



THE CITY OF KEY WEST

Post Office Box 1409 Key West, FL 33041-1409 (305) 809-3700

2021 CRS Annual Floodplain Management Progress Report

Community Name: Key West, FL

Name of Plan: Monroe County Local Mitigation Strategy

Date of Adoption of Plan: February 9, 2021

5 Year CRS Expiration Date: February 8, 2026

Background

The Board of County Commissioners directed the Monroe County Emergency Management Department to coordinate and facilitate the development of the LMS, and subsequent 5-year updates, in conformance with state and federal guidelines. The plan was developed in a joint and cooperative manner by members of a Local Mitigation Strategy Working Group (LMSWG) which included representatives of Monroe County, Key Colony Beach, Key West, Marathon, Islamorada, Layton, federal and state agencies, citizens, and other stakeholders. This plan will ensure all jurisdictions in Monroe County remain eligible for federal disaster assistance including the FEMA HMGP, BRIC, and FMA programs. The 2021 Update replaces the 2015, 2010 and 2005 Updates of the 1999 LMS.

The plan has been prepared in compliance with Section 322 of the Robert T. Stafford Disaster Relief and Emergency Assistance Act (Stafford Act or the Act), 42 U.S.C. 5165, enacted under Section 104 of the Disaster Mitigation Act of 2000, (DMA 2000) Public Law 106-390 of October 30, 2000, as implemented at CFR 201.6 and 201.7 dated October 2007. Additionally, the plan meets the requirements set forth by the Florida Administrative Code Chapter 27P-22.

As a requirement to participate in the Community Rating System, the LMSWG must annually evaluate the LMS as their floodplain management planning document. Jurisdictions participating in the CRS program are required to submit, as part of the annual CRS recertification process, an annual evaluation report on the progress in implementing the LMS. This report is prepared to meet Community Rating System Activity 510 Floodplain Management Planning, Element 512.a. Step 10.

A copy of the 2021 Monroe County Local Mitigation Strategy is available at the Monroe County Emergency Management website: <https://www.monroecounty-fl.gov/911/Local-Mitigation-Strategy>

Annual Progress Report Preparation, Distribution and Availability:

This report was prepared by Lori Lehr, CRS Consultant for Monroe County. The Monroe County Local Mitigation Strategy Committee meets quarterly to discuss the progress of action items and mitigation efforts. This progress report reflects the progress goals and objectives in the Local Mitigation Strategy. The meeting agendas and presentation are available upon request.

The annual progress report is made available to all jurisdictions and their governing bodies, the media, and the public via each jurisdiction’s website. A copy of the report is sent annually to the State of Florida NFIP Coordinator’s office via email.

Implementation of Action Items:

In the post-Irma environment, the LMSWG meets regularly to discuss the mitigation funding opportunities and project implementation. The group also meets to participate in mitigation training. In 2021, the group met in March, July, September, October, and December. Each participating community has a list of mitigation projects specific to the jurisdiction and there are numerous projects that benefit all municipalities and their mitigation efforts.

County-wide projects are being ranked and implemented on schedule as funding becomes available. The following table indicates the progress of each of the projects that are listed in the Monroe County Local Mitigation Strategy that have specific implications that include the City of Key West.

Monroe County Local Mitigation Project List for Key West

Action #	Jurisdiction	Action Description	2022 Progress Update
1	Monroe County and municipalities	Saferoom enhancements for County EOC in conjunction with design and construction of new facility. The current facility is shared with the County Commission which presents issues when a Commission meeting is scheduled during a time when an emergency event may be threatening the County.	Monroe County estimates that this action is approximately 20% complete; HMGP, FDOT, and State Allocation has been awarded and the project is in the design phase.
2	Monroe County and municipalities	Emergency Management Training Programs: The County will conduct regular training for EOC personnel and all emergency response personnel. Provide orientation and training for all designated EOC personnel, including procedures, technology, communications, facility layout, etc. Plan and improve hurricane drills with more realistic scenarios.	Monroe County estimates that this action is approximately 75% complete. Training is ongoing per MYTEPP.
3	Monroe County and municipalities	Florida Keys Imperiled Water Supply Protection	FCAA received notice of award. FCAA selected design engineer through RFQ process. FCAA is awaiting for signed agreement with FDEM before proceeding with design
4	Monroe County and Municipalities	Production of a Mitigation Program Technical Assistance and Resource Manual: During the Working Groups activities and discussions, it was determined that there was a need for an assistance manual to identify mitigation assistance programs and provide direction on how to apply for funds and grants such as the federal HMGP. This manual would be especially useful to small agencies and private non-profits that are invited to apply for state and federal grants, but may not have the technical knowledge to complete the application process. The manual would also include a listing and description of various government and/or private programs that could apply to mitigation efforts	No progress has been made toward this action to date.
5	Monroe County and municipalities	As a group, the LMS should coordinate with agencies and utility providers responsible for critical infrastructure to express the need to incorporate flood, wind, sea level rise, and coastal erosion protection into infrastructure maintenance, upgrades, and new construction. When infrastructure maintenance and upgrade projects are planned by agencies and utility providers such as Florida DOT or the Florida Keys Aqueduct Authority (e.g., repaving or elevating a road), the Working Group should express an opinion, as appropriate, that mitigation should be considered with the proposed project. These infrastructure investments represent an opportunity to add in a mitigation component like a drainage upgrade during a road project for an incremental cost.	By including utility organizations as part of the LMSWG, the County encourages consideration of hazards by these entities. This is a continually important strategy moving forward.
6	Monroe County and municipalities	Evaluate Hazard Identification and Risk Assessment Tools. The Working Group will evaluate the Hazard Identification and Risk Assessments that were prepared for at least two other counties and determine whether using different tools (e.g. FEMA's Hazards US) would significantly improve the outcomes reflected in the 2010 update. The anticipated update of the Sea, Lake, and Overland Surge from Hurricanes (SLOSH) projections may also influence future updates of the HIRA)	In this update of the plan, the LMS utilized FEMA Hazus technology and incorporated risk information from various community, regional, and state planning efforts. The County will continue to learn from neighboring communities for the next plan update.
7	Monroe County and municipalities	Support efforts in Monroe County to address the potential negative impacts related to climate change, including sea level rise. Monroe County is the most vulnerable partner that participates in the SE FL Compact with respect to climate change induced sea level increases. Critical resources like the primary source of drinking water as well as homes, businesses, and infrastructure are directly at risk. The LMS should actively support its own Climate Change action plans (Monroe County and Key West) and support the implementation of a Regional Collaborative Climate Action Plan with the neighboring counties through the Southeast Florida Regional Climate Compact to address the impacts of sea level rise and other related climate change impacts	This county and municipalities continue to participate in the SE FL Compact and Climate Change Planning by attending summits and supporting initiatives. This includes incorporating Sea Level Rise projections into this plan.

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8	Monroe County and municipalