate government agencies and utility companies to ensure provision of adequate services including potable water, stormwater, sewer, gas, solid waste, television, and electricity.	

Golden Beach

Below is the section of this village's comprehensive plan that integrates with the Miami-Dade County LMS.

Town of Golden Beach Hurricane and Severe Weather Response Plan	2007
Severe Weather Response Element	
Policy: The Town will have an organized response to hurricanes and other severe weather related emergencies in order to mitigate the effects of severe weather and to return Town services and normal living conditions as soon as possible. Wherever practical; the Town's plan will use the same terminology and references as Miami-Dade County's (MDC) plan. The Town Mayor and Manager or their designees are responsible for determining when this plan will be implemented. The determination to mobilize will be based upon information provided by the National Hurricane Center (NHC) and the Miami-Dade Emergency Operations Center (MDEOC). Additionally, it is the policy of the Town of Golden Beach Police Department is to protect life, property, and maintain order within the community during a weather related emergency. Appropriate levels of police services will be maintained before, during and after a hurricane or severe weather incident.	

Hialeah

Below is the section of this city's Comprehensive Plan that integrates with the Miami-Dade County LMS.

City of Hialeah Comprehensive Plan	2024
Future Land Use Element	

City of Hialeah Comprehensive Plan	2024
Policy 1.2.14: Wetland impacts on the Annexation area. The City, in the development of the northwest area, will mitigate the impact of development on wetlands consistent with environmental requirements and development projections.	
Conservation Element	
The 100-year floodplain needs to be protected to help mitigate the damaging effects of flooding. Protection of these areas is assisted through the National Flood Insurance Program and local Code of Ordinances. Flood criteria must be met before the City will issue any building permits.	
Capital Improvements Element	
Policy 1.4.2: The City shall continue to maintain an inventory of any existing hazards within the City by using the hazards analysis and hazards mitigation criteria established within the Miami-Dade County Comprehensive Emergency Management Plan and shall also identify any grant sources available to mitigate the hazards listed on the hazard inventory.	

Hialeah Gardens

The City of Hialeah Gardens incorporates mitigation into its planning process as follows:

City of Hialeah Gardens 2025 Comprehensive Plan	October 2012
Intergovernmental Coordination Element	
• **Policy 1.1.10** The City shall implement the provisions of the Local Mitigation Strategy (LMS) Guidelines in accordance with the Interlocal Agreement with Miami-Dade County. • **Objective 1.3** Coordinate the impact of development with other jurisdictions to define and implement mutually beneficial goals, ensure consistency among adjacent land uses, and mitigate negative development impacts. This objective shall be made measurable by implementation of its policies.	

The City of Hialeah Gardens has a Division of Emergency Management which is responsible for coordinating disaster preparedness, response, recovery, and mitigation concerns for all City departments.

Homestead

Below is the section of this city's comprehensive plan that integrates with the Miami-Dade County LMS.

City of Homestead Comprehensive Plan	June 2011
Future Land Use Element	
Objective 10: Hurricane Evacuation and Mitigation Ensure that development and redevelopment are consistent with hurricane evacuation plans.	

Measure 2: Maintain hurricane mitigation measures that are consistent with the Miami-Dade County Local Mitigation Strategy (LMS) and facilitate the approved evacuation plans. **Policy 10.1:** Development orders for new development and redevelopment shall be consistent with local and regional hurricane evacuation plans where applicable. **Policy 10.2**: Mitigate any identified deficiencies in storm damage resistance of critical public facilities and construct new facilities, if needed, to assist in the City's evacuation plans.
Objective 11: Hazard Mitigation and Post-Disaster Redevelopment To the extent financially feasible, incorporate all prudent hazard mitigation needs and post-disaster redevelopment procedures into the City's capital improvement planning and Land Development Code. Measure: Number of capital improvement projects and/or amendments to the land development code successfully implemented to address hazardous mitigation needs and post disaster redevelopment procedures.
Hazard Mitigation/ Post-Disaster Redevelopment Element
Policy 4.3: Participate in the preparation/modification of the 409 Hazard Mitigation Plan.
Objective 6: Implementation of the Local Mitigation Strategy (LMS) The City continues to work with the Miami-Dade EOC and other government agencies to implement the policies, ordinances and programs outlined in the LMS. Measure: Coordinate efforts with state and county agencies to bring the community together as a single mitigating entity. **Policy 6.1:** Participate in the improvements in the City's standing and classification in the Community Rating System (CRS), with the related consequences of making flood insurance under the National Flood Insurance Program (NFIP) more affordable and reachable, while improving the effectiveness in coping with flood hazards, problems and emergencies. P**olicy 6.2:** Disseminate information on a repetitive basis with respect to the existence of flood hazards and the availability of measures to mitigate the problems presented by such hazards. **Policy 6.3:** Increase the level of coordination of mitigation management concerns, plans and activities at all levels of government. **Policy 6.4:** Improve and maintain cutting edge, state-of-the-art, and effectiveness of the City's emergency preparedness and disaster response capacity. Policy 6.5: Continue our commitment to the review, update and implementation of the local hazard mitigation strategy.

Indian Creek Village

Below are the new Policies of the Village's Comprehensive Plan that integrates with the Miami-Dade County LMS.

Comprehensive Plan for Indian Creek Village	2024 Update
Coastal Management Element	

GOAL 6.2, Objective A

Policy 5:

The Village shall participate in the Local Mitigation Strategy (LMS) program, which aids in disaster recovery. The LMS is a community-wide group that assesses a community's potential vulnerabilities in the event of a disaster, and develops activities or projects that would reduce those vulnerabilities. If a disaster does occur, the LMS has ready lists of related projects a community can implement to prevent or reduce damages from a similar disaster. The Village shall strive to complete or participate in activities or projects that proactively reduce vulnerabilities.

Policy 6:

The Village shall continue to enforce Chapter 16, Flood Damage Prevention, Village Code of Ordinances (Ord. No. 225, adopted September 8, 2020).

Key Biscayne

On August 25, 2015, the Village of Key Biscayne passed Resolution No. 2015-38 for adoption of the 2015 Miami-Dade County Local Mitigation Strategy; authorizing the Village Manager to identify and prioritize hazard mitigation grant program projects to become a part of the Local and Statewide hazard mitigation strategy.

The Village has a full-time Certified Flood Plain Manager who is responsible for the implementation of the Community Rating System (CRS) and NFIP compliance with assistance from a CRS Coordinator and a Consultant. The Village of Key Biscayne has incorporated mitigation into their planning processes to include the following plans:

Ordinances	**2017-2023**
No. 2017-03 - Repealing and replacing Chapter 10 - Floods - relating to the Floodplain Management Regulations. **No. 2017-08** - Amending Sections 10-63 and 10-73 re Floodplain Management Regulations – expanding the definition of Coastal A Zone and clarifying specific methos of construction and requirements for additional elevation **No. 2023-05** - Creating a Sustainability Advisory Board **No. 2023-09** - Amending the Village Code by revising section 10-63 "Definitions", 10-91 "Permanent Placement" and section 30-41 "Recreational Vehicles and Manufactured Homes"	
Village Wide Vulnerability Assessment	**August 2024**
Resolution No. 2024-41 Adopting the Key Biscayne Vulnerability Assessment Report	

Village of Key Biscayne Code of Ordinances Plan	February 2014
Section 30-73-Site Plan Review Procedures Item (f)(6)g: Description of methods to be implemented during construction to mitigate adverse quantity or quality impacts off-site.	
Village of Key Biscayne Comprehensive Emergency Management Plan	**August 2019**
Annex-IV: Recovery H. Hazard Mitigation Plan/Program	
Resolution No. 2019-55 The Village of Key Biscayne has adopted the Miami-Dade County Comprehensive Emergency Management Plan by reference.	
Village of Key Biscayne Floodplain Management Plan (FMP) – CRS Annual Recertification Annual Progress Report	**September 2020**
Progress on FMP implementation falls within the context of CRS compliance Action Plans followed by the Village. The Action Plan Items are included and tracked through the Miami-Dade County Local Mitigation Strategy (LMS).	
Community Rating System (CRS)	**September 2020**
Repetitive Loss Properties One of the activities involved with the Annual NFIP CRS Re-Certification process is the analysis of Repetitive Loss Areas (RLAs). The purpose of the analysis is to determine possible mitigation solutions to minimize the flood claims.	
Future Land Use Element	
Objective 2.4 Hurricane Evacuation Eliminate or reduce land uses which are inconsistent with applicable Florida Natural Hazards Interagency Work Group Annual Report recommendations and enhance the efforts of the Miami-Dade Office of Emergency Management by providing it with all relevant information. **Policy 2.4.1** The Village shall regulate all future development within its jurisdiction in accordance with the Future Land Use Map which is consistent with the applicable Florida Natural Hazards Interagency Work Group Annual Report. The Village shall periodically review and revise the Future Land Use Map in light of future interagency hazard reports in order to reduce or eliminate uses which are inconsistent therewith.	
Housing Element	
Policy 1.4.4 The Village shall monitor current and future housing needs and explore innovative solutions to increase the affordability and diversity of housing stock while maintaining compliance with the Coastal High Hazard Area and Floodplain Regulations.	
Infrastructure Element	
Objective 1.1 Current Deficiencies and Future Needs; Drainage The Village shall continue to upgrade the drainage system so that stormwater outfalls into Biscayne Bay (and adjacent canals) fully meet National Pollution	

Discharge Elimination System (NPDES) standards no later than December 31, 1998, and the standards of Chapter 17-25, FAC and of Chapter 17-302.500, FAC. The Village shall continue to upgrade onsite drainage standards to ensure that private properties retain at least the first one inch of stormwater on site and permit no more runoff after development than before development.

Policy 1.1.2
During the first phase of drainage master plan implementation the Village shall begin to mitigate to the extent technically and economically feasible direct stormwater outfalls into the canals and Biscayne Bay. Anticipated improvements include a series of catch basins, manholes and pipes for the collection of the stormwater and routing to pollution control structures and drainage wells with emergency overflows. The pollution control devises (grease and oil separator) are to be provided before each drainage well to prevent contamination from entering. Emergency overflow structures is to be constructed at the existing outfalls and would discharge only when the storm events generate more than one inch of runoff. These improvements shall be designed to fully meet the specific standards set forth in Objective 1.1 above.

Conservation and Coastal Management Element

Policy 1.3.1
The Village shall continue to enforce estuarine waterfront protection provisions in the land development code. The provisions will be drafted to ensure that all applicable development permit applications are reviewed in the context of the mangrove protection policies of the State DEP and the waterfront policies of DERM. In particular, DERM Class 1 Permits pursuant to Section 24-48.1 of the Miami-Dade County Code shall be required for all construction seaward of the mean high-water line. Such construction shall be designed to minimize environmental impacts and mitigate unavoidable impacts. This provision shall be interpreted to protect sensitive lands from sea walls and other related construction, but it shall not be interpreted as permitting construction seaward of the State Coastal Construction Control Line in violation of other policies of this Comprehensive Plan.

Objective 1.5 Floodplains
The Village shall amend its floodplain regulations to require all new and/or substantially improved or repaired buildings to be constructed higher than the minimum standards as set forth in the Florida Building Code and floodplain regulations in 44 C.F.R., Part 60.

Policy 1.5.4
The Village shall evaluate and adopt regulations to require or incentivize site low impact development techniques and best management practices to reduce losses due to flooding and resulting insurance claims.

Policy 1.7.14: The Village hereby designates DERM mangrove jurisdictional areas in the Village as environmentally sensitive lands which shall be protected from

development unless their ecological value is replaced via mitigation. These DERM areas are mapped in Figure V-1 of the Data and Analysis of this Plan.

Policy 3.3.3: During post-disaster recovery periods, after damaged areas and infrastructure requiring rehabilitation or redevelopment have been identified, appropriate Village departments shall use the post-disaster redevelopment plan to reduce or eliminate the future exposure of life and property to hurricanes; incorporate recommendations of interagency hazard mitigation reports; analyze and recommended to the Village Council hazard mitigation options for damaged public facilities; and recommend amendments, if required, to the Village Master Plan.

Goal 4 Protect coastal properties and public facilities and infrastructure investment by preparing, adapting and mitigating for climate change impacts

Objective 4.1 Flood Risk Reduction
The Village shall adopt and implement policies, land development regulations, administrative procedures, incentives, or other strategies to reduce vulnerability to sea level rise, high-tide events, storm surge, and stormwater runoff.

Policy 4.1.1
By 2025, the Village shall consider the development of a Resilience Action Plan (RAP) to explore adaptation and mitigation measures which increase resilience to climate change impacts, including the reduction of risk.

Policy 4.1.2
The Village shall review and monitor updates to The Unified Sea Level Rise Projection for Southeast Florida produced by the Southeast Florida Regional Climate Change Compact and consider the projections when evaluating, planning, and designing public facility and infrastructure projects.

Policy 4.1.3

The Village shall encourage the use of living shorelines or other nature-based infrastructure as a shore protection alternative.

Policy 4.1.4
Construction activities seaward of the coastal construction control lines established pursuant to s. 161.053 shall be consistent with Chapter 161 of the Florida Statutes.

Policy 4.1.5
The Village shall maintain flood-resistant construction requirements that are consistent with, or more stringent than, the Florida Building Code and applicable floodplain management regulations as set forth in 44 C.F.R., Parts 59 and 60.

Policy 4.1.6
The Village shall continue to participate in the Community Rating System under the National Flood Insurance Program (NFIP) to achieve flood insurance discounts.

Policy 4.1.7
The Village shall evaluate its policies and regulations on a periodic basis to consider amendments to reduce and/or mitigate flooding impacts and shall ensure amendments do not increase the extent and depth of flood potential.

Policy 4.1.8
The Village shall ensure that all applicable land development regulations and policies are enforced during development review procedures, shall encourage approaches to mitigate flood impacts, and shall evaluate opportunities for offering incentives for exceeding minimum standards.

Medley

Below is the section of this town's comprehensive plan that integrates with the Miami-Dade County LMS.

Town of Medley Municipal Code of Ordinances	**May 2014**
Article V. Provisions for Flood Hazard Reduction	
Sec. 30-71. - General standards. In all areas of special flood hazard, all development sites including new construction and substantial improvements shall be reasonably safe from flooding, and meet the following provisions: (1) New construction and substantial improvements shall be designed or modified and adequately anchored to prevent flotation, collapse, and lateral movement of the structure resulting from hydrodynamic and hydrostatic loads, including the effects of buoyancy. (2) Manufactured homes shall be anchored to prevent flotation, collapse, and lateral movement. Methods of anchoring may include, but are not limited to, use of over-the-top or frame ties to ground anchors. This standard shall be in addition to and consistent with applicable State of Florida requirements for resisting wind forces. (3) New construction and substantial improvements shall be constructed with materials and utility equipment resistant to flood damage. (4) New construction and substantial improvements shall be constructed by methods and practices that minimize flood damage. (5) Electrical, heating, ventilation, plumbing, air conditioning equipment and other service facilities, including duct work, shall be designed and/or located so as	

to prevent water from entering or accumulating within the components during conditions of flooding.

(6) New and replacement water supply systems shall be designed to minimize or eliminate infiltration of flood waters into the systems.

(7) New and replacement sanitary sewage systems shall be designed to minimize or eliminate infiltration of flood waters into the systems and discharges from the systems into flood waters.

(8) On-site waste disposal systems shall be located and constructed to avoid impairment to them or contamination from them during flooding.

(9) Any alteration, repair, reconstruction or improvements to a building that is in compliance with the provisions of this chapter shall meet the requirements of "new construction" as contained in this chapter.

(10) Any alteration, repair, reconstruction or improvements to a building that is not in compliance with the provisions of this chapter, shall be undertaken only if said non-conformity is not furthered, extended, or replaced.

(11) All applicable additional federal, State of Florida, and local permits shall be obtained and submitted to the Floodplain Administrator along with the application for development permit. Copies of such permits shall be maintained on file with the development permit. State of Florida permits may include, but not be limited to, the following:

a. South Florida Water Management District: in accordance with Chapter 373.036 Florida Statutes, Section (2)(a)—Flood Protection and Floodplain Management.
b. Department of Community Affairs: in accordance with Chapter 380.05 F.S. Areas of Critical State Concern, and Chapter 553, Part IV F.S., Florida Building Code.

c. Department of Health: in accordance with Chapter 381.0065 F.S. Onsite Sewage Treatment and Disposal Systems.

(12) Standards for subdivision proposals and other new proposed development (including manufactured homes):

a. Such proposals shall be consistent with the need to minimize flood damage.
b. Such shall have public utilities and facilities such as sewer, gas, electrical, and water systems located and constructed to minimize or eliminate flood damage.

c. Such proposals shall have adequate drainage provided to reduce exposure to flood hazards.

(13) When proposed new construction and substantial improvements are partially located in an area of special flood hazard, the entire structure shall meet the standards for new construction.

(14) When proposed new construction and substantial improvements are located in multiple flood hazard risk zones or in a flood hazard risk zone with multiple base flood elevations, the entire structure shall meet the standards for the most hazardous flood hazard risk zone and the highest base flood elevation.

Miami

The City has a full time Flood Plain Manager who is responsible for the implementation of the Community Rating System compliance and NFIP compliance. The City also has an Office of Resilience and Sustainability that is responsible for environmentally-focused projects, including but not limited to the creation of the City's Climate Action Plan, energy efficiency partnerships, and the adoption of green building initiatives.

The City of Miami has incorporated mitigation into their planning processes to include the following plans:

City of Miami Comprehensive Emergency Management Plan	March 2024

Policy III.B.1: Mitigation
Mitigation efforts include activities that will prevent or reduce the impact of emergency/ disaster results on people, property and environment. Efforts include building codes, land use planning, training and education, structural and non-structural safety measures. Any actions accomplished to prevent an emergency/disaster from occurring or to reduce the effects of an emergency/disaster is mitigation. City departments will enforce all public safety mandates of the Miami City Code to include land use management and building codes; and recommend to the Mayor and City Commission, legislation required to improve the "disaster resistance" of the community.

Policy III.M.2: Activation of City CEMP
a. When an emergency/disaster has occurred or is imminent, the Mayor may declare a state of emergency, activating the emergency response, recovery, and mitigation aspects of the Miami CEMP that apply to the affected area.

b. Portions of the CEMP (certain ESFs) may be activated in support of a field incident commander for smaller, single site, emergency events, without a formal emergency declaration by the Mayor.

c. The resources of all City departments and agencies are considered to be available to minimize the effects of a natural disaster. Voluntary assistance to support City efforts may come from:

- Adjoining communities.
- Private business and industry.
- All other groups or individuals.
- Any additional assistance required at the county, state or federal level. Assistance should be requested through the Miami-Dade County Emergency Operations Center (EOC).

Policy III.P.2: Overview of Initial Federal Involvement
Immediately after an incident, local jurisdictions respond using available resources and notify State response elements. As information emerges, they also assess the situation and the need for State assistance. The State reviews the situation, mobilizes State resources, and informs the DHS/EPR/FEMA Regional Office of actions taken. The Governor activates the State emergency operations plan, proclaims or declares a state of emergency, and requests a State/DHS joint Preliminary Damage Assessment (PDA) to determine if sufficient damage has occurred to justify a request for a Presidential declaration of a major disaster or emergency. Based upon the results of the PDA, the Governor may request a Presidential declaration and defines the kind of Federal assistance needed. At this point, an initial assessment is also conducted of losses avoided based on previous mitigation efforts.
Policy III.P.9: Overview of Initial Federal Involvement

As immediate response priorities are met, recovery activities begin. Federal and State agencies assisting with recovery and mitigation activities convene to discuss State needs.
Policy III.P.11: Overview of Initial Federal Involvement
Throughout response and recovery, mitigation staff at the JFO will examine ways to maximize mitigation measures in accordance with State hazard mitigation administrative plans. Grounded in the local risk, and with State priorities and mitigation plans in place, DHS/EPR/FEMA and State officials contact local officials to identify potential projects and suggest which ones should be included in an early implementation strategy. The strategy focuses on viable opportunities to provide funds, technical assistance, and staff support to incorporate mitigation into the overall community recovery, to include the repair and replacement of damaged or destroyed housing and infrastructure.

City of Miami Hurricane Plan	March 2024

Policy V.G.7: Response and Recovery with Damage Assessment

The responsibilities of the Recovery Action Team (RAT) are:

- Oversee the recovery and reconstruction process and to serve as an advisory body to the City Manager.

- Identify mitigation opportunities and identify recovery resources.
- Ensure coordination of the recovery process**.**

Attachment V-A.G.1:

Receive and review damage reports and other analyses of post-disaster circumstances and to compare these circumstances with mitigation opportunities identified prior to the disaster in order to identify areas for post-disaster change and innovation. Where needed, the RAT may review alternative mechanisms for achieving these changes and recommend the coordination of internal and external resources for achieving these ends.

Attachment V-A.G.3:

Review damage reports and other analyses of post disaster circumstances and compare these circumstances with mitigation opportunities and identify areas for post disaster development changes.

Attachment V-A.I.2:

Identify funding sources for mitigation and recovery projects including state and federal assistance programs, private-sector funding, and public donations.

Schedule of Recovery Functions (RF)

Attachment V-J.RF #1 Recovery & Redevelopment: To articulate the vision of redevelopment in both the anticipation and in the wake of a catastrophic natural disaster and to use opportunities presented by disaster and lessons learned to improve the community.

Attachment V-J.RF #9 Damage Assessment/Impact Analysis: To determine the disaster's impact on the City and to determine recovery priorities and identify resource needs for City disaster recovery.

Attachment V-J.RF #19 Mitigation: To prepare a post-disaster hazard mitigation plan that will define actions during the recovery period that help prevent repeated future losses and reduce the City's vulnerability to natural hazards.

Attachment V-J.RF #20 Recovery Administration & Finance: To provide a framework for implementing administrative and financial services necessary for disaster recovery.

Miami-Fort Lauderdale UASI THIRA	**2023**
The Miami-Fort Lauderdale UASI THIRA addresses mitigation needs through the recovery and protection core capabilities.	
Miami-Fort Lauderdale Urban Area Security Strategy	**2023**
Mission: Increase preparedness, prevention, protection, mitigation, response, and recovery capabilities within the Urban Areas and the Southeast Florida Region for all hazards, including terrorism.	

Effort: Based on the capability assessment and strategy review, implementation steps are included and updated under each core capability and linked to regional initiatives and activities intended to enhance the preparedness, prevention, protection, mitigation, response, and recovery capabilities of the South Florida metropolitan areas either by:

- Current, proposed, or future funding to enhance or sustain a capability or capacity needed within the jurisdictions or the region; or,
- By reference to existing capabilities where no enhancement is required or currently planned, but access to those capabilities is needed to fulfill the full range of preparedness, prevention, protection, mitigation, response and recovery actions for incidents of all types.

Goal: Protect Critical Infrastructure & Key Resources, Objective: Physical Protective Measures, Step: Establish a joint CIP workgroup to include the private sector to set security goals, identify assets, systems and networks; assess risks and threats annually; implement protective programs; and measure the effectiveness of risk-mitigation efforts.

Goal: Protect Critical Infrastructure & Key Resources, Objective: Risk Management for Protection Programs & Activities- State, regional, local, tribal and private sector entities, in coordination with Federal participation, identify and assess risks, prioritize and select appropriate protection, prevention, and mitigation solutions based on re-duction of risk, monitor the outcomes of allocation decisions, and undertake corrective actions. Step: Implement and assess the risk management model within the region and develop a plan to implement appropriate risk mitigation strategies using UASI funds.

Goal: Respond to Disasters- CBRNE, Objective: Infrastructure Systems, Step: Encourage and assist jurisdictions in developing or enhancing recovery and mitigation efforts and plans. Step: Maintain liaison with county Local Mitigation Strategy (LMS) coordinators. Step: Ensure that lifeline facilities are incorporated into mitigation and recovery planning.

Goal: Recover from Terrorism & Other Disasters, Objective: Natural and Cultural Resources- Protect natural and cultural resources and historic properties through ap-propriate planning, mitigation, response, and recovery actions to preserve, conserve, rehabilitate, and restore them consistent with post-disaster community priorities and best practices and in compliance with appropriate environmental and historical preservation laws and executive orders.

Securing the Cities (STC) Program / September 2022

Securing the Cities – STC Miami Region is to engage local, state, and federal agencies that operate to address the risk posed by the threat of radiological and

nuclear terrorism through a coordinated Preventive Radiological/Nuclear Detection (PRND) program. This program is developed to deter, detect, and report the hazardous handling and/or unauthorized attempts to import, possess, store, develop, or transport illicit radiological/nuclear material within Southeast Florida.

Miami Forever Climate Ready: Extreme Heat Plan / October 2024

Pursuant to City Commission Resolution R-23-0354, the City of Miami developed an Extreme Heat Season Plan to articulate short-term and long-term actions that can be taken to address extreme heat in the City. This Heat Season Plan is organized into three main cooling solutions - Shade, Water, and Design - along with a Heat Response Protocol. The Shade solutions focus on increasing tree canopy, greenery, and shaded structures in public spaces. The Water solutions aim to improve access to water bodies, drinking fountains, and cooling amenities like pools and splash pads. The Design solutions involve policies and programs to help residents cool their homes and workplaces, as well as protect outdoor workers. The Heat Response Protocol outlines the actions different city departments will take during heat season (May 1 – October 31), including notifying the public, aiding vulnerable populations, and coordinating emergency response. The plan includes both short-term (2-3 years) and medium-term (5 years) actions to be implemented.

City of Miami King Tide Action Plan / Ongoing

The City of Miami has developed a King Tide Task Force comprised of representatives from multiple departments to proactively prepare for the King Tide season. The activation begins in July/August and lasts until King Tides subside in the end of November. Activities include building awareness for the dates with the community, verifying the performance of key drainage infrastructure, preparing pumps and temporary flood barriers for deployment as needed, and clearing debris to reduce the hazards in floodwaters.

City of Miami Stormwater Master Plan / 2021

The Stormwater Master Plan (SWMP) provides a strategy for remediating the impacts of flooding, sea level rise, and storm surge. These climate impacts have the capacity to disrupt surface road transportation, sewer and septic system operation, and public health. The Stormwater Master Plan developed a capital infrastructure plan for the City to inform expenditures of the City's general obligation bond allocation for flood mitigation. The SWMP Update has digitized all city records about the stormwater system, integrated resident feedback and reports to ground-truth predictions, developed a Miami flood model, recommend future scenarios for improvements to address sea level rise, and delivered a 20-year capital improvement plan.

City of Miami Critical Facilities and Assets Vulnerability Assessment / October 2024

In 2021, the Florida legislature added a requirement for local governments to conduct a Vulnerability Assessment (VA), defined in Section 380.093, Florida Statute (F.S.). The City developed a VA to establish the baseline condition of critical infrastructure and assets; determine the impacts of current and future climate risks on this infrastructure; understand community needs for new infrastructure; and, develop a process for ensuring that retrofitted and new infrastructure withstands future climate impacts.
To develop this analysis, the City conducted inundation modeling, providing insight into flood extents caused by high tides, coastal storm surge, and compound flooding that could occur during a simultaneous rainfall and high tide event. Projected sea level rise values for the years of 2040 and 2070 were integrated into the flood hazard datasets to map potential increases in flood extent and depth over the coming decades. These maps were used to inform the Vulnerability Assessment and identify City assets at risk from existing and future flood scenarios, aiding in strategic planning and adaptation efforts for the City's resilience.

Resilient Waterfront Enhancement Plan / June 2023

The City's waterfront has been designed based on historical water level conditions that did not account for sea level rise and much of the coastal development is now located within 6 feet of existing sea level. To address ongoing flood vulnerabilities that threaten the City's long-term resilience, the City developed a Resilient Waterfront Enhancement Plan. This plan lays out shoreline enhancement concepts along Biscayne Bay and the Miami River that will mitigate current and future flood risks while also emphasizing nature-based features that support local ecosystems in the design. This work compliments the City's Waterfront Design Guidelines (Appendix B of Miami21) and the City's seawall ordinance that sets minimum seawall heigh standards.

Reimagine Parks Master Plan / July 2023

The Miami Parks Master Plan provides strategic and resilient recommendations for the provision of facilities, programs, services, park land acquisitions, and development. In the Operational Analysis, the City called out Parks role in Emergency Management with park facilities serving as convening spaces during emergency response and recovery. As part of the Vision of the Plan, it is recommended that at least nine park facilities are enhanced to function as resilience hubs to aid in emergency preparedness and response activities.
Policies

5. Flood Damage Prevention: Ordinance 16167 – July 2024

In July 2021, the City Commission approved Ordinance 16167 updating the Chapter 20 of the City ordinance regarding floodplain construction and building requirements to satisfy the requirements of the National Flood Insurance Program and to achieve consistency with the Florida Building Code. These updates addresses development in

the special flood hazard areas and nonspecial flood hazard areas, and has certain requirements as to recertification of the drainage to provide clarity for property owners and developers so that the City can combat issues related to sea level rise and incessant flooding.
Website: Ordinance 16167

6. Resolution R-22-0419 – October 2022

The City Commission approved Resolution R-22-0419 that directs the City Manager to adopt a policy requiring City Capital Projects that address stormwater management or flood mitigation to address, as appropriate, heat mitigation, heat and stormwater monitoring, GHG reduction, and future mobility. In addition, this resolution requires that in the Scope of Work (SOW) of such projects, nature-based/low-impact development, a landscape architect, and WEDG and/or Envision certification guidelines be considered where feasible and appropriate. The City developed procurement guidance and an internal policy to implement this directive.
Website: Resolution R-22-0419

7. Seawall Ordinance (Chapter 29) – March 2021

Goal: Miami Forever Climate Ready Goal 3 – Protect and enhance our waterfront

Objectives:

- 3.1 – Reduce the severity, duration, and impact of coastal and riverine flooding on shorelines and surrounding communities
- 3.2 – Update and implement waterfront design standards
- 3.3 – Accelerate investment in features along the waterfront

Seawall elevation is a critical factor to provide protection to waterfront properties and public infrastructure from flooding due to King Tides, storms, and sea level rise. In 2020, the City modified its seawall ordinance to consider raising sea levels, changes include:

- Revised definitions for seawall and require North American Vertical Datum (NAVD88) as standard for all elevation data
- Established standards for permeable erosion barriers such as rip rap, or a land/water interface of another nature
- Set minimum seawall elevations at 6 FT (NAVD88) uniformly throughout Miami, except for those seawalls fronting the Miami River and its tributaries, which will be required to be set at elevation of 4 FT (NAVD88), with ability to increase (cap) another 2 ft
- Require seawall reconstruction to the minimum elevation if the substantial repair threshold is triggered
- Require maintaining seawalls in good repair

- Address transitions with fixed and floating docks
- Require improvements should a property allow tidal waters entering their property to impact adjacent properties or public Rights of Way to be initiated within 180 days, with repairs commencing within 365 days, and repairs being completed within 18 months of owner receiving citation

Approximately 13.7 miles of the 33.9 miles of public shoreline are protected by seawalls. Approximately 39 miles of the 52.3 miles of privately owned shoreline are protected by seawalls. For public walls, we assume 75% of our walls are below 6' NAVD, or 4' NAVD along the Miami River and its tributaries. This means we could see a cost of ~$76M-$136M to raise/replace the city-managed seawalls. For privately owned seawalls, approximately 37.5 miles is below 6' NAVD, or 4' NAVD along the Miami River and its tributaries. This would equate to a replacement cost of ~$277M-$425M. It should be noted, however, that even some of the natural shorelines will need to be fortified (unknown additional cost) and not all existing seawalls will need full replacement, so the prices noted above could be high or they could be low.
Website: Chapter 29 City Code

Miami Beach

The City's Flood Plain Manager implements the Community Rating System and maintains NFIP compliance through floodplain regulation and building inspection. The Environment and Sustainability Department focuses on environmental regulation, sustainability goals, urban forestry and canopy expansion, and resilience studies.

Below are City ordinances and plans that relate to hazard mitigation:

City of Miami Beach Comprehensive Plan 2040	**2019**
Resilient Land Use and Development (RLU)	
Goal RLU 2: Innovative, Sustainable and Resilient Development Encourage innovative development consistent with the historic resources of the City, while ensuring that redevelopment, investment, and new development is constructed utilizing principles of sustainable and resilient development practices.	
Principle 1: Developing a Resilient Future The City shall encourage redevelopment that contributes to community resiliency by meeting all required peril of flood mitigation and storm hazard standards for on-site development and shall also prioritize energy efficient development that provides stormwater mitigation, and co-benefit features that contribute to the City's resiliency as a whole.	
Climate Resiliency and Sustainability (RSE)	

Goal RSE 1 Resilient Development / Adaptation Action Area
Goal RSE 2 Proactive Planning to Increase Resilience to Sea Level Rise and Weather-Related Events: The City shall establish policies and approaches that address the ongoing environmental challenges facing the city and shall engage in proactive planning.
Goal RSE 5 Support Sustainable and Resilient City Operations
Goal RSE 6 Emergency Preparedness: The City shall collaborate and coordinate with appropriate local, regional, state, and national governmental agencies, to the extent possible, toward the implementation of AAA adaptation strategies and to identify risks, vulnerabilities and opportunities associated with coastal hazards and the impacts from sea level rise.
Transportation Element (TE)
Goal TE 3 Transportation Resiliency: Improve transportation resiliency in Miami Beach through sustainable and adaptive improvements that are consistent with regional transportation plans and support hurricane evacuation.
Housing Element (HE)
Goal HE 2 Neighborhood Sustainability: Establish and maintain an energy efficient housing stock that is resilient to a changing climate while maintaining a strong neighborhood and cultural identity.

City of Miami Beach Stormwater Management Master Plan	**March 2024**
1.4 Project Description	
To aid in addressing the challenges of implementing a stormwater management program on a city-side scale, the City has been divided into fifty-six (56) neighborhood project areas. Infrastructure upgrades are proposed for each neighborhood project to: 1) improve runoff capture by increasing the number of inlets, 2) improve stormwater conveyance by installing larger diameter pipes, 3) improve the quality of water discharged from the neighborhood by installing trash racks and structures to remove sediment and nutrients, 4) increase outfall discharge capacity by installing stormwater pumping stations and improving outfall structures and associated seawalls, and 5) ultimately improve resiliency and flood protection through the incremental raising of the roadways.	
City of Miami Beach Fire Department Strategic Plan	**2020 - 2025**
Goals and Objectives	
Goal 12: Conduct a minimum of two one large scale functional exercises simulating active shooter and additional hurricane preparedness and cybersecurity exercises. **Objective 12A:** Begin by training employees on the established plans; build up from drills and tabletops to full scale functional exercises simulating active shooter and hurricane preparedness.	
Miami Beach Code of Ordinances: General Ordinances	
Chapter 54 - Floods	
Sec. 54-34. - Objectives. The objectives of this article are to: (1) Protect human life, health and to eliminate or minimize property damage; (2) Minimize expenditure of public money for costly flood control projects;	

(3) Minimize the need for rescue and relief efforts associated with flooding and generally undertaken at the expense of the general public;
(4) Minimize prolonged business interruptions;
(5) Minimize damage to public facilities and utilities such as water and gas mains, electric, telephone and sewer lines, roadways, and bridges and culverts located in floodplains;
(6) Maintain a stable tax base by providing for the sound use and development of floodprone areas in such a manner as to minimize flood blight areas; and
(7) Ensure that potential homebuyers are notified that property is in a flood hazard area.

Chapter 54 establishes the floodplain administrator position, adopts regulation for special flood hazard zones, and is periodically updated to maintain compliance and conformity to FEMA policy and the Florida Building Code.

City of Miami Beach Resiliency Code	**June 2023**

Chapter 4 Landscape Requirements

4.1.1 Intent

It is the intent of these regulations to establish minimum landscape standards for the City of Miami Beach that enhance, improve and maintain the quality of the landscape, and to:

a. Prevent the destruction of the city's existing tree canopy and promote its expansion.
b. Improve the aesthetic appearance of new development and protecting designated historic landscapes.
c. Promote sound landscaping principles through the use of drought and salt tolerant plant species and also to promote planting the right tree and plant in the right place.
d. Promote the use of trees and shrubs for energy conservation, thereby helping to offset global warming and local heat island effects.
e. Provide shade.
f. Improve stormwater management and address flooding and hurricane management.
g. Ameliorate noise impacts and light pollution.
h. Promote the use of canopy trees to sequester carbon dioxide emissions.
i. Improve urban ecology and protect beach ecology.

Chapter 7 Zoning Districts and Regulations

7.1.1 INTENT

This section sets forth regulations that are common to all districts, or which apply to certain building types or uses that are found across multiple zoning districts. Resilience, Adaptation and Mitigation standards are the most prominent sections in this article but are also accompanied by other regulations that affect the quality of the public realm.

7.1.2 Resilience and Adaptation Standards

This section describes regulations that are intended to promote adaptation to rising sea levels, storm surge, king tide and fair-weather flooding.

7.1.3 ENVIRONMENTAL MITIGATION STANDARDS

7.1.3.1 Purpose

Whereas resilience and adaptation are the response to threats posed by climate change, environmental mitigation represents the strategies that reduce greenhouse gas emissions and ecological degradation that is often associated with the built environment.

Sustainable building practices will promote the economic and environmental health of the city, and ensure that the city continues to become environmentally resilient to combat sea level rise and help curb climate change. This chapter is designed to achieve the following objectives:

j. Increase energy efficiency in buildings;
k. Encourage water and resource conservation;
l. Reduce waste generated by construction projects;
m. Reduce long-term building operating and maintenance costs;
n. Improve indoor air quality and occupant health;
o. Contribute to meeting state and local commitments to reduce greenhouse gas production and emissions; and
p. Encourage sound urban planning principles.

7.1.4 FRONTAGES

7.1.4.1 Purpose

A walkable environment is created by unifying design of the public realm with private frontages that shape the public realm. There are a variety of frontage types, which vary depending on the zoning district and the uses at the eye-level of the pedestrian. This section illustrates how these frontages ought to be designed in order to accommodate future raising of the street.

Seawall Height Ordinance No. 2021-4393
Requires all new seawalls must be constructed to an elevation of 5.7 ft NAVD, or 4 ft NAVD if designed to support a future elevation of 5.7 NAVD. Codifies this requirement and includes that seawalls must be upgraded if the property has new construction or substantial improvements. It should be noted that property owners are encouraged to consider designs using materials to further biodiversity of the City's coastal marine habitat. Establishes overtopping as a trigger for seawall elevation and seawall maintenance requirements. Seawalls must be maintained in good repair as to not allow soil to eroded into the bay or waterway or to allow tidal waters to flow through the seawall and impact adjacent private property(s).

City of Miami Beach Seawall Ten-Year Reconstruction Plan	**October 2021**
Seawall Prioritization and 10-year Plan	
The Public Works Department developed a 10-year prioritization list for the reconstruction of the remaining 2.8 miles (out of 5 miles total) of City-owned that had not yet been elevated or reconstructed as of October 2021. The Department conducted a topographical survey of all seawalls within the City in 2020, an assessment in 2011, and a visual structural inspection in 2015. Seawalls have been prioritized based on	

elevation, location (those next to private properties and critical infrastructure were prioritized), and condition.	
Buoyant City: Historic District Resiliency & Adaptation Guidelines	**March 2020**
Overview	
The Buoyant City study's primary goal is to better understand and communicate the intersection and relationship between resilience and historic preservation. It illustrates practical steps and proposes new preservation and resilience frameworks, and it demonstrates how specific adaptation strategies might extend the culture and experience of Miami Beach. The study provides valuable tools, such as place-specific design strategies, adaptive project design for historic preservation, and guidelines for designers and developers.	
City of Miami Beach Dune Management Plan	**January 2016**
Statement of Purpose and Objectives	
The purpose of the City of Miami Beach Dune Management Plan ("the Plan") is to outline the framework and specifications that the City will use to foster and maintain a healthy, stable, and natural dune system that is appropriate for its location and reduces public safety and maintenance concerns. The Plan shall guide the City's efforts in managing the urban, man-made dune as close to a natural system as possible and ensuring the dune provides storm protection, erosion control, and a biologically-rich habitat for local species. 1. Reduce to the maximum extent possible the presence of invasive, non-native pest plant species within the dune system. 2. Cultivate and support a dense grassy pioneer zone dune. 3. Maintain a low, stable strand zone comprised of native species. 4. Improve native species diversity of the strand zone. 5. Properly plan dune restoration activities to avoid and minimize potential impacts to sea turtles.	
Flood Mitigation Plan	**2022**
Statement of Purpose and Objectives	
The Miami Beach Flood Mitigation Plan (FMP), adopted in 2022 is in compliance with the federal hazard mitigation planning standards contained in 44 CFR 201.6(b)-(d). The City of Miami Beach developed and submitted all the necessary plan revisions and FDEM staff reviewed and approved these revisions. The City of Miami Beach FMP is compliant with federal standards. Adopted with RESO 2022-32274	
Comprehensive Emergency Management Plan (CEMP)	**Sep 2022**
Statement of Purpose and Objectives	
The City of Miami Beach Fire Department's Division of Emergency Management maintains a Comprehensive Emergency Management Plan (CEMP), which establishes the framework for adequate preparedness and response to all hazards. The CEMP identifies the roles and responsibilities of the departments and division personnel inside and outside the agency for planning, preparation, response, mitigation, and recovery in the event of a disaster.	

The CEMP addresses the five phases of emergency management (prevention/protection, preparedness, mitigation, response, recovery) set forth in the State of Florida CEMP, the Miami-Dade County CEMP, and the National Response Framework (NRF). The CEMP also describes how national, State, County and other resources will be coordinated under the National Incident Management System (NIMS) to supplement City resources in response to a disaster. Throughout the CEMP, the Federal Emergency Management Agency (FEMA) Comprehensive Preparedness Guide (CPG) 101 fundamentals and the Whole Community approach strategy are utilized.

Intergovernmental activities are coordinated utilizing a functional approach that groups emergency response organizations according to roles and responsibilities as Emergency Support Functions (ESFs).

The CEMP is accompanied by several annexes, including an ESF annex, annexes that address specific hazards, such as hurricanes and instances of terrorism, and the Continuity annex, which includes the citywide Continuity of Operations Plan (COOP) and the Continuity of Government (COG) plan. Each department in the City uses the CEMP as a guide for developing their departmental emergency response plans, including the departmental COOPs, which are updated yearly prior to hurricane season.

Miami Gardens

The City of Miami Gardens incorporates mitigation actively through Drainage Improvement Projects and other stormwater management practices. The City of Miami Gardens budgets over $2,000,000 annually for drainage improvement projects aimed mitigating localized and area-wide flooding issues. This is highlighted in the Comprehensive Development Master Plan. The projects funded through this appropriation are tracked continually during the year. The City also continuously seeks grant funds to assist in constructing drainage improvements, and leverages local funds as matches to increase the number and scope of grant funded projects.

Drainage improvement projects are implemented and tracked through the City's Stormwater Management Master Plan. In FY 2022, the City completed an update of its Stormwater Master Plan. The plan prioritizes projects based on the vulnerability of an area to flooding, and their degree of flood protection and water quality improvement. In addition, the plan addresses the mitigation of flooding issues in areas where FEMA repetitive loss properties are located in order to minimize or eliminate future insurance claims. Projects developed through the Stormwater Management Master Plan are included in the City of Miami Gardens' contribution to the Miami Dade County LMS Plan.

Below are the sections of the City's comprehensive plan that integrates with the Miami-Dade County LMS.

City of Miami Gardens' Comprehensive Development Master Plan	November 2019

Future Land Use Element
Objective 2.6: Land Use Compatibility The City shall ensure that the land development regulations contain criteria to mitigate negative impacts that incompatible land uses may have on the neighboring areas.
Objective 2.12: Hazard Mitigation and Disaster-Preparedness Coordinate the City's Emergency Response Plan with Miami-Dade County and State of Florida to address hazard mitigation and disaster-preparedness for the safety of residents and property in Miami Gardens. **Policy 2.12.1:** The City Public Works Department and City Manager's office shall coordinate with the Miami-Dade County Emergency Management Operations Center for the safety of its citizens. **Policy 2.12.2:** The Public Works Department shall prepare a City Emergency Response Plan to appropriately address emergency/hazard/disaster mitigation program for the safety of Miami Gardens' residents. **Policy 2.12.3:** Coordinate with Miami-Dade County in developing and implementing an Action Plan if necessary, to address flood protection, storm damage precautions. **Policy 2.12.4:** The City's Emergency Response Plan shall include but not be limited to an incident command system structure, delegation of responsibilities for incidents, a medical procedure and materials plan, outreach to the community through identified forums and public information systems, and post disaster mitigation plans that includes designated debris sites and personnel needs.

Miami Lakes

Below is the section of this village's comprehensive plan that integrates with the Miami-Dade County LMS.

Town of Miami Lakes Comprehensive Plan	November 2019
Land Development Element	
Policy 1.2.4: Develop a code enforcement system in the new Code that is proactive in ensuring that the high standards, which are the hallmark of Miami Lakes, are maintained, and the personnel are very responsive to resident and business owner inquiries. In addition, ensure that the system allows for the mitigation and/or correction of adverse nuisance impacts, such as noise, odor and/or dust, on residential neighborhoods caused by any existing commercial and industrial operations.	
Future Land Use Element	
Objective 1.6: Hazard Mitigation and Disaster Preparedness Coordinate with Miami-Dade County and the State of Florida in addressing the hazard mitigation and disaster-preparedness needs of Miami Lakes, and encouraging the elimination and/or reduction of land uses inconsistent with the recommendations of any public agencies charged with managing hazard mitigation and disaster-preparedness. **Policy 1.6.1:** Coordinate with Miami-Dade County in implementing the approved Local Mitigation Strategy, in assessing the vulnerability of governmental, medical	

and public safety sites and structures in the Town to storm damage, and develop an action plan, if necessary, to address wind stability and flood protection for key buildings.
Conservation Element
Policy 6.7.1: Wetlands that are to be protected will be identified based on the type of wetland, function, size, conditions/location, and overall resource value. These wetlands shall be used for purposes that are compatible with their natural values and functions, and land development regulations shall be adopted to provide these areas with the maximum feasible protection, by using such tools as compensatory wetland mitigation and dedication of conservation easements for preserving open space. All development with the potential to impact wetland areas shall be consistent with South Florida Water Management District regulations.

Miami Shores

Hazard mitigation and disaster recovery is incorporated throughout the Miami Shores Coastal Management Element. The Miami Shores Village Hurricane Plan, 2014 outlines in detail the city and employee activities, duties and responsibilities to be conducted prior and after a hurricane event. The focus is on preparedness prior to a hurricane event and detailed recovery plan post hurricane event.

Miami Shores Coastal Management Element	November 2013
Objective 4: Direct population concentrations away from the coastal high hazard areas, hurricane vulnerability zone and limit coastal high hazard area, hurricane vulnerability zone infrastructure expenditures. Direct population concentrations away from the coastal high hazard areas, hurricane vulnerability zone and limit the expenditure of Village funds on infrastructure within the Coastal High Hazard Area, hurricane vulnerability zone if such infrastructure would have the effect of directly subsidizing development which is significantly more intensive than authorized by this Plan. [9J-5.012 (3) (b) 5 and 6] The Coastal High Hazard Area is defined as the area below the elevation of the category 1 storm surge line as established by a Sea, Lake, and Overland Surges from Hurricanes (SLOSH) computerized storm surge model. Monitoring and Evaluation: Annual record of Village actions to direct away or reduce the population of the hurricane vulnerability zone.	
Policy 4.1: The Village shall restrict development in accordance with the Future Land Use Map of the plan. It is the legislative judgment of the Village that the Future Land Use Map provides the most appropriate way to limit development in the coastal high hazard areas, hurricane vulnerability zone consistent with reasonable property rights and long-established land use patterns. [9J-5.012 (3) (c) 9]	
Policy 7.2: The Village shall monitor the need for drainage system improvements.	
Policy 7.3: The Village shall design infrastructure with consideration to the potential rise in sea level.	

Policy 7.4: The Village shall deny any Future Land Use Map density increases in the hurricane vulnerability zone.
Objective 8: Hazard mitigation. In general, the Village shall regulate development so as to minimize and mitigate hazards resulting from hurricanes. In particular, the Village shall ensure that all construction and reconstruction complies with applicable regulations designed to minimize hurricane impact on buildings and their occupants. Monitoring and Evaluation: Record of participation in Miami-Dade County Emergency Preparedness meetings, activities and programs. Annual record of development permits issued in the hurricane vulnerability zone, demonstrating the application of specific standards that result in a reduction in the exposure of human life and property to natural disasters

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Coastal Management Element	**November 2013**
Policy 11.2: The Land Development Code shall be amended to require Special Approval for the repair or replacement of hurricane damaged buildings in the FEMA VE Velocity Zone. The criteria for granting such approval shall be as follows: 1) repair or replacement shall be authorized for principal buildings and their associated accessory buildings and structures when the principal building suffers minor or major damage; and 2) repair or replacement shall be authorized for principal buildings and their associated accessory buildings and structures when the principal building is destroyed provided that the setback from the FEMA VE Zone is the maximum possible consistent with the authorized floor area, other setback requirements and reasonable design standards, but in no case less than 15 feet from the seawall, and provided further that the applicable requirements of Policy 11.3 are also met.	
Policy 11.3: The Land Development Code shall be amended to require Special Approval for the repair or replacement of hurricane damaged buildings in the Hurricane Vulnerability Zone (east of Biscayne Boulevard). The criteria for granting such approval shall be as follows: 1) repair shall be authorized for principal buildings and their associated accessory buildings and structures when the principal building suffers only minor damage; 2) repair or replacement shall be authorized for principal buildings and their associated accessory buildings and structures when the principal building suffers major damage or is destroyed, provided that the resulting buildings fully meet the Florida Building Code and all requirements of the Miami Shores Village land development code and provided further than ground floor elevations conform with the FEMA map. Historic buildings shall be exempt from this policy.	

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Miami Springs

Below is the section of this village's comprehensive plan that integrates with the Miami-Dade County LMS.

City of Miami Springs Comprehensive Plan	October 2024
Future Land Use Element	
Objective 1.1: Future Land Use Categories Maintain existing development and achieve new development and redevelopment consistent with the community character statement articulated as the Community Character Goal above and which: 1) protects and preserves single-family neighborhoods as safe, decent, and affordable residential areas; and 2) otherwise coordinates future land uses with the appropriate topography and soil conditions and the availability of facilities and services. **Policy 1.1.3:** The City shall enforce land development code provisions governing subdivisions, signs, and floodplain protection. Such provisions shall be consistent with this plan and with the applicable Florida statutory and administrative code guidelines. **Objective 1.6: Hurricane Evacuation** Coordinate future land uses by encouraging the elimination or reduction of land uses which are inconsistent with applicable interagency hazard mitigation report recommendations and enhance the efforts of the Miami-Dade Office of Emergency Management by providing it with all relevant information. This objective shall be measured by implementation of its supporting policies. **Policy 1.6.1:** The City shall regulate all future development within its jurisdiction in accordance with the Future Land Use Map. It shall also consider the most current Interagency Hazard Mitigation Team Report as part of the development regulations. The City shall periodically review and revise the Future Land Use Map in light of future interagency hazard mitigation reports in order to reduce or eliminate uses which are inconsistent therewith. **Policy 1.6.2:** The City Manager or designee shall annually assess the City's existing and permitted population densities to determine if changes are significant enough to transmit such data to the Miami-Dade Office of Emergency Management to assist in their hurricane evacuation planning.	
Conservation Element	
Objective 1.5: Floodplain Protection Protect and conserve the natural functions of existing floodplains. This objective shall be measured by implementation of its supporting policies. **Policy 1.5.1:** The City shall enact and enforce land development code provisions governing floodplain protection. Such provisions shall be consistent with this plan and with the applicable Florida statutory and administrative code guidelines. Floodplain protection regulations shall be consistent with applicable standards promulgated by the SFWMD; the SFRPC; Miami-Dade County's RER; Florida's DEP; and/or other agencies with relevant jurisdiction and/or information. The City	

City of Miami Springs Comprehensive Plan	October 2024
shall revise as necessary and enforce flood hazard reduction regulations to ensure: 1) adequate drainage paths around structures to guide storm water runoff; 2) for residential buildings in AE zones, the elevation of the lowest floor and mechanical equipment above the base flood elevation; 3) for nonresidential buildings in AE zones, either the elevation of the lowest floor and mechanical equipment above the base flood elevation or the flood proofing of habitable areas below the base flood elevation; 4) the prohibition of structural fill. The enumeration of specific features of the of flood protection- regulations contained herein shall be interpreted as establishing minimum standards for City regulations, not as precluding additional or higher standards which may have a legitimate public purpose. In addition, the City shall participate in the Community Rating System of the National Flood Insurance Program.	
Intergovernmental Coordination Element	
Policy 1.2.2: The City shall assist the County in providing information to the residents of the City about services provided directly or indirectly by the County, e.g., solid waste, potable water, sewers, transit, and hurricane response planning. Such information may be disseminated through a City newsletter, City Hall counter handouts, notices posted at the City Hall, and/or other appropriate means.	
Objective 1.4: Support Initiatives to Address Climate Change and Sea Level Rise **Policy 1.4.1:** Support the Miami-Dade WASD and SFWMD in any efforts to evaluate the consequences of sea level rise, changing rainfall and storm patterns, temperature effects, and cumulative impacts to existing structures and existing legal uses. **Policy 1.4.2:** Participate in the Southeast Florida Regional Climate Change Compact to support regional planning efforts and initiatives to adapt to rising sea level in the Lower East Coast (LEC) Planning Area. **Policy 1.4.3:** Work collaboratively with the Miami-Dade WASD, other utilities, and SFWMD to identify the utility wellfields and other users at potential risk of saltwater intrusion within the LEC Planning Area.	

North Bay Village

Below is the section of this village's comprehensive plan that integrates with the Miami-Dade County LMS.

City of North Bay Village Comprehensive Plan	March 2023
Future Land Use Element	
Policy 2.1.7: Ensure that all development orders and permits are consistent with the goals and objectives of the Village's Flood Damage Protection Ordinance and withhold such orders and permits when they conflict with the Ordinance.	
Transportation Element	

City of North Bay Village Comprehensive Plan	March 2023
Policy 3.2.5: Require that new development and redevelopment plans identify, by means of a traffic-way impact study, and mitigate any negative impacts the plans may have upon streets and walkways to ensure the maintenance of levels of service and safety within the City. Mitigation shall be mandatory to the extent that a development or redevelopment contributes to the identified impact. No development or redevelopment plan shall be permitted without an approved traffic-way impact study and mitigation plan. **Policy 3.3.2:** The City shall require all potential development on the Kennedy Causeway to demonstrate that the anticipated traffic impact will not cause the Causeway to fall below the required Level of Service, or to mitigate any impacts to maintain or improve the required Level of Service.	
Housing Element	
Policy 6.4.3: The Village shall implement and apply a variety of housing affordability strategies for its residents, including but not limited to the following: • Continue to promote flood risk reduction and resilient housing design and construction through the implementation of regulations in the Unified Land Development Code and Building Code and through capital improvement priorities.	
Coastal Management Element	
GOAL: Protect human life and the environment and limit destruction in areas subject to natural disaster through implementation of hazard mitigation strategies. **Objective 8.1:** The Village shall continue to coordinate with Miami-Dade County Emergency Operations Center to provide hurricane warning notice and information about evacuation conditions for residents in order to maintain or reduce hurricane evacuation times. **Policy 8.1.1:** The Village shall periodically update its Emergency Evacuation Assistance Program to identify and provide notice to citizens who require evacuation assistance. **Policy 8.1.3:** Continue the coordination program with Miami-Dade County on hurricane evacuation of the Village's citizens to County-wide shelters (from the pickup point on Treasure Island). **Policy 8.1.4:** Upon posting of a hurricane watch, the Village shall contact Village residents identified through the special assistance survey conducted as per Policy 8.1.1 through e-mail and direct phone calls to urge evacuation and establish the need for evacuation assistance upon posting of a hurricane warning. **Policy 8.1.5:** The Village shall coordinate with the County and the South Florida Regional Planning Council to reduce or maintain evacuation time to twelve (12) hours. The Village shall adopt an evacuation policy in concert with Miami-Dade County Emergency Operations Center which immediately informs residents when an evacuation order has been issued. **Policy 8.1.6:** Critical evacuation roadway links shall receive high priority for annual maintenance and capital improvement expenditures.	

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Policy 8.1.7: Hurricane Storm Surge Evacuation Zones shall be the areas designated/delineated by Miami-Dade County, as requiring evacuation and/or early evacuation in any storm event impacting Zone B (Orange Zone).
Policy 8.1.8: The Coastal High-Hazard Area, shall be defined as stated in Florida Statutes Chapter 163, as the areas below the elevation of the category 1 storm surge line as established by a Sea, Lake, and Overland Surges from Hurricanes (SLOSH) computerized storm surge model, as described in Florida Statutes 163.3178(2)(h). The area defined should be based upon the most recently available data published by the Florida Division of Emergency Management.
Policy 8.1.10: The Village shall continue to implement programs and policies in conjunction with Miami Dade County to protect residents and businesses from disasters and mitigate hazards. The Village shall implement the post-disaster programs and procedures outlined in the County's Hurricane Procedures, to identify immediate actions necessary to protect the health, welfare, and safety of its residents.
Policy 8.1.11: The Village shall monitor updates to the Miami-Dade County Local Mitigation Strategy (LMS) and the Miami-Dade County Emergency Operations Plan procedures to ensure that all applicable provisions of the hazard mitigation are incorporated and/or addressed in local hazard mitigation procedures.
GOAL: Provide for increased safe and nondestructive public use of natural coastal resources for North Bay Village.
Objective 8.5:
The Coastal High Hazard Areas in the Village shall be the area below the elevation of the category 1 storm surge line as established by a "Sea, Lake, and Overland Surges from Hurricanes (SLOSH) computerized storm surge model".
Policy 8.5.1: The Village shall inventory and identify all reimbursable improvements in the coastal area eligible for federal funding and include this information in the Village's local mitigation strategy plan.

Objective 8.6:
Coastal High Hazard Area Land Use and Infrastructure: Limit Village funds used to improve infrastructure within its planning area that would have the effect of directly subsidizing development above the adopted intensity and density standards of the Village.
Policy 8.6.3: The Village shall prohibit any future proposed land use amendment and/or development or redevelopment activity which would increase the adopted density/intensity of the Coastal High Hazard Area as it currently is defined.
Policy 8.6.6: The Village shall support development measures which integrate innovative climate adaption and mitigation designs where possible
Objective 8.7:
The Village shall address and prepare for the impacts of, sea level rise. All infrastructure projects must consider potential impacts of sea level rise during all

City of North Bay Village Comprehensive Plan	March 2023

project phases. The Village manager will evaluate sea level rise risks to existing infrastructure.

Policy 8.7.5: The Village shall address recurring flooding issues by implementing the 2022 Stormwater Master Plan.

Policy 8.7.10: The Village shall continue the process of lining of wastewater pipes and shall continue to evaluate and implement measures where feasible to flood proof coastal pumping stations and electrical facilities in vulnerable areas.

Policy 8.7.11: The Village shall continue to reinforce increased inflow into the storm water system in vulnerable areas by installing flap gates, sleeve valves and/or duckbill valves as appropriate and:

1. Continue to evaluate the need for new pumping stations in vulnerable areas.
2. Continue to ensure development and redevelopment consider the best available data on minimum floor elevation, including FEMA flood zones.

Policy 8.7.12: The Village shall coordinate with Miami-Dade County to identify Adaptation Action Areas within the Village and assist with multi-jurisdictional solutions to address identified vulnerabilities.

Policy 8.7.13: The Village shall continue to identify and address public buildings and infrastructure vulnerable to sea level rise and other climate change related impacts. This analysis shall include public buildings, water and wastewater systems, transmission lines and pump stations, stormwater systems, roads, libraries, parks, fire and police stations and facilities.

Policy 8.7.14: The Village shall identify funding sources to address identified vulnerabilities with priority given to addressing vulnerabilities to critical facilities and infrastructure.

Policy 8.7.15: The design, location and development of infrastructure and buildings operated by or on behalf of the Village shall include evaluation of sea level rise utilizing the Unified Sea Level Rise Projection Report (2019), prepared by the Southeast Florida Regional Climate Change Compact.

Policy 8.7.16: In order to address and adapt to the impacts of climate change, the Village shall continue to improve analysis and mapping capabilities for identifying areas of the Village vulnerable to sea level rise, tidal flooding, and other impacts of climate change.

Objective 8.8:

The Village shall provide immediate response to post-hurricane situations in concert with its post-disaster redevelopment plan, to be adopted within one year of this Plan's adoption, which will reduce or eliminate the exposure of human life and public and private property to natural hazards.

Policy 8.8.1: After a hurricane, but prior to re-entry of the population into evacuated areas, the Village Commission shall meet to hear preliminary damage assessments, appoint a Recovery Task Force, and consider a temporary moratorium of building activities not necessary for the public health, safety, and welfare.

City of North Bay Village Comprehensive Plan	March 2023

Policy 8.8.2: The Recovery Task Force shall include the Building Official, Public Works Director and other Village staff members as directed by the Village Commission. Staff shall be provided by the Departments whose Directors sit on the Task Force. The Task Force shall be terminated after implementing its responsibility.

Policy 8.8.3: The Recovery Task Force shall review and decide upon emergency building permits; coordinate with Miami-Dade County, State and Federal Officials to prepare disaster assistance applications; analyze and recommend to the City Commission hazard mitigation options including reconstruction or relocation of damaged public facilities; develop are development plan; and recommend amendments to the City's Comprehensive Plan, Miami-Dade County Hurricane Procedure Plan, and other appropriate policies and procedures.

Policy 8.8.5: The Recovery Task Force shall propose Comprehensive Plan amendments which reflect the recommendations in any interagency hazard mitigation reports or other reports prepared pursuant to Section 406 of the Disaster Relief Act of 1974 (PL93-288).

Policy 8.8.7: Structures which suffer recurring damage to pilings, foundations, or load-bearing walls shall be required to rebuild landward of their current location to modify the structure to structurally enhance the structure, institute other mitigation measures, or delete the areas most prone to damage.

Objective 8.9:

The Village will achieve a flood resilient community status by phasing out inappropriate and unsafe development in the coastal areas when opportunities arise, using studies, surveys, and data to assess flooding risks which result from high-tide events, storm surge, flash floods, stormwater runoff, and the related impacts of sea level rise. Assessments will provide the basis for redevelopment practices as identified by the Peril of Flood legislation, (Section 163.3178, F.S.).

Policy 8.9.1: The Village shall evaluate Miami-Dade County and other local government post-disaster guidelines and propose appropriate guidelines for post-disaster development. The proposed guidelines will also address the relocation, mitigation, or replacement of Coastal High Hazard Area infrastructure and will implement the Village's coastal management element. The post-disaster guidelines shall distinguish between the recovery phase and long-term redevelopment including the removal, relocation, or structural modifications of damage and unsafe structures and infrastructure.

Policy 8.9.13:

The Village will continue to work with the South Florida Regional Planning Council and other agencies at the local, County, Regional, State, Federal, and global levels to address climate change and to encourage best practices with regards to redevelopment and flood mitigation.

Policy 8.9.14:

The Village will continue to investigate participation in the National Flood Insurance Program Community Rating System.

North Miami

Below is the section of this village's comprehensive plan that integrates with the Miami-Dade County LMS.

City of North Miami 2036 Comprehensive Plan	November 2019
Future Land Use Element	
Objective 1.11: The City shall coordinate with Miami-Dade County, the South Florida Regional Planning Council and the State of Florida in addressing the evacuation, structural integrity and disaster-preparedness needs of North Miami. **Objective Policy 1.11:** The City shall coordinate with the Miami-Dade County and the South Florida Regional Planning Council in implementing the approved Local Mitigation Strategy, by assessing the vulnerability of governmental, medical and public safety sites and structures in the City to storm damage, and in developing an action plan, if necessary, to address wind stability and flood protection for key buildings. **Policy 1.11.1:** The City shall continue to coordinate with the State of Florida, Miami-Dade County and the South Florida Regional Planning Council in implementing the approved Local Mitigation Strategy, by assessing the vulnerability of governmental, medical and public safety sites and structures in the City to storm damage, and in developing an action plan, if necessary, to address wind stability and flood protection for key buildings. **Policy 1.11.2:** The City shall continue to work with the South Florida Regional Planning Council's Local Emergency Planning Committee and Miami-Dade County's Emergency Management Department to ensure that City employees are well-trained in the programs, procedures and policies required during a disaster emergency and the longer-term post-disaster redevelopment process. **Policy 1.11.5:** All proposed large-scale amendments to this Comprehensive Plan and/or zoning applications shall be evaluated for their impact on hurricane evacuation routes and times, and effect on currently available off-site shelter capacities. Roadway improvements and shelter improvements shall be required, if deemed necessary, to mitigate negative impacts and phased with new residential development.	
Housing Element	
Policy 3A.4.5: The City shall continue to pursue and maintain funding for the Disaster Mitigation/Recovery Strategy Program to assist with post-disaster repairs and encourage the timely repair of homes damaged as a result of disaster activity. **Policy 3B.3.7:** The City shall continue to coordinate with Miami-Dade County Emergency Management to provide short-term emergency shelter opportunities to meet expected demands.	
Transportation Element	
Objective 2B.3: Coordinate with Miami-Dade Transit and the Miami-Dade Emergency Management Department to help ensure development of an	

emergency transit plan that provides timely evacuation of the Coastal High Hazard Area during tropical storms and hurricanes.

Policy 2B.3.1: The City Manager shall appoint a City employee to meet with the Miami-Dade Emergency Management Department to coordinate evacuation plans and related issues and report back to the City Manager.

Policy 2B.3.2: Timely evacuation operations shall be established to commence four hours after an evacuation order is issued by the County Administrator.

Coastal Management Element

Objective 5A.2: The City shall implement programs and policies in conjunction with Miami-Dade County to protect residents and business from disasters and mitigate hazards.

Policy 5A.2.2: As part of on-going monitoring and updating procedures, the City shall ensure that all applicable provisions of the hazard mitigation annex of the Miami-Dade County Emergency Operations Plan, and the Miami-Dade County Local Mitigation Strategy (LMS) are incorporated and/or addressed in local hazard mitigation procedures.

Policy 5A.2.4: The City shall implement the provisions included in the Local Mitigation Strategy to provide for debris clearance as well as immediate repair and replacement of public infrastructure required to protect public health and safety.

Policy 5A.2.5: The City shall make every effort to support and implement the initiatives and projects listed in the Local Mitigation Strategy, including both countywide initiatives and the following proposed hazard mitigation projects located in North Miami:

1. Flood Prevention and Mitigation: Basin 13
2. Non-critical Facilities Hazard Mitigation
3. Surge Resistance and Flood Mitigation at Keystone Point and Sans Souci
4. Sanitary Sewer Backup
5. Safeguarding Availability of Potable Water
6. Emergency Portable Stormwater Pumps
7. Gravity Sewer Systems Improvements: Groundwater Infiltration Reduction
8. Emergency Power: Water and Sewer Utility Operations Center
9. Utility Operation Center
10. Replacement Generator for Police Station
11. Correct Water Infiltration at City Hall (EOC) Basement
12. Replacement of U.P.S. for Police Station

Policy 5A.2.10: The City shall promote and educate the public on strengthening their structures against natural disasters by promoting the hardening of structures in accordance with the Florida Comprehensive Hurricane Damage Mitigation Program (My Safe Florida Home).

Policy 5A.3.3: The City shall relieve deficiencies identified in the hurricane evacuation analysis and endeavor to integrate regional and local preparation and evacuation procedures into the City's hazard mitigation measures.

Policy 5A.4.2: Incorporate recommendations found in interagency hazard mitigation reports into the comprehensive plan and post-disaster redevelopment plan. **Policy 5B.2.4:** Institute marina siting criteria that address existing protective status of ownership, hurricane contingency planning, protection of water quality, water depth, availability of upland support services, land use compatibility, environmental disruptions and mitigation actions, availability for public use, and economic need and feasibility.
Conservation Element
Objective 6B.1: Through the permitting process continue to preserve and maintain identified wetlands and water quality from the impacts of new development or redevelopment. **Policy 6B.1.1:** The City shall deny permit applications for new development or redevelopment projects which may adversely impact existing wetlands and water quality or quantity until satisfactory mitigation and protection measures are performance bonded by the developer. **Policy 6.B.2.4:** The City shall continue to provide education programs to educate residents about the polluting effect on the Bay and other natural bodies of water in the City, of run-off containing grass clippings, lawn fertilizers, and other similar type material, and present techniques that can be implemented by residents to mitigate this problem. In addition, the City shall continue to coordinate with the SFRPC's Strategic Regional Policy Plan (Policy 14.14 and 14.17) to educate the public.
Climate Change Element
Objective 12.7: Ensure adequate planning and coordinated response for emergency preparedness and post-disaster management in the context of climate change. **Policy 12.7.1:** The City of North Miami shall ensure adequate planning and response for emergency management in the context of climate change by maximizing the resilience and self-sufficiency of, and providing access to, public structures, schools, hospitals and other shelters and critical facilities. **Policy 12.7.2:** The City of North Miami shall develop plans and monitoring programs to address the impacts of climate change on households and individuals especially vulnerable to health risks attributable to or exacerbated by rising temperatures, to include low income households and the elderly. **Policy 12.7.3:** The City of North Miami shall continue to communicate and collaboratively plan with other local, regional, state and federal agencies on emergency preparedness and disaster management strategies. This includes incorporating climate change impacts into updates of local mitigation plans, water management plans, shelter placement and capacity, review of major traffic-ways and evacuation routes, and cost analysis of post disaster redevelopment strategies. **Policy 12.7.4:** The City of North Miami shall work to encourage dialogue between residents, businesses, insurance companies and other stakeholders, through public education campaigns and workshops, in order to increase understanding regarding the potential impacts of climate change on our coastal communities and

evaluate the shared costs of action or inaction in human, ecological and financial terms.

Policy 12.7.5: The City of North Miami shall work with the Florida Division of Emergency Management and other agencies to incorporate sea level rise and increasing storm surge impacts into the remapping of potential hazard areas in coastal zones by 2018. Revised hazard area designations should better reflect the risks to communities associated with climate change and allow reevaluation of suitability for development or redevelopment in these areas, policies and programs.

North Miami Beach

On August 4, 2015, the City of North Miami Beach passed Resolution No. R2015-68 for adoption of the 2015 Miami-Dade County Local Mitigation Strategy; authorizing the Town Manager to identify and prioritize hazard mitigation grant program projects to become a part of the Local and Statewide hazard mitigation strategy.

The City of North Miami Beach is responsible for natural disaster preparedness and emergency management that is addressed in the Comprehensive Plan. This includes response, recovery, and mitigation procedures that are acknowledge throughout all City departments. The City has a Certified Floodplain Manager that administers the Community Rating System (CRS) to reduce flood damage to insurable property, strengthen and support the insurance aspects of the NFIP, and encourage a comprehensive approach to floodplain management.

The primary duties of the Building Official shall be to intake and process permit applications and associated fees; ensure permits are routed for flood elevation review; conduct the review of building permit applications for compliance with structural and technical code requirements for flood-proofing and resistance of combined dynamic, hydrostatic and wind loads; and provide backup certified personnel as needed to assist in the flood elevation review. These duties may be clarified, and other duties may be assigned in memoranda of understanding or in interdepartmental procedures for the administration of the National Flood Insurance Program and Article X of the City North Miami Beach Ordinance (Subdivision and Floodplain Standards). The Building Official ensures that of record of the actual elevation, in relation to mean sea level, of the lowest floor, including basement, of all new or substantially improved structures, flood proof from a registered professional engineer or architect, helps maintain all records pertaining to the provisions of this section and keep them open for public inspection and keeps a file of as-built drawings.

Interagency Coordination: The City Building Official and Director of Public Works are hereby appointed to assist and cooperate with the Director of Community Development Department or designee in carrying out the requirements of the National Flood Insurance Program, and in the administration of this article. The

Director of Community Development Department shall develop interagency memoranda of understanding and procedures which shall describe the duties and responsibilities of each agency involved in the administration of this article. The Director of Public Works, the Building Official, and the Chief Code Enforcement Officer of the City shall cooperate with the Director of Community Development Department in the creation of memoranda of understanding and interdepartmental procedures which shall be approved by the City Manager. Each agency shall properly execute its duties and responsibilities as set forth in this article and in the memoranda of understanding and published procedures. In the absence of any interdepartmental guidance regarding any particular incident or program action, the Director of Community Development Department shall direct immediate or interim action to be taken when time is of the essence, which direction may be reviewed and amended by the City Manager.

The Police Department's Crime Prevention Division has a Community Emergency Response Team (CERT) that receives special training for the purpose of enhancing their ability to recognize, respond to, and recover from a major emergency or disaster situation. The CERT basic training that is offered at the City of North Miami Beach's Police Department, issues a training course that helps residents identify hazards that affects the home, workplace, and neighborhood. The program helps to understand the function of CERTs and their roles in immediate disaster response. For example, the course utilizes prevention techniques such as basic fire suppression strategies and fire safety measures in order to eliminate natural and man-made disasters.

The City of North Miami Beach has incorporated mitigation into their planning processes to include the following plans:

City of North Miami Beach's Comprehensive Plan	**April 26, 2010**
Future Land Use Element	
Objective 1.2: Detail a redevelopment strategy for potential redevelopment areas, including those cited in this plan (see Map 1.16, Volume Four). Redevelopment could include Future Land Use Map designation changes as necessary to facilitate enhancement of these areas. **Policy 1.2.18:** The City should encourage the use of Crime Prevention Through Environmental Design (CPTED) standards in the redevelopment of the City and formalize these standards within the Zoning and Land Development Code, enhancing the safety of the City by limiting design factors which abet crime.	
Objective 1.3: Encourage elimination of uses incompatible with this land use plan. **Policy 1.3.4**: Continue to regulate the use of land in the flood zones in accordance with FEMA requirements and the Land Development Regulations, including not permitting variances from required finished floor elevations. Continue to implement programs and procedures which improve FEMA's Community Rating System score for the City in order to reduce the cost of homeowner's insurance	

by 5% annually. Continue to annually reduce the number of existing structures which do not comply with these requirements and regulations.
Objective 1.4: Ensure reasonable protection of natural resources and environmentally sensitive land as new development occurs. **Policy 1.4.1**: Continue to enforce the Oleta River overlay zoning district to achieve maximum reasonable protection of the natural waterfront habitat as development applications are reviewed. **Policy 1.4.2**: The City shall protect and maintain natural resources and environmentally sensitive lands through the implementation of this comprehensive plan and the land development regulations. **Policy 1.4.3:** Coordinate the City's land uses, development, and redevelopment activities with the South Florida Water Management District's Biscayne Bay Surface Water Improvement Plan.
Objective 1.5: The City shall coordinate with Miami-Dade County, the South Florida Regional Planning Council and the State of Florida in evaluating the impacts of development and redevelopment on hurricane evacuation clearance times, structural integrity, and disaster-preparedness needs. **Policy 1.5.3:** The City shall coordinate with the Miami-Dade County and the South Florida Regional Planning Council in implementing the approved Local Mitigation Strategy by: assessing the vulnerability of governmental, medical and public safety sites and structures in the City to storm damage, and; developing an action plan, if necessary, to address wind stability and flood protection for key buildings. **Policy 1.5.4**: The City shall continue to work with Miami-Dade County to ensure that City employees are well-trained in the programs, procedures and policies required during a disaster emergency and the longer-term post-disaster redevelopment process. **Policy 1.5.5:** The City shall evaluate all proposed large-scale amendments to the Comprehensive Plan and/or zoning applications to determine their impact on hurricane evacuation routes and times, and effect on currently available off-site shelter capacities. Roadway improvements and shelter improvements shall be required to mitigate negative impacts, if deemed necessary, and phased with new residential development.
Infrastructure Element
Objective 1.1: Continue to provide new or improved sewer collection, drainage and/or potable water systems in accordance with the Capital Improvements Schedule, as it is annually updated. **Policy 1.1.2:** The City shall continue its drainage improvement program and continue the supporting catch basin cleaning program so that adequate street drainage can be achieved and maintained.
Objective 1.4: Protect the City's natural drainage and recharge areas by retaining all existing lakes and prohibiting any new development with 100 percent impervious coverage. **Policy 1.4.1**: Through land development code techniques, protect the existing lakes and assure adequate pervious areas in conjunction with new development.

Coastal Management Element
Objective 1.1: Continue to achieve zero (0) net loss of the 2,000 linear feet of natural areas bordering the estuarine areas in the City. **Policy 1.1.2**: As developers apply for permits on the few remaining waterfront sites, the City, in coordination with Miami-Dade County's Shoreline Review Committee when necessary, shall carefully review site plans in order to minimize impacts upon the natural waterfront (and thus the estuary and wildlife), particularly their drainage and tree protection plans; a waterfront zoning overlay district may, in some cases, require mitigation of disturbed natural features through the planting, rip-rap replacement of seawalls, etc. For aesthetic and consistency reasons, seawalls shall continue to be the required shoreline stabilization method for residential areas in Eastern Shores.
Objective 1.3: Achieve a net increase in the environmental quality of the estuary; see policies for measurability. **Policy 1.3.1:** City officials shall coordinate with appropriate local, regional and state agencies to monitor the commercial marinas and assure avoidance of pollution sources by reporting any violations to those agencies. The City shall also assure review of any proposed marina, coastal drainage project, or waterfront development by the County Shoreline Development Review Committee and Florida DEP to assure conformance with the Biscayne Bay Surface Water Improvement and Management (SWIM) Plan (South Florida Water Management District, 1994). **Policy 1.3.2:** Continue the City's street drainage improvement projects in order to minimize pollution from stormwater run-off; take special care in reviewing drainage plans for private development projects located near waterways to assure that adequate on-site retention is provided **Policy 1.3.3:** Annually review the development code to assure adequate protection is provided against negative impacts that may result from potential new uses in the coastal area and in any flood hazard areas. **Policy 1.3.5:** The City, through its regulatory processes and coordination with appropriate agencies, shall limit specific and cumulative impacts of development or redevelopment upon wetlands water quality, water quantity, surface water runoff, and exposure to natural hazards, wildlife habitat, and living marine resources.
Objective 1.4: The amount of shoreline devoted to water dependent and water related uses shall be maintained at 3,500 linear feet along the Oleta River system and Snake Creek Canal or increased in conformance with the criteria in the following policies. Note that North Miami Beach has very limited vacant privately owned frontage on the estuary. **Policy 1.4.1:** Existing water dependent uses and new water dependent uses (i.e., uses which cannot exist or occur without estuarine association) should be maintained and should be regulated through zoning policies which insure environmental compatibility. New uses which increase access or preserve and protect shoreline resources should be encouraged.

Policy 1.4.7: Acquire natural areas and natural habitat for conservation through County, State, or Federal Grants if possible.
Objective 1.6: The City shall enforce the minimum floodplain management regulations of the Federal Emergency Management Agency (FEMA) and the City's Floodplain Standards Ordinance for new and substantially improved buildings. **Policy 1.6.4:** The City shall continue to participate in the Community Rating System (CRS) and the National Flood Insurance Programs (NFIP), and distribute information relative to its provisions. **Policy 1.6.5:** In an effort to minimize flood insurance premium rates for North Miami Beach residents, the City shall endeavor to maintain or improve its Class 8 rating to a Class 7 or better by performing floodplain management activities that exceed the minimum NFIP requirements of the Community Rating System. **Policy 1.6.6:** To prevent further additions to the list of Repetitive Loss (RL) properties published by FEMA, the City shall remain committed to working on eliminating RL properties within the City to a point that qualifies as a category A or B Community. **Policy 1.6.7:** The City shall continue to enforce Chapter XXIV Zoning and Land Development Code, in an effort to eliminate an increase in the number of RL properties. **Policy 1.6.8:** The City should attempt to promote the acquisition, or retrofit of RL properties. **Policy 1.6.9:** The Coastal High Hazard Area is defined as the area below the elevation of the Category 1 storm surge line as established by a Sea, Lake and Overland Surges from Hurricanes (SLOSH) computerized storm surge model. The Coastal High Hazard Area is identified on the Future Land Use Map.
Objective 2.1: The City shall maintain or mitigate the impacts of development on the prescribed hurricane evacuation clearance times identified in the South Florida Regional Planning hurricane evacuation model update. **Policy 2.1.2**: Continue to cooperate with Miami-Dade Police and the County Fire Department's Office of Emergency Management, the Red Cross and FEMA through evacuation planning meetings and policies, and in other ways conform to the Metro-Dade Emergency Operations Plan for a Hurricane. **Policy 2.1.3:** In order to reduce the potential for loss of life and severe property damage, encourage the reduction of densities and intensities in areas likely to be inundated by flooding resulting from hurricane surge as shown by Map 5.3, Volume Four, implement a building code consistent with FEMA requirements, and when possible through grant funding eliminate the potential for increased residential and urban densities in those areas by purchasing such lands for use as public open space and shoreline access. **Policy 2.1.4:** The City shall participate in regional solutions that aim to reduce overall evacuation clearance times.

Policy 2.1.5: The City shall address deficiencies identified in the hurricane evacuation analysis and endeavor to integrate regional and local preparation and evacuation procedures into the City's hazard mitigation measures.

Objective 2.2: The City of North Miami Beach shall provide immediate response to post-hurricane situations in concert with a post-disaster redevelopment plan, which will reduce or eliminate the exposure of human life and public and private property to natural hazards. Measure: This objective shall be measured by progress in implementing its policies.

Policy 2.2.3: The Recovery Task Force shall include the City Manager, Police Chief, Emergency Management Director, Community Development Director, Building Official, Public Works Director, Parks & Recreation Director and other City staff members as directed by the City Council. Staff shall be provided by the departments whose directors sit on the Task Force. The Task Force shall be terminated after implementing its responsibility under Policy 2.2.6.

Policy 2.2.4: The Recovery Task Force shall review and decide upon emergency building permits; coordinate with Miami-Dade County, State and Federal Officials to prepare disaster assistance applications; analyze and recommend to the City Council hazard mitigation options including reconstruction or relocation of damaged public facilities; develop a redevelopment plan; and recommend amendments to the comprehensive plan, Miami-Dade County Hurricane Procedure Plan and other appropriate policies and procedures.

Policy 2.2.5: Immediate repair and clean-up actions needed to protect the public health and safety include repairs to potable water, wastewater and power facilities; removal of building and/or vegetable debris; stabilization or removal of structures about to collapse; and minimal repairs to make dwellings habitable such as minor roof repairs and other weatherproofing/security measures. These actions shall receive first priority in permitting decisions. Long-term development activities shall be postponed until the Recovery Task Force has completed its tasks.

Policy 2.2.6: The Recovery Task Force shall propose comprehensive plan amendments which reflect the recommendations in any interagency hazard mitigation reports or other reports prepared pursuant to Section 406 of the Disaster Relief Act of 1974 (PL93-288).

Policy 2.2.7: If rebuilt, structures which suffer damages in excess of fifty (50) percent of their appraised value shall be rebuilt to meet all current requirements, including those enacted since construction of the structure.

Policy 2.2.8: Repair or reconstruction of the existing seawalls within the City shall be done using only pre-fabricated concrete or cement, which may be augmented at the base only by decorative material (rip-rap), shall be similar in height and appearance to adjoining lots, pursuant to the Land Development Regulations.

Policy 2.2.9: Following a natural disaster and prior to the implementation of long-term redevelopment, the City shall do the following: Based upon the damage assessment report prepared by the Miami-Dade Public Works Department, the City shall consult with its Public Works officials and consultant engineer to evaluate options for damaged public facilities including abandonment, repair in

place, relocation and repair with structural modification, to determine the most strategic approach to long-term development. The evaluation shall include, but not be limited to, issues pertaining to damage caused by natural disaster, cost to construct repairs, cost to relocate, cost to structurally modify, limitations of right-of-way, and maintenance costs.
Objective 2.4: The City's Emergency Preparedness Committee shall review its hurricane preparation plans and post-disaster redevelopment plans annually to ensure that risks are mitigated to the furthest extent possible and that its plans are in conformance with the most recent Objectives and Procedures developed by the Miami-Dade County Evacuation Planning Task Force. The City shall annually review its Hurricane Procedures in March of each year **Policy 2.4.1:** Continue to enforce building codes, floodplain regulations, design criteria, and zoning regulations established to protect new structures, reduce redevelopment costs, and mitigate hurricane hazards. **Policy 2.4.2**: Zoning district boundaries and land development regulations shall be maintained or revised as necessary to ensure that no new hospitals or mobile homes that do not meet the criteria for manufactured housing are constructed in the coastal area.
Objective 2.6: The City shall take measures towards hurricane preparation, hazard mitigation and plan for post-disaster redevelopment. **Policy 2.6.2:** Encourage public awareness and education regarding appropriate responses to a variety of emergencies as feasible and appropriate utilizing such mechanisms as websites, public access television stations, and newsletters. **Policy 2.6.3**: Coordinate with the County to ensure the availability of emergency shelter for residents required to evacuate areas adversely affected by natural disasters. **Policy 2.6.4**: Work with the South Florida Regional Planning Council in its role as the region's Economic Development District Coordinator to seek hazard mitigation funding from the U.S. Department of Commerce, Economic Development Administration to fund the organizational and training activities of the Business Disaster Mitigation and Recovery Assistance Program. **Policy 2.6.5**: Consider reducing building permit application fees for disaster resistant shutters, doors, windows, and roof clips for businesses participating in the Business Disaster Mitigation and Recovery Assistance Program **Policy 2.6.6**: The City shall ensure that all applicable provisions of the hazard mitigation annex of the Miami-Dade County Emergency Operations Plan, and the Miami-Dade County Local Mitigation Strategy (LMS), are incorporated and/or addressed in local hazard mitigation procedures. **Policy 2.6.7**: The City shall monitor problems and life-threatening situations resulting from natural disaster events and take the necessary steps to ensure that the potential for such problems and situations are minimized in the future. **Policy 2.6.8:** The City shall implement the Local Mitigation Strategy and Post-Disaster Redevelopment Plan to provide for debris clearance as well as immediate repair and replacement of public infrastructure required to protect public health and safety.

Policy 2.6.9: The City shall make every effort to support and implement the initiatives and projects listed in the Local Mitigation Strategy, including both countywide initiatives and the proposed hazard mitigation projects located in the City. **Policy 2.6.10:** The City will promote the hardening of structures to increase resistance against natural disasters pursuant to the Florida Comprehensive Hurricane Damage Mitigation Program (My Safe Florida Home).
Conservation Element
Objective 1.2: Continue to pursue drainage practices and programs that minimize ground and surface water pollution, including pollution to the Biscayne Aquifer; experience no increase in the amount of properties, developments, or facilities polluting ground water or surface water as the result of non-implementation of such practices and programs. Measure: Number of properties developed or redeveloped without technical review insuring that proposed drainage at the site minimizes ground and surface water pollution. **Policy 1.2.1:** Continue to make street drainage improvements City-wide.
Objective 1.3: Protect existing rare or threatened vegetative communities, natural ecosystems, listed animal species and their habitat, sensitive soils, and estuarine communities against any further degradation. Achieve 0 net loss of the 2,000 lineal feet of natural shoreline bordering the estuary. **Policy 1.3.4:** Further landscape and extend the linear park along the Snake Creek Canal in an effort to assist wildlife and riverine habitat conservation, including the removal of invasive, nuisance vegetation. **Policy 1.5.6:** Continue to restrict activities known to adversely affect endangered and threatened wild life, and require mitigation measures for activities impacting native vegetative communities.
Objective 1.6: The City shall seek to reduce greenhouse gas emissions to the maximum extent feasible and conserve energy resources. In developing the 2012 Evaluation and Appraisal Report and associated amendments, the City shall establish and adopt a percentage goal for greenhouse gas reduction consistent with Miami-Dade County's greenhouse gas reduction goal. Measure: The number of specific programs initiated to reduce greenhouse gas emissions, percentage reduction of greenhouse gas emissions, acres of mixed use development as a percentage of total development, and the estimated reduction of vehicle miles travelled as a result of these efforts. **Policy 1.6.2**: The City shall require low impact development techniques and green building standards that reduce the negative environmental impacts of development and redevelopment by: reducing building footprints to the maximum extent feasible, and locating building sites away from environmentally sensitive areas; promoting the preservation of natural resources; providing for on-site mitigation of impacts (i.e. retention and treatment of stormwater runoff, water reuse, Master Stormwater Management Systems); promoting energy conservation through design, landscaping and building techniques (i.e. solar power, increased tree canopies); promoting water conservation through landscaping and building design; ensuring environmentally friendly building

practices (i.e. use of environmentally friendly building materials, recycled materials), and; considering the development and implementation of a green building certification program, with associated regulations, incentives and standards**.**

Opa-locka

Below is the section of this village's comprehensive plan that integrates with the Miami-Dade County LMS.

Opa-locka Code of Ordinances	October 2014
Article VI Flood Damage Protection	

Sec. 7-75. - Purpose.

This article is to insure the continued availability of flood insurance through the National Flood Insurance Program; to comply with federally imposed requirements; and to protect the public health, safety and general welfare, by minimizing flood losses in the flood hazard areas of the City of Opa-locka, and to require that uses vulnerable to floods, including facilities which serve such uses, be protected against flood damage at the time of initial construction and substantial improvement; control the alteration of natural floodplains, stream channels, and natural protective barriers which are involved in the accommodation of flood waters; control filling, grading, dredging and other development which may increase erosion or flood damage, and; to insure that potential home buyers are notified that property is in a flood area.

Sec. 7-78. - Standards for development within special flood hazard (SFH) areas.

(a) No new construction and substantial improvement of any residential structure or manufactured home shall be permitted in SFH Areas, and no development permit referred to in section 7-77 of this chapter shall be issued therefore, unless said new construction and substantial improvement has the lowest floor (including basement) elevated to or above the regulatory flood (100-year flood) elevation.

Electrical, plumbing, air conditioning and other attendant utilities must be constructed, designed, and/or located so as to prevent water from entering or accumulating within their components during conditions of flooding.

(b) No new construction and substantial improvement of any nonresidential structure shall be permitted in SFH Areas, and no development permit referred to in section 7-77 of this chapter shall be issued therefore, unless said development has the lowest floor (including basement) elevated to or above the level of the base flood (100-year flood). If the lowest permitted floor level of such nonresidential structure (including basement) is below the regulatory flood level then such nonresidential structure together with attendant utility and sanitary facilities shall be flood-proofed to one (1) foot above the level of the base flood; provided that the lowest floor level of such

nonresidential structure (including basement) shall be not more than ten (10) feet below the base flood level. Where flood proofing is utilized for a particular structure, a registered professional engineer or architect shall certify that the flood proofing methods are adequate to withstand the flood depth, pressures, velocities, impact and uplift forces associated with the base flood, and a record of such certificates indicating the specific elevation (in relation to mean sea level) to which such structure is flood proofed shall be maintained with the designated official.

(c) All manufactured homes placed, or substantially improved, on individual lots or parcels, in expansions to existing manufactured home parks or subdivisions, in new manufactured home parks, in substantially improved manufactured home parks, shall meet all of the requirements for "new construction", including elevation in accordance with section 7-78(a) and anchoring requirement of section 7-77(c)(2).

(d) All manufactured homes placed, or substantially improved in an existing manufactured home park or sub division shall be elevated so that:

(1) The lowest floor of the manufactured home is elevated no lower than the base flood elevation; or

(2) The manufactured home chassis is supported by reinforced piers or other foundation elements of at least an equivalent strength, of no less than thirty-six (36) inches in height above grade.

(3) The manufactured home shall be securely anchored to the adequately anchored foundation system to resist flotation, collapse and lateral movement.

(4) In an existing manufactured home park or subdivision in which a manufactured home has incurred "substantial damage as the result of a flood, any manufactured home placed or substantially improved shall meet the standards of section 7-78(a) and 7-77(3).

(e) All recreational vehicles placed within this area shall either:

(1) Be on site for fewer than one hundred eighty (180) consecutive days;

(2) Be fully licensed and ready for highway use; or

(3) The recreational vehicle shall meet all the requirements for new construction, including anchoring and elevation requirements of section 7-78(c).

(4) Be on the site for fewer than one hundred eighty (180) consecutive days. A recreational vehicle is ready for highway use if it is on its wheels or jacking system, is attached to the site only by quick disconnect type utilities and security devices and has no permanently attached structures.

(f) Elevated buildings. New construction and substantial improvements of elevated buildings that include fully enclosed areas formed by foundations and other exterior walls below the lowest floor shall be designed to preclude finished living space except allowable uses (i.e. parking, limited storage and building access) and shall be designed to allow for the entry and exit of floodwaters to automatically equalize hydrostatic flood forces on exterior

walls. Designs for complying with this requirement must either meet or exceed the following minimum criteria or be certified by a professional engineer or architect:

(1) Provide a minimum of two (2) openings having a total net area of not less than one (1) square inch for every square foot of enclosed area subject to flooding;

(2) The bottom of all openings shall be no higher than one (1) foot above grade; and

(3) Openings may be equipped with screens, louvers, valves or other coverings or devices provided they permit the automatic flow of floodwaters in both directions;

Electrical, plumbing, air conditioning and other utility connections must be constructed, designed, and/or located so as to prevent water from entering or accumulating within the components during conditions of flooding.

Access to the enclosed area shall be the minimum necessary to allow for parking of vehicles (garage door), (standard exterior door), or entry to the living area (stairway or elevator); the interior portion of such enclosed area shall not be finished or partitioned into separate rooms or air conditioned.

(g) Notify, in river line situations, adjacent communities and the Florida NFIP Coordinating Office to any alteration or relocation of a watercourse, and submit copies of such notifications to FEMA;

(h) The flood carrying capacity within the altered or relocated portion of any watercourse shall be maintained.

(Ord. No. 12-09, § 2, 4-11-12)

Palmetto Bay

On September 14, 2020, the Village of Palmetto Bay passed Resolution No. 2020-82 adopting Miami-Dade County's Local Mitigation Strategy. This allowed the Village to apply for inclusion into the National Flood Insurance's Community Rating System (CRS) Program.

In addition, the Village of Palmetto Bay has integrated mitigation locally through the following plans:

Village of Palmetto Bay Comprehensive Plan	**2019**
Future Land Use Element	
Objective 1.6 <u>Coastal High Hazard and Disaster Preparedness</u> Coordinate with Miami-Dade County and the State of Florida in addressing the land use planning, evacuation, structural integrity, and disaster-preparedness needs of Palmetto Bay.	

Policy 1.6.2 Coordinate with Miami-Dade County in implementing the approved Local Mitigation Strategy, by assessing the vulnerability of governmental, medical, and public safety sites and structures in the Village to storm damage, and in developing an action plan, if necessary, to address wind stability and flood protection for key buildings.

Transportation Element

Objective 2B.3 Emergency Transit Plan

Coordinate with Miami-Dade Transit and Miami-Dade Office of Emergency Management (OEM) to help ensure development of an emergency transit plan that will provide a timely evacuation of the Coastal High Hazard Area during tropical storms and hurricanes.

Policy 2B.3.1 The Village Manager shall direct the transportation liaison, established under Policy 2A.2.6 of this Element, to meet with the Miami-Dade Office of Emergency Management at least every twelve months to coordinate evacuation plans and related issues and report back to the Manager.

Policy 2B.3.2 Timely evacuation operations shall be established to commence four (4) hours after an evacuation order is issued by the County Administrator.

Coastal Management Element

Objective 5.3 Flood Protection

The Village will reduce natural hazard impacts through compliance with federal Emergency Management Agency (FEMA) regulations and by targeting repetitive flood loss and vulnerable properties for mitigation.

Objective 5.8 Post Disaster Redevelopment and Hazard Mitigation

Coordinate with the Miami-Dade County Office of Emergency Management (OEM) to develop and implement post-disaster redevelopment and hazard mitigation plans that reduce or eliminate exposure of life and property to natural hazards towards the protection of health, safety, and welfare within the Village.

Policy 5.8.2 The Village shall enforce applicable recommendations of post disaster hazard mitigation plans required under Section 405 of the Disaster Relief Act of 1974

Pinecrest

The Village addresses flooding issues through implementation of the 2015 Stormwater Management Master Plan. The Plan modeled for future conditions at 24-hour, 2-year, 10-year, 25-year, 50-year and 100-year storm events including consideration for sea level rise and prioritized development of drainage project based on the analysis. An update to the 2015 plan is scheduled for 2025. Currently, there are seven Repetitive Loss Properties in the Village of Pinecrest, defined as

properties that have submitted flood insurance claims for more than two flood events. To reduce risk to these properties, the Village of Pinecrest has developed and implemented several stormwater management projects to help alleviate localized flooding at locations near or adjacent to the properties.

Since 2011, the Village participates in the Property Assessed Clean Energy (PACE) Program, which provides loans to property owners for solar panels, wind generators, insulation and shutters. In addition, the Village has achieved the Florida Green Building Council's Silver Certification and is currently seeking Gold Certification, and has adopted green building and development standards as part of its Land Development Regulations.

The Village of Pinecrest has participated in the National Flood Insurance Program (NFIP) since October 13, 1998. The Village's Building and Planning Department is responsible for the review of site development plans and issuance of building permits and customarily reviews all new construction plans for compliance with the requirements of the Florida Building Code and the Village's Land Development Regulations and Floodplain Management Ordinance.

In December 2015, the Village of Pinecrest adopted a Floodplain Management ordinance that incorporates new requirements designed to further protect residents and businesses from flood hazards. Notable changes included an additional one-foot increase in the minimum finished floor elevation of new structures and existing structures that are proposed to be remodeled to an extent greater than 50% of their existing value, defined as "substantial improvement".

On September 8, 2020, the Village of Pinecrest adopted the Miami-Dade County Local Mitigation Strategy (LMS). The LMS has been approved by FEMA and it has been confirmed that it is in compliance with the federal hazard mitigation planning standards contained in 44CFR 201.6 (b)-(d). The LMS is valid until September 15, 2025.

Pinecrest participates in the National Flood Insurance Program's Community Rating System (CRS). On February 27, 2023, the Village was notified that its rating had been modified from Class 8 to Class 7. The Village will continue to coordinate with FEMA and CRS in working to further improve its CRS rating.

The Village has a full time Certified Flood Plain Manager who is responsible for the implementation of the Community Rating System (CRS) and NFIP compliance.

Village of Pinecrest Comprehensive Plan
Future Land Use Element
OBJECTIVE 1-3.5: PROTECTION OF NATURAL RESOURCES. The Village shall maintain Land Development Regulations and shall continue to enforce regulations which ensure that development and conservation activities shall protect natural resources as directed by the below stated policies.

Policy 1-3.5.1: Future Land Use Policies for Managing Environmentally Sensitive Lands.

Policies in the Conservation Element for managing environmentally sensitive natural systems,
including, but not limited to, water resources, wetlands, native habitats and other environmentally sensitive resources shall be carried out through performance criteria in the Land Development Regulations. These and other natural resources identified on the Future Land Use Map series shall be protected and/or preserved pursuant to goals, objectives, and policies stipulated in the Conservation Element.

In addition, the Land Development Regulations shall provide more detailed procedures and performance criteria to implement conservation and natural resource protection. The Land Development Regulations shall also provide for wetland preservation, compensatory wetland mitigation, and dedication of conservation easements for preserving open space. Such policies shall continue to be applied in order to protect and preserve natural resources which may in the future be threatened by development expectations.

Public Facilities Element

GOAL 4-5: PROVISION OF DRAINAGE AND STORM WATER MANAGEMENT PUBLIC FACILITIES. Ensure existing and future land uses have access to drainage and storm water management systems that are environmentally sound, protect and conserve water quality, safeguard investments in existing facilities, abate flood conditions, prevent degradation of the quality of receiving waters and assist in maintaining adopted level of service standards and applicable state laws as well as administrative rules of the Florida Department of Environmental Protection.

OBJECTIVE 4-5.1: PLAN AND COORDINATE SURFACE WATER MANAGEMENT SERVICES TO MEET EXISTING AND FUTURE SURFACE WATER MANAGEMENT NEEDS, INCLUDING IMPLEMENTATION OF THE ENGINEERED STORMWATER MASTER PLAN. To maximize the use of existing surface water management facilities and reconcile existing problems identified in the Drainage Sub-Element Data Inventory and Analysis, the Village shall implement the adopted engineered stormwater master plan which identifies existing and projected short term (2012) and long term (2025) stormwater management needs. The master plan includes an inventory of existing natural and structural features included in the Village drainage system. In addition, the plan provides a detailed assessment of related problems and issues. The plan addresses criteria in Policy 4-5.1.1 and documents findings and recommendations associated with this criterion.

Policy 4-5.1.1: Stormwater Master Plan. The Village has adopted and is implementing on a financially feasible basis, the Stormwater Master Plan and

capital improvement program which includes funding recommendations for the construction of drainage improvements.

Policy 4-5.1.2: Drainage Level of Service Standard. The following is the level of service standard for drainage and surface water management applicable to new development which is consistent with the data, analysis and recommendations of the Master Drainage Plan explained in Policy 4-5.1.1. The level of service standard for new development shall be the Miami-Dade County level of service standards stated below:

- Water Quality Standard: Stormwater facilities shall be designed to meet the design and performance standards established in Ch. 62-25, §25.025, F.A.C., with treatment of the runoff from the first one inch of rainfall on-site to meet the water quality standards required by Ch. 62-302, §62-302.500, F.A.C.
- Water Quantity Standard: Where two or more standards impact a specific development, the most restrictive standard shall apply:

a. Post development runoff shall not exceed the pre-development runoff rate for a 25-year storm event, up to and including an event with a 24-hour duration.

b. Treatment of the runoff from the first one inch of rainfall on-site or the first half inch of runoff whichever is greater. Options for addressing water quantity are provided in the Land Development Code.

Policy 4-5.1.3: Maintenance of Drainage Level of Service Standard through Development Review and Concurrency Management. The Land Development Regulations shall include a development review process and performance standards which require that all future development include an approved system for drainage and storm water management which meets the adopted level of service standard for drainage and all applicable state and county regulations as well as Village performance criteria, including concurrency management regulations.

Policy 4-5.1.5: Priority for Correcting Existing Deficiencies. In developing the annual schedule of capital improvement projects, the Village shall assign highest priority to those projects required for purposes of correcting existing deficiencies including canal bank stabilization to address continued erosion of canals under the jurisdiction of the Village.

Policy 4-5.1.6: Existing Deficiencies Shall Not Be Increased by New Development.
The Village shall issue no development order for new development which would not meet adopted level of service standards. The adequate facilities ordinance shall mandate that future applications for development shall include a written evaluation of the impact of the anticipated development on the levels of services for the drainage. Prior to issuing a site plan or building permit (whichever is first applicable), the Village shall render a finding that the applicant has provided written

assurance that the proposed development shall meet adopted level of service criteria. The developer's application shall include written assurances that any required improvements shall be in place concurrent with the impacts of the development.

Policy 4-5.1.8: Stormwater Basin Evaluation Plan. Develop a Comprehensive Stormwater Basin Evaluation that includes review of the effects of sea level rise on the existing system and develop a long-term capital improvement plan to address future infrastructure needs. Coordinate all findings with the adopted Stormwater Master Plan.

Conservation Element

Policy 5-1.3.1: Enforce Policies to Maintain Floodplain. The Village shall maintain the surface
water management and flood damage prevention regulations. New development encroaching into the floodplain shall incorporate flood protection measures sufficient to protect against the 100-year flood. The Village's Stormwater Management and Flood Protection Ordinance shall maintain consistency with program policies of the Federal Insurance Administration. The Village shall monitor new cost-effective programs for minimizing flood damage. Such programs may include modification to construction setback requirements or other site design techniques, as well as upgraded building and construction techniques

Policy 5-1.4.6: Managing and Regulating Wetlands. Wetlands should be used for purposes which are compatible with their natural values and functions and land development regulations shall be adopted to provide these areas with the maximum possible protection. The Land Development Regulations provide for wetland preservation, compensatory wetland mitigation, and dedication of conservation easements for preserving open space. Such policies shall be applied in order to protect and preserve natural resources which may in the future be threatened by development expectations.

Intergovernmental Coordination Element

Policy 7-1.2.1: Coordination of Development and Growth Management Issues. The Village shall pursue resolution of development and growth management issues with impacts extending beyond the Village's political jurisdiction. Issues of regional and state significance shall be coordinated with the South Florida Regional Planning Council, the South Florida Water Management District, and/or state agencies having jurisdictional authority. Issues to be pursued include but are not limited to the following:

1. Impacts of development proposed in the Comprehensive Plan of Miami-Dade County, the Cities of South Miami and Coral Gables, the Village of Palmetto Bay, the region, the state, and any governmental entity that may be created in the future.

2. Land development activities adjacent to the Village's corporate limits within Miami-Dade County or the Cities of South Miami and Coral Gables, the Village of Palmetto Bay, or any other City created in the future.
3. Research regulatory framework and implementation of affordable housing programs.
4. Village of Pinecrest land development activities adjacent to the unincorporated area of the County, or the Cities of South Miami and Coral Gables, the Village of Palmetto Bay, or any other adjacent municipality created in the future.
5. Potential annexation issues.
6. Area-wide drainage and stormwater master plan, proposed improvements and implementing programs and particularly coordination with the South Florida Water Management District regarding the Salinity Dam at Snapper Creek.

Capital Improvements Inventory and Analysis Element

Policy 8-1.3.2: Storm Water Utility. The Village shall continue to use its Storm Water Utility for managing and funding needed drainage improvements through the year 2030. These improvement needs shall be identified in the adopted stormwater master plan. The Village shall amend the capital improvements program to include construction of required infrastructure improvements approved by the Village Council as recommended in the Stormwater Master Plan.

Climate Change Element

Objective 10-1.2: MITIGATION, PROTECTION AND ADAPTATION WITHIN THE BUILT ENVIRONMENT. Improve the climate resiliency and energy-efficiency of new and existing buildings and public infrastructure including municipal buildings.

Policy 10-1.2.1: Encourage Greener, Climate Resilient Construction. The Village of Pinecrest shall, by 2016, encourage greener, more efficient and climate resilient construction practices locally by:

a) Building all new construction of village-owned facilities to published Leadership in Energy and Environmental Design™ (LEED) standards; Florida Green Building Coalition (FGBC) green building standards, or Green Building Initiative (GBI) Green Globes rating standards;

b) Requiring licensed personnel in the Building and Planning Department to maintain LEED Green Associate certification and obtain at least 8 continuing education units (CEUs) of emerging energy efficiency and renewable energy technologies by 2016;

c) Re-evaluating finish floor elevation standards with respect to projected sea level rise scenarios and flooding potential following completion of a comprehensive stormwater basin master plan.

d) Looking for opportunities to access reclaimed and reuse water at municipal facilities and to retrofit municipal buildings to incorporate more sustainable building solutions to improve energy efficiency.

Policy 10-1.2.2: Complete a Vulnerability Assessment for the Identification of Property and Infrastructure at Risk from Sea Level Rise.
The Village of Pinecrest shall complete a vulnerability assessment to further identify property, public investments and infrastructure at risk from sea level rise, storm surge, groundwater contamination and other climate change related impacts by 2016, and shall update this assessment periodically as new sea level rise projections are published. Specifically, the Village shall complete a stormwater vulnerability assessment to further analyze vulnerability to facilities and services, including but not limited to: property; buildings; water and sewer lines; stormwater systems; roads, bridges, and all transportation infrastructure; electric sub stations; and municipal offices and facilities.

Objective 10-1.4: Water, Sewer and Solid Waste. Coordinate with Miami-Dade County in the improvement of the resiliency of existing water resources, and water and wastewater infrastructure to the impacts of climate variability and change in order to protect future water quality and minimize the potential for flood damage and water shortages.

Objective 10-1.6: ADAPTATION ACTION STRATEGIES. Develop and implement adaptation strategies for the Village of Pinecrest to address impacts associated with coastal flooding, tidal events, storm surge, flash floods, stormwater runoff, salt-water intrusion and other impacts related to climate change or exacerbated by sea level rise with the intent to increase the Village's comprehensive adaptability and resiliency capacities.

Policy 10-1.6.2: Collaborate with the South Florida Water Management District in the Review of Policies Regarding Operation of Flood Control Structures. Work in collaboration with the South Florida Water Management District to review, develop and implement strategies to address impacts of rising sea levels on the operation of the flood and salinity control structures at the S22 and S123 outfalls.

Policy 10-1.6.4: Reassess the Village's Required Minimum Finished Floor Elevation.
Consider increasing the minimum required base flood finished floor elevation of all new structures within designated Adaptation Action Areas by one additional foot (freeboard).

Policy 10-1.6.5: Stormwater Drainage Infrastructure. Construct additional stormwater drainage infrastructure necessary to accommodate projected increases

in stormwater including drainage wells, injection wells, swales, French drains, and other related structures as recommended in the Village's Stormwater Master Plan.

Policy 10.1.6.6: Collaborate with Governmental Agencies in the Implementation of Mitigation Strategies. Collaborate and coordinate with appropriate local, regional, and state governmental agencies including the City of Coral Gables, Miami-Dade County, the South Florida Water Management District, and the South Florida Regional Planning Council toward the implementation of Adaptation Action Area adaptation strategies.

Objective 10-1.7: ADAPTATION ACTION AREAS.
The Village of Pinecrest shall continue to identify and designate Adaptation Action Areas as provided by Section 163.3164(1), Florida Statutes, and develop policies for adaptation as required for the protection of areas and facilities in the Village of Pinecrest that are vulnerable to the impacts of rising sea levels and climate change.

Policy 10-1.7.2: Basis for Designation. As the basis for the designation of Adaptation Action Areas, the Village will continue to utilize the best available data and resources such as the Unified Sea level Rise Projection for Southeast Florida in order to identify the risks and vulnerabilities associated with climate change and sea level rise and opportunities to formulate timely and effective adaptation strategies.

Policy 10-1.7.3: Adaptation Action Areas Identified. Those Areas as identified in Figure 11 of the data, Inventory and Analysis, Adaptation Action Areas, that are projected to be impacted by 6 or More Inches of Flooding, are hereby adopted and designated as Adaptation Action Areas.

Objective 10-1.8: INTERAGENCY COORDINATION. Continue to coordinate with Governmental agencies within the South Florida region and other non-governmental entities and academic institutions in the ongoing assessment of existing and projected conditions related to our changing climate and rising sea levels, and continue to collaborate as necessary in the identification and development of effective solutions and strategies to adapt and improve resiliency.

Policy 10-1.8.1: Continue Coordination with Miami-Dade County and Other Participating Counties in the Identification of Modeling Resources and in the Development of Goals, Objectives, and Policies to Address Climate Change. The Village of Pinecrest shall coordinate with Miami-Dade County and other participating counties in the Southeast Florida Regional Climate Change Compact in the identification of modeling resources and in the development of initiatives and goals to address climate change. Additional climate change related objectives and policies that support regional climate change goals shall be integrated into the Comprehensive Development Master Plan as appropriate.

Policy 10-1.8.2: Continue to Coordinate with Other Governmental and Academic
Entities In the Ongoing Analysis of Sea Level Rise. The Village of Pinecrest shall
continue to coordinate regionally with Southeast Florida counties and municipalities,
academia, and state and federal government agencies in the analysis of sea level rise, drainage, storm surge and hurricane impacts and the planning of mitigation and adaptation measures.

Policy 10-1.8.3: Continue to Monitor and Coordinate with The Southeast Florida
Regional Climate Change Compact. The Village of Pinecrest shall continue to actively monitor the Southeast Florida Regional Climate Change Compact, and shall coordinate with neighboring municipalities to make our community more climate change resilient by sharing technical expertise, assessing regional vulnerabilities, advancing agreed upon mitigation and adaptation strategies, and developing policies and programs.

Below is the section of this city's comprehensive plan that integrates with the Miami-Dade County LMS.

City of South Miami Comprehensive Plan	2010
Intergovernmental Coordination Element	
Policy 1.3.7 The City will coordinate with the emergency management program of Miami-Dade County y notifying the County of any current or future land use policies or population changes which would affect hurricane shelters or emergency evacuation routes. **Policy 1.3.11** The City will participate with Miami-Dade County in the planning and implementation of the County's Hazard Mitigation Plan, as it impacts the City of South Miami.	
Future Land Use Element	
OBJECTIVE 4.4 Preserve floodplain areas via floodplain management and limiting development within the Special Flood Hazard Area. **Policy 4.4.1** in coordination with the Transit-Oriented Development District, permit more intense development only in those areas which are located outside of the Special Flood Hazard Area. **Policy 4.4.2** Building density and intensity may be transferred from areas within the Special Flood Hazard Area, in order to permit development within the Transit-Oriented Development District, while reducing the permitted intensities within the Special Flood Hazard Areas.	

South Miami

Below is the section of this city's comprehensive plan that integrates with the Miami-Dade County LMS.

City of South Miami Comprehensive Plan	2010
Intergovernmental Coordination Element	
Policy 1.3.7 The City will coordinate with the emergency management program of Miami-Dade County y notifying the County of any current or future land use policies or population changes which would affect hurricane shelters or emergency evacuation routes. **Policy 1.3.11** The City will participate with Miami-Dade County in the planning and implementation of the County's Hazard Mitigation Plan, as it impacts the City of South Miami.	
Future Land Use Element	
OBJECTIVE 4.4 Preserve floodplain areas via floodplain management and limiting development within the Special Flood Hazard Area. **Policy 4.4.1** in coordination with the Transit-Oriented Development District, permit more intense development only in those areas which are located outside of the Special Flood Hazard Area. **Policy 4.4.2** Building density and intensity may be transferred from areas within the Special Flood Hazard Area, in order to permit development within the Transit-Oriented Development District, while reducing the permitted intensities within the Special Flood Hazard Areas.	

Sunny Isles Beach

Below is the section of this city's comprehensive plan that integrates with the Miami-Dade County LMS.

City of Sunny Isles Beach Comprehensive Plan	October 2000
Future Land Use Element	
Policy 3P: Applications for rezoning, zoning variances or subdivision approvals for all new development in areas subject to coastal flooding shall be reviewed for emergency evacuation, sheltering, hazard mitigation, and post-disaster recovery and redevelopment.	
Transportation Element	
Objective 3: Transportation Network Safety & Efficiency The City shall improve the safety, and efficiency of the City's roadway system through transportation system management (TSM) techniques, including: access management (Policies 3A-D), improved intersection operations (Policy 3E), traffic calming along residential streets (Policy 3F), mitigation by developers (Policy 3G), accident analysis (Policy 3H, 31), and maintaining visibility for pedestrians, vehicles, and cyclists (Policy 3J).	

Surfside

Below is the section of this town's comprehensive plan that integrates with the Miami-Dade County LMS.

Town of Surfside Comprehensive Plan	January 2010
Future Land Use Element	
Objective 7: Coordination of population with hurricane evacuation plans: Coordinate population densities with the applicable local or regional coastal evacuation plan [9J-5.006 (3) (b) 5] and coordinate future land uses by encouraging the elimination or reduction of land uses which are inconsistent with applicable interagency hazard mitigation report recommendations [9J-5.006 (3) (b) 6]. This objective shall be measured by implementation of its supporting policies. [9J5.006 (3) (b) 5 and 6]. **Policy 7.2:** The Town shall regulate all future development within its jurisdiction in accordance with the goals and objectives of the "The Local Mitigation Strategy for Miami-Dade County and its Municipalities, Departments and Private Sector Partners" (June 2008). The Town shall periodically review and revise the Future Land Use Map in light of future interagency hazard mitigation reports in order to reduce or eliminate uses which are inconsistent therewith. **Policy 5.5**: Consideration for the relocation, mitigation or replacement of any of the existing infrastructure in the Coastal High Hazard Area, as may be deemed appropriate by the Town, shall be coordinate with the state when state funding is anticipated to be needed for implementation of the project. al Management Element **Policy 6.5:** The Town shall adopt a Comprehensive Emergency Management Plan in order to prepare for, respond to, recover from and mitigate potential hazard by December 2011.	
Objective 11: Hazard mitigation In general, the Town shall regulate development so as to minimize and mitigate hazard resulting from hurricanes. In particular, the Town shall ensure that all construction and reconstruction complies with applicable regulations designed to minimize hurricane impact on buildings and their occupants. **Policy 11.5:** The Town shall continue to enforce regulations and codes which provide for hazard mitigation, including but not limited to, land use, building construction, placement of fill, flood elevation, sewer, water and power infrastructure, and stormwater facilities. These regulations shall be applied to eliminate unsafe conditions, inappropriate uses and reduce hazard potentials. **Policy 11.6:** The Town shall increase public awareness of hazards and their impacts by providing hazard mitigation information to the public. Information shall address evacuation, sheltering, building techniques to reduce hazards as well as other hazard mitigation issues that could help prevent loss of life and property. **Policy 11.9:** The Town shall, as deemed appropriate, incorporate the recommendation of the hazard mitigation annex of the local emergency management plan and shall analyze and consider the recommendations from interagency hazard mitigation reports. **Policy 11.10:** The Town shall include criteria in the five (5) year schedule of Capital Improvement projects to include consideration for and prioritization for projects that are hazard mitigation initiatives.	

Sweetwater

On October 2016, the City adopted a Floodplain Management Ordinance (Ordinance 4230) to meet the requirements of the NFIP and coordination with the Florida Building Code. The model ordinance specifically repealed and replaced the City Chapter 35 named "Floodplain Management Regulations" (Ordinance 3427 September 28, 2009) to satisfy the NFIP, to coordinate with the FBC, and to meet the requirements of section 553.73 (5), F.S. This ordinance applies to all flood hazard areas within the City of Sweetwater.

City of Sweetwater Code of Ordinances	**2016**
Sec. 35-102.3. - Basis For Establishing The Areas of Special Flood Hazard	
The Flood Insurance Study for Miami-Dade County, Florida and Incorporated Areas	
Sec. 35-102.4 Submission of additional data to establish flood hazard areas	
To establish flood hazard areas and base flood elevations, pursuant to Section	

Virginia Gardens

Below is the section of this village's comprehensive plan that integrates with the Miami-Dade County LMS.

Village of Virginia Gardens Provisions for Flood Hazard Reduction Code of Ordinances	**August 2013**
Article X. Floodplain Management	
10.1 Administration: Duties of the Administrator shall include, but are not be limited to: Verify and record the actual elevation (in relation to mean sea level) of the lowest floor (A-Zones) or bottom of the lowest horizontal structural member of the lowest floor (V-Zones) of all new and substantially improved buildings, in accordance with Article 5, Section B (1) and (2) and Section E (2), respectively; Verify and record the actual elevation (in relation to mean sea level) to which the new and substantially improved buildings have been flood-proofed, in accordance with Article 5, Section B (2);	
6.11 Stormwater Management Code of Ordinances	

6.11.3 Design Standards

To comply with the foregoing performance standards, the proposed storm water management system shall conform to the following standards:

A. To the maximum extent practicable, natural systems shall be used to accommodate stormwater.

B. The proposed stormwater management system shall be designed to accommodate the stormwater that originates within the development and stormwater that flows onto or across the development from adjacent lands. The proposed stormwater management system shall be designed to function properly for a minimum twenty (20) year life.

C. The design and construction of the proposed stormwater management system shall be certified as meeting the requirements of this Code by a professional engineer registered, in the State of Florida.

D. No surface water may be channeled or directed into a sanitary sewer.

West Miami

Below is the section of this city's comprehensive plan that integrates with the Miami-Dade County LMS.

City of West Miami Flood Damage Prevention	2024
Ordinance Ch. 17, Article III-Flood Damage Prevention	
Sec. 17-43 (d)– Duties and powers of the Floodplain Administrator Substantial improvement and substantial damage determinations. For applications for building permits to improve buildings and structures, including alternations, movement, enlargement, replacement, repair, change or occupancy, additions, rehabilitations, renovations substantial improvements, repairs of substantial damage, and any other improvement of or work on such buildings and structures, the Floodplain Administrator, in coordination with the Building Official, shall: (1) Estimate the market value, or require the applicant to obtain an appraisal of the market value prepared by a qualified independent appraiser, of the building or structure before the start of construction of the proposed work; in the case of repair, the market value of the building or structure shall be the market value before the damage occurred and before any repairs are made; (2) Compare the cost to perform the improvement, the cost to repair a damaged building to its pre-damaged condition, or the combined costs of improvements and repairs, if applicable, to the market value of the building or structure; (3) Determine and document whether the proposed work constitutes substantial improvement or repair of substantial damage; and (4) Notify the applicant if it is determined that the work constitutes substantial improvement or repair of substantial damage and that compliance with the flood resistant construction requirements of the Florida Building Code and this ordinance is required. **Sec. 17-43 (e)– Duties and powers of the Floodplain Administrator**	

(e) *Modifications of the strict application of the requirements of the Florida Building Code.* The Floodplain Administrator shall review requests submitted to the Building Official that seek approval to modify the strict application of the flood load and flood resistant construction requirements of the Florida Building Code to determine whether such requests require the granting of a variance pursuant to section 17-47 of this article.
City of West Miami Stormwater Masterplan **2025**
The City of West Miami is preparing to submit an application to the Florida Division of Emergency Management (FDEM)'s Hazard Mitigation Grant Program Watershed Planning Program. The City has completed a lot of work on our pipes to help increase capacity and remove aged pipes which was guided by a stormwater plan from 1999-2000. This document is now aged out and an updated document is needed to ensure we are keeping up with our mitigation opportunities.

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Appendix J: Community Profile

The Community Profile is the first component of the THIRA and provides valuable intelligence and situational awareness. In many jurisdictions, a detailed and in-depth community profile is developed as a key element of a Hazard Mitigation Plan; however, its utility goes far beyond that plan alone. The Community Profile is an overview of the political governance, economy, geography, climate, population, community assets, future development and trends, and commercial and industrial make-up of Miami-Dade County.

The Community Profile provides Miami-Dade County with a solid foundation for developing a common operational picture for the THIRA, and can also be referenced for other activities, such as emergency training, exercises and actual incidents.

A. Climate

The climate of a region is determined by the monthly or longer weather pattern conditions that exist within a specified area. Miami-Dade County, in Southern Florida, has a tropical climate with high humidity and precipitation. The seasons are determined by the amount of and changes in precipitation. The rainy season usually begins in late May and ends in mid-October, subjecting Miami-Dade County to thunderstorms, tropical storms, and hurricanes. The average annual precipitation in the county is 60.5 inches compared to Florida's annual average of 54.57 inches. The average temperature during the rainy season is 83°F in Miami-Dade County.

Total precipitation in Miami-Dade County varies greatly between the rainy and dry seasons, peaking at 10 inches in June and dipping to less than 2.5 inches in December, January, and February. The dry season lasts from mid-October to mid-May, and has an average temperature of 73 °F in Miami-Dade County. The Gulf Stream regulates the climate variants throughout the state with rare extremes of over 100 °F or below 32 °F. The average annual temperature of Miami-Dade County is 77.2 °F.

B. Geology, Hydrology, and Ecology

Geology

Miami-Dade County is located in the southern portion of Florida, whose geological conditions are considered young and formed around 120,000 years ago during the Pleistocene Period. Just below the ground surface there is Miami Limestone, the Fort Thompson Formations, and Anastasia Formations. Miami Limestone consists of oolitic and bryozoans facies. The oolitic facies are a combination of oolitic, small round grains, limestone and fossils. The bryozoans facies are a sandy fossil limestone. The fossils found include mollusks, bryozoanz, and corals. In some regions, the Miami Limestone reaches a thickness of 40 feet. Fort Thompson Formations underlies the Miami Limestone and consists of sandy soils, marine beds, and brackish and freshwater limestones. The Fort Thompson Formations can reach

thicknesses up to 150 feet. The Anastasia Formations also underlies the Miami Limestone and consists of shelly limestone and coquina limestone. The Miami Limestone is highly porous and permeable and forms much of the Biscayne Aquifer system. The natural marl soils found above the Miami Limestone have been affected by drainage and erosion due to development and agriculture. The Biscayne Aquifer lies just below the surface, and due to the permeability of the soil, makes the aquifer vulnerable to contamination.

Hydrology

The hydrology of Florida is system of low-gradient drainage, high ground water table, and an extensive drainage canal network. There are two major aquifers in Florida that comprise the water table. Aquifers are areas of rock below the ground surface that can produce sufficient amounts of water to efficiently supply the communities within the region. There are three different types of aquifers: unconfined, where the water table is able to move freely without interference due to the lack of aquitard (a non-permeable formation); semi-confined, where the water table is partially confined due to semi-permeable formations; and confined, where the water table is completely confined by non-permeable formations above and below the body of water. The aquifers found within Florida are varying degrees of combinations of all three types.

The Floridan Aquifer encompasses the entire state while the Biscayne Aquifer only supports the southern portion of the state. The Floridan Aquifer produces much of northern and central Florida's water supply, however the southern region of the Aquifer has been polluted by brackish water from deep wells. The Biscayne Aquifer supplies the southern region of the state; mainly Miami-Dade, Broward, and Monroe counties. This aquifer is one of the most productive aquifers in the world, but it is very susceptible to pollution from agricultural and industrial practices because of the permeability of the soil and rock formations.

The extensive system of levees and canals in Miami-Dade County and South Florida, managed by the South Florida Water Management District (SFWMD), transports surface and ground water and protects against flooding and salt water intrusion. Precipitation during the rainy season is the main source of surface water, which travels from the northern and central regions of Florida to the southern region, flowing from Lake Okeechobee. The levees direct and store surface water to prevent flooding and to maintain reserves for use during the dry season. Ground water also flows from the northern regions to the coast and is drawn from field wells from the Biscayne Aquifer.

Ecology

The ecology of Florida is a relationship between organisms and their environments. Due to the unique combinations of Florida's geology, hydrology, and climate, over 20 different ecosystems have been identified by scientists. The various classifications differ depending on the organization and scale of the system being evaluated, but the basic ecosystems include the following:

- **Coral Reefs**: Colonies of polyps that form complex calcium carbonate shells to protect themselves against predators and pollutants. As the colonies compete for space or die, new coral grows on top to form a coral reef. There are over 30 different coral reefs identified around Florida that are home to thousands of plant and animal species.
- **Dunes**: Mounds of sand that are created by coastal winds and are held together by grass vegetation. Over 60% of Florida's coast is comprised of sand and the dunes serve as a protective barrier for inland areas from coastal winds and waves.
- **Freshwater Marshes**: An inland standing body of water, generally year round, with little to no tree or scrub life. Grasses, sedges, and rushes act as a filter to remove particles and pollutants from the waters that flow through. There are four different types of freshwater marshes in Florida: wet prairies, sawgrass marshes, ponds, and aquatic sloughs.
- **Salt Marshes**: Areas where freshwater and saltwater meet along the coastal regions. Salt marshes also contain little to no tree or scrub life. The vegetation that inhabits the areas is brackish in nature.
- **Freshwater Swamps**: Areas inland where there is considerable standing water during the rainy season and the soils typically dry out during the dry season. There is a variety of vegetation that inhabits the swamps including softwood trees, hardwood trees, vines, and ferns.
- **Upland Hardwoods**: Areas of forest with nutrient clay soil that are typically bordered by sand hills and flatwoods in northern and central regions of the state. There is a vast variety of tree and plant life with no dominating species within the forests. Most of Florida's state parks consist of upland hardwood ecosystem.
- **Bottom Hardwoods**: Areas of forest with wet nutrient soil that typically border lakes, rivers, and sinkholes found throughout Florida. Bottom hardwood forest provides a transition area between the upland hardwoods, swamps, marches, and other wetlands and is dominated by Live Oaks, Red Maples, and Water Oaks. This region typically floods and is constantly changing because of the different climates and regions in which the forest is found.
- **Sand hills**: Areas of forest with permeable, dry, sandy soils that typically do not flood. The forest is dominated by Longleaf Pine and Turkey Oak trees with different grass species blanketing the forest floor. The forest is vulnerable to fire due to the dry, sandy conditions.
- **Scrubs**: Areas with permeable, nutrient poor, sandy soils found on higher elevations where the water table is low. Scrubs are communities of pinelands with an undergrowth of oaks, shrubs, and palmettos, and are fire dependent to regenerate because of the soil conditions and lack of water supply.
- **Flatwoods**: Areas of forest of semi-permeable soil and limestone of level land that makes up 50% of the covered land mass of the state. The forest is dominated by Longleaf Pines and Slash Pines with undergrowth of palmetto, wildflowers, and ferns. Flatwood forests are fire dependent to regenerate not

only due to the soil conditions but the competition between the hardwood forest for space and sunlight.

- **Tropical Hammocks**: Areas of hardwood forest with thick mounds of permeable soil and peat bordered by marshes, mangrove swamps, and flatwoods, but typically does not flood due to soil elevation. Hammock forests are dominated by Gumbo-Limbo and Pigeon Plum trees that are only found in southern Florida and contain plant and animal life found nowhere else in the United States.
- **Mangroves**: Areas of mangrove tree habitat. There are three species of mangroves in Florida: the White Mangrove, the Black Mangrove, and the Red Mangrove. Each species of mangrove grows in different regions. All three species typically inhabit areas near saltwater or areas that are regularly flooded by saltwater. The Red Mangrove inhabits areas along the coast. The Black Mangrove inhabits inland areas below the water table. The White Mangrove inhabits higher evaluations where there is a lower water table.

C. Environment

Florida is a peninsula surrounded by two main bodies of water, the Gulf of Mexico and the Atlantic Ocean, resulting in an environment mostly composed of marshes, swamps, lakes, rivers, and springs. There are 1,711 rivers, streams, and creeks in the state, with notable rivers including St. John's River, St. Mary's River, and Suwannee River. There are 111 lakes in the state; Central Florida has the highest concentration of lakes, including Lake Okeechobee, the largest freshwater lake in Florida. The Miami Canal connects Lake Okeechobee to Biscayne Bay, crossing through Miami-Dade County.

Miami-Dade County is the third largest county in the state, with an area of 2,431 square miles; 1,946 square miles of land and 485 square miles of water. The Everglades National Park encompasses one-third of the entire county. Most of the land is close to sea level with an average elevation of 6 feet above sea level. The eastern side of Miami-Dade County is composed mainly of Oolite Limestone while the western side is composed mainly of Bryozoa. Most of the county's water mass is located in the Biscayne Bay area and the Atlantic Ocean. The Biscayne Bay is divided by South Beach and Miami Beach and is approximately 40 miles long and ranges from 2-10 miles wide.

The agricultural and industrial development of South Florida since the early 1920's has caused damage, erosion, and pollution to some of the ecosystems within the region. The establishment of the Biscayne National Park in 1968 served to protect marine, plant, and animal life along the coastal region. Since the 1980s, over 20% of the Bay has been degraded due to tourism and development. Efforts are in place to preserve aquatic life, rebuild reefs, remove air and water pollutants, protect endangered lands, initiate restoration projects, and ultimately reduce the human impact on the environment.

The County protects the environment through a number of ordinances, including Chapter 24, the Miami-Dade County Environmental Protection Ordinance, through which "the Board [found] and [determined] that the reasonable control and regulation of activities which are causing or may cause pollution or contamination of air, water, soil and property is required for the protection and preservation of the public health, safety and welfare" (Part 3, Chapter 24, Article I, Division 1, Section 24-2 of County Code of Ordinances). Other notable chapters that concern environmental stewardship include:

- Chapter 7: Boats, Docks, and Waterways
- Chapter 11B: Dumps and Landfill Sites
- Chapter 11C: Development within Flood Hazard Districts
- Chapter 15: Solid Waste Management
- Chapter 24: Environmental Protection
- Chapter 24A: Environmentally Endangered Lands Program
- Chapter 32: Water and Sewer Regulations
- Chapter 33: Zoning
- Chapter 33B: Areas of Critical Environmental Concern
- Chapter 33D: Biscayne Bay Management
- Chapter 33F: Key Biscayne Beach Preservation

D. Population & Demographics

Miami-Dade County has experienced steady and rapid population growth, particularly in the 1960s and 1970s. Population doubled between 1960 and 1990. Projected growth through 2025 is expected to follow a similar trend, albeit at a somewhat slower rate. The principal driver of population growth has been and will continue to be immigration. Net immigration is projected to reach over 240,000 persons between 2020 and 2025. Clearly the effects of immigration over the past half century have dramatically shaped the ethnic composition of Miami-Dade County. It is expected that there will be a more moderate augmentation of Hispanics as the dominant ethnic group.

The most current estimated countywide population of Miami-Dade County is 2,761,581 people (2018 Population Estimates). The most populated city in Miami-Dade County is Miami, with an estimated 417,650 residents (2013 Population Estimates). An estimated 43.76% of the countywide population lives in the unincorporated portion of the County. Between 2010 and 2018, Miami-Dade County as a whole had a growth rate of 10.5%. Based on the 2018 Population Estimates, the most rapidly growing municipality in Miami-Dade County by average annual change is the City of Sweetwater, which has increased its population by an average of 7.4% each year between 2010 and 2018. The largest growth by sheer numbers was the City of Miami, increasing by 71,457 between 2010 and 2018. Additional information about Miami-Dade County's population and demographics is available in the Social Vulnerabilities section of the THIRA.

E. Culture

Florida has a rich cultural history dating back 10,000 years through archeological discoveries of Native American nomads that lived off the land and local game. The Tequesta people inhabited the region unaffected by outside influence until the arrival of Spanish explorer Juan Ponce de Leon in 1513. After the first attempt to build a mission in 1567, the Spanish eventually gained and continued to control Florida for 250 years. The United States purchased Florida for 5 million dollars in 1821. At the time of purchase, the main industry was "wrecking," and residents survived by retrieving goods from ships that crashed on the nearby coral reefs.

Florida's population and industry began to boom with the arrival of the railroad in 1896 by Henry Flagler and again with the development of subdivisions and tourist resorts in the 1920s. During World War II, nearly half a million men (one-fourth of all Army Air Force officers and one-fifth of the military's enlisted) were trained at Miami Beach by the Army Air Forces Technical Training Command. After the war, many troops returned with their families to take-up a permanent residence, resulting in another population boom. Furthermore, Florida has become home to thousands of refugees with a significant influx following the Cuban Revolution during the 1960s and from Haiti in the 1990s.

Since the first Spanish inhabitants, Miami-Dade County has developed into a multi-cultural destination. About 1,471,922 of Miami-Dade County's residents were born outside of the United States, accounting for 53.3% of the population. Miami-Dade County has nearly tripled the state average and just shy of four times the national average of Hispanic residents with 69.1% of the population identifying as Hispanic (of any race).

F. Political Governance

Miami-Dade County was named after a soldier, Major Francis Dade, killed in the Second Seminole War. The county was formally created in 1836 under the Territorial Act as Dade County. In 1956, a constitutional amendment was approved by the people of Florida to enact a home rule charter. Up until then the county was governed and ruled by the state. Since 1957 the county has operated under a two-tier federation metropolitan system, which separates the local and county government.

The local governments may be responsible for zoning and code enforcement, police and fire protection, and other city services required within each jurisdiction. The Unincorporated Municipal Services Area (UMSA) covers the residents of all the unincorporated areas within the County.

The structure of the county government has an elected official, Executive Mayor, and the Board of County Commissioners with 13 elected members, each serving a four-year term. The Mayor is not a part of the Board of County Commissioners but has the veto power over the board. The Mayor directly oversees the majority of the operations of the County. The Board of County Commissioners is the legislative

branch that oversees the legislation, creates departments, and business operations. Miami-Dade County is the only county in Florida where the Sheriff is appointed by the Mayor and is not elected by the residents.

Miami-Dade County Departments:

- Animal Services
- Audit and Management Services
- Aviation (Miami International Airport)
- Communications and Customer Experience
- Community Action and Human Services
- Corrections and Rehabilitation
- Cultural Affairs
- Elections
- Finance
- Fire Rescue
- Human Resources
- Information Technology
- Internal Services
- Juvenile Services
- Libraries
- Management and Budget
- Medical Examiner
- Parks, Recreation and Open Spaces
- Police
- Public Housing and Community Development
- Regulatory and Economic Resources
- Seaport (Port of Miami)
- Solid Waste Management
- Transportation & Public Works
- Water and Sewer

G. Built Environment

The term built environment refers to the human-made surroundings that provide the setting for human activity, ranging in scale from personal shelter and buildings to neighborhoods and cities that can often include their supporting critical infrastructure (bridges, water treatment, highways, etc.) and key resource (schools, museums, etc.) assets. The built environment is a material, spatial and cultural product of human labor that combines physical elements and energy in forms necessary for living, working and playing. In urban planning, the phrase connotes the idea that a large percentage of the human environment is man-made, and these artificial surroundings are so extensive and cohesive that they function as organisms in the consumption of resources, disposal of wastes, and facilitation of productive enterprise within its bounds.

The built environment can be organized into three broad categories (critical infrastructure, key resources, and housing stock), which are detailed more thoroughly in the Vulnerability Assessment.

Critical Infrastructure

- Airport
- Chemical Sector
- Communications
- Energy Sector
- Freight
- Information Technology
- Monuments and Icons
- Pipelines
- Solid Waste Facilities
- Transit
- Transportation
- Water Control Structures
- Water/Wastewater Treatment
- Waterways & Ports

Key Resources

- Banking & Finance
- Commercial Sector
- Critical Manufacturing Sector
- Defense Industrial Base
- Emergency Services
- Food and Agriculture Sector
- Healthcare
- Schools
- Universities
- Other Key Resources

Building Stock

1. Commercial & Industrial
2. Governmental
3. Housing Stock

H. Economy

According to the Miami-Dade Beacon Council, employment in target industries continue to trend up. Between 2012 and 2017 the aviation industry In Miami-Dade County added 4,034 jobs, for an increase of 19%. For the same period, the banking

& finance industry saw an increase of 3,323 jobs (9%), for hospitality & tourism an increase of 26,209 jobs (21%), for life sciences & healthcare, an increase of 13,403 jobs (11%), for the technology industry, an increase of 2,642 jobs (32%), and for trade & logistics, an increase of 7,376 jobs (22%). Considering the current job growth trends in Miami-Dade County, the total number of payroll jobs is projected to increase from 1,151,314 jobs in 2017 to 1,205,646 in 2022, a 5% overall increase for this period.[5]

The two significant external generators of economic activity in Miami-Dade County are international trade and tourism. While there is no rigorous way to determine the weight of international trade and tourism in Miami-Dade County's economy, without doubt, both of these external sectors are vital components for a healthy and growing local economy.

Tourism in the Greater Miami area continues to be an important component of the overall Miami-Dade County economy. Since 2011, overnight visitors to Miami-Dade have increased by 20%, and hotel room nights sold have gone up 22%. In 2019, Greater Miami welcomed 24.3 million visitors, for an increase of almost 5% over 2018, additionally, a record of 15.9 million hotel room nights was set. Travel and tourism fueled a record breaking 146,700 in 2019. Miami-Dade County graciously hosted their eleventh Super Bowl on February 2, 2020, bringing in 30,000 additional tourist per day during Super Bowl Weekend.[6]

In 2019, Greater Miami welcomed 24.3 million visitors, for an increase of 4.6 percent over 2018. The total economic impact from these visitors in 2019 was over $17.9 billion with the vast majority, $16.3 billion, coming from overnight guests. Greater Miami overnight visitors were up +2.1%, or 340,000 higher from the previous year. In addition, leisure and hospitality employment in Greater Miami rose to 146,800 jobs, a 2.3% increase from the previous year.[7]

I. Future Development & Commercial Trends

Miami-Dade County faces many of the same growth issues that challenge communities around the country. With highly urbanized areas, suburban strip development, and farmland, the county contains many resources and assets, but must also deal with a variety of development issues and pressures as it balances continued growth with utilizing and maintaining existing infrastructure and investments. According to a recent Urban Development report for the county, Miami-Dade County wants to keep its agricultural identity, protect its unique natural environment, and encourage development to locate in areas with existing infrastructure, transit and other amenities. For example, one goal is to keep

[5] https://www.beaconcouncil.com/data/economic-overview/business-growth/#rankings
[6] State of the County 2020
[7] Greater Miami Convention & Visitors Bureau, 2019 Visitor Industry Overview

development from spilling toward highly sensitive lands, including the Everglades National Park.

According to a 2020 Demographic Overview & Population Trends report issued by the Florida Legislature's Office of Economic and Demographic research, by 2030 all of Florida's population growth will be from net migration, boosting Miami-Dade County's population to an estimated 3.2 million people. Where these people will live is a critical consideration that drives decisions about growth management, provision of affordable housing, and transportation investments. Furthermore, these decisions will have a profound impact on how the County works to address issues related to disaster management and mitigation.

Notable projects include the following:

Transit Development Projects:

The seven major goals of Miami-Dade County's Transit Development Plan MDT10Ahead are to improve convenience, reliability and customer service of transit services; improve operational safety and security; improve coordination and outreach; enhance the integration of transit services to support the economy and preserve the environment management/operation; maximize use of all funding sources; maximize and expand transit services; and, meet all requirements of the Americans with Disabilities Act (ADA).

In October of 2019, County Commissioners approved $76 million for construction of a rail station and park-and-ride lot on the Northeast Corridor in a public-private partnership with Virgin Trains U.S.A., which will link commuters traveling between Aventura and Downtown Miami. Virgin Trains U.S.A. will also add a stop at Port of Miami. Current plans are underway for a Tri-Rail Station in Midtown as well.

The Golden Glades Multimodel Transportation Facility (GGMTF) project is located in northern Miami-Dade County on two FDOT-owned Park-and-Ride lots adjacent to the cities of Miami Gardens, North Miami Beach, North Miami and the Golden Glades Community. The GGMTF, a design-build project, will consolidate the existing bus transit services at the two Golden Glades Park-and-Ride lots into a single facility adjacent to the Tri-Rail Station. This project will transform the park-and-ride into a state-of-the-art transit terminal with a multi-bay bus facility upgraded walkways, platforms, bicycle/pedestrian amenities as well as other improvements related to transit operations, including internal roads, drainage, lighting systems, fencing, wayfinding, and traffic control signage. The GGMTF will feature a multi-story parking garage, kiss-and-ride, and plenty of surface parking lots for all types of motorists, including scooters and motorcycles. Other amenities will include bicycle parking and lockers. The complex will also feature a transit hub, future governmental use development building, a break lounge for bus drivers, and future governmental use

intercity bus terminal. Construction began in August 2018 and is anticipated to end in 2021.[8]

Source: Florida Department of Transportation

Miami-Dade County's Department of Transportation and Public Works will continue to enhance existing security equipment with the addition of 4K technology to the Metrorail and Metromover CCTV systems. The second phase of the CCTV project is slated to be completed by July 2021. Metromover will also have a new fire detection and reporting system installed in all Metromover stations and at the Stephen P. Clark Metromover Control Center.

Water and Sewer Department Capital Improvement Program:

As the largest water and sewer utility in the southeastern United States, the Miami-Dade Water and Sewer Department (WASD) serves nearly 2.3 million residents and thousands of visitors. To continue to fulfill the department's vision of continuous delivery of high quality drinking water and wastewater services in compliance with all regulatory requirements, WASD has developed a Multi-Year Capital Improvement Program (CIP). During the next two decades, WASD will embark on a multi-billion dollar CIP to enhance and upgrade the water and sewer infrastructure utilizing state-of-the-art technology. This program will provide necessary upgrades to thousands of miles of pipes, pump stations and water and wastewater treatment plants that provide high quality drinking water and wastewater services.[9]

Department of Transportation I-95 Construction

[8] Miami-Dade Transit Development Plan, 2020 Annual Progress Report

[9] Miami-Dade Water and Sewer Department, https://www.miamidade.gov/global/water/capital-improvement-program.page

A project to enhance three major corridors, I-395, SR 836, I-95 is a partnership between the Florida Department of Transportation (FDOT) and the Miami-Dade Expressway Authority (MDX). This project focuses on reconstructing I-395, which will include the bridge over Biscayne Boulevard, and will increase capacity on SR 836, I-95, and I-395. Construction was originally expected to be completed in the fall of 2024.[10]

[10] Florida Department of Transportation, http://www.fdotmiamidade.com/projects

Appendix K: Economic Summary

This summary provides an overview of the County's unemployment, employment, and wages earned.

Unemployment Rates

As of October 2024 the unemployment rate in the United States was 3.9%.[11] The unemployment rate in Miami-Dade County is below the national average and in October 2024 it was 2.2%. The unemployment rate increased since October 2023 when the rate was 1.7%.

Average Weekly Wages

In the first quarter of 2024 the average weekly wage for employees in Miami-Dade County was $1,601. This was slightly higher than the other large Southeast counties. The average weekly wage for Broward County is $1,441 and Palm Beach County is $1,558.[12] The Miami-Dade County median household income in 2019-2023 was $68,694 and 14.5% of the population lived in poverty.[13]

Economic Sectors

There are eight sectors of the economy in Miami-Dade County that employs more than 100,000 people in October of 2024. The sector that employs the greatest number of people was trade, transportation and utilities sector that employs 662,000 employees. The second largest sectors are the professional and business services that employs 524,700 people and the education and health services that employs 469,000 people. The third largest employers are the leisure and hospitality sector which employs 341,900 people and the government sector who employs 326,100 people. The other major employment sectors is the construction sector (166,600 people), financial services (216,400 people) and other services (121,400 people).[14]

Largest Employers

The top employers in Miami-Dade County are a combination of the private and the public sector. The top private sector employer is the University of Miami which employs 22,566 employees.[15] The other top private sector employers are:

- Publix Supermarkets with 14,146 employees
- American Airlines with 11,297 employees
- Amazon with 7,383 employees

[11] U.S. Bureau of Labor Statistics, Miami Economy Summary
[12] U.S. Bureau of Labor Statistics, Miami Economy Summary
[13] U.S. Census Bureau
[14] U.S. Bureau of Labor Statistics, Miami Economy Summary
[15] Florida Commerce website: https://floridajobs.org/wser-home/employer-database

The top public-sector employer in the county is Miami-Dade County Public Schools which employees 35,497 employees.[16] The other top employees include:

- Miami-Dade County government employs 29,495 employees
- The Jackson Health System employs 14,249 employees
- Florida International University employs 6,597 employees
- The Federal government employs tens of thousands in the area but a breakdown by county was not readily available

[16] Florida Commerce website: https://floridajobs.org/wser-home/employer-database

1531 **Figure 1: Commercial and Industrial Facilities by Municipality**

	COMMERCIAL		INDUSTRIAL	
JURISDICTION	**Count**	**BLDG VALUE**	**Count**	**BLDG VALUE**
AVENTURA	999	$774,780,273	34	$240,403,044
BAL HARBOUR	42	$7,626,571	2	$1,086,300
BAY HARBOR ISLANDS	141	$23,945,875	5	$33,612,179
BISCAYNE PARK			7	$1,618,985
CORAL GABLES	1,949	$1,621,258,336	261	$844,062,274
CUTLER BAY	1,869	$186,447,795	121	$175,502,961
DORAL	8,167	$1,688,609,117	73	$571,746,177
EL PORTAL	12	$5,571,909	3	$6,927,989
FLORIDA CITY	1,334	$162,311,132	135	$49,103,131
GOLDEN BEACH			1	$87,749
HIALEAH	7,281	$1,089,459,679	549	$927,020,889
HIALEAH GARDENS	464	$93,067,256	35	$220,350,313
HOMESTEAD	5,943	$511,236,003	287	$382,288,324
INDIAN CREEK VILLAGE			2	$588,360
KEY BISCAYNE	158	$39,115,237	25	$48,585,472
MEDLEY	620	$65,318,767	13	$15,107,363
MIAMI	9,330	$7,590,413,857	1,854	$3,775,835,294
MIAMI BEACH	2,375	$2,557,259,180	236	$1,050,667,690
MIAMI GARDENS	3,769	$799,252,840	305	$444,909,737
MIAMI LAKES	2,228	$474,297,309	41	$149,626,941
MIAMI SHORES	105	$51,739,852	82	$124,907,074
MIAMI SPRINGS	175	$195,295,887	74	$83,283,149
NORTH BAY VILLAGE	59	$8,529,813	8	$3,295,376
NORTH MIAMI	1,063	$443,002,733	260	$291,717,360
NORTH MIAMI BEACH	563	$310,726,734	111	$111,655,900
OPA-LOCKA	829	$118,921,568	131	$48,165,670
PALMETTO BAY	427	$245,002,214	112	$125,868,112
PINECREST	256	$106,129,769	51	$85,294,980
SOUTH MIAMI	664	$276,456,933	87	$129,211,107
SUNNY ISLES BEACH	378	$106,582,010	23	$49,151,540
SURFSIDE	58	$51,685,711	8	$21,704,682
SWEETWATER	912	$371,421,579	18	$40,494,405
UNINCORPORATED MIAMI-DADE	49,929	$5,803,280,222	3467	$5,563,741,53
VIRGINIA GARDENS	24	$37,152,593	9	$5,152,922
WEST MIAMI	94	$31,810,210	15	$12,048,327
Totals	102,217	$25,847,708,964	8,445	$15,634,823,308

Figure 2: Residential and Other Structures by Municipality

	RESIDENTIAL		OTHER	
JURISDICTION	**COUNT**	**BLDG VALUE**	**Count**	**BLDG VALUE**
AVENTURA	23,825	$628,092,606		
BAL HARBOUR	3,784	$286,889,274		
BAY HARBOR ISLANDS	2,754	$266,511,248		
BISCAYNE PARK	1,200	$216,895,493		
CORAL GABLES	18,183	$7,308,409,123	1	$967,701
CUTLER BAY	13,261	$2,800,795,174		
DORAL	17,914	$4,689,770,732		
EL PORTAL	860	$150,256,371		
FLORIDA CITY	2,464	$513,473,413	12	$15,347,172
GOLDEN BEACH	395	$584,871,556		
HIALEAH	57,112	$7,643,015,238	8	$4,733,064
HIALEAH GARDENS	5,815	$630,642,441	1	$661,474
HOMESTEAD	15,902	$2,784,379,144	7	$23,965,572
INDIAN CREEK VILLAGE	55	$189,724,537		
KEY BISCAYNE	7,105	$1,209,622,150		
MEDLEY	111	$11,131,114	2	$848,587
MIAMI	134,503	$6,245,740,558	46	$351,926,418
MIAMI BEACH	52,885	$6,245,740,558	4	$7,280,931
MIAMI GARDENS	29,748	$5,427,351,803	7	$11,220,045
MIAMI LAKES	7,865	$2,668,682,568		
MIAMI SHORES	3,956	$930,929,605		
MIAMI SPRINGS	4,605	$744,155,860		
NORTH BAY VILLAGE	3,564	$215,615,489		
NORTH MIAMI	15,794	$2,708,456,492	6	$14,997,446
NORTH MIAMI BEACH	13,957	$1,849,399,337		
OPA-LOCKA	3,233	$605,121,166	48	$99,865,645
PALMETTO BAY	8,159	$2,889,283,319		
PINECREST	6,571	$3,928,890,722		
SOUTH MIAMI	4,012	$1,153,233,731		
SUNNY ISLES BEACH	19,188	$550,316,520		
SURFSIDE	3,250	$297,990,370		
SWEETWATER	3,456	$690,350,989	14	$153,829,310
UNINCORPORATED MIAMI-DADE	326,783	$62,185,082,442	339	$386,124,476
VIRGINIA GARDENS	689	$108,251,579		
WEST MIAMI	1,709	$611,676,906		
Totals	814,667	$142,495,612,798		

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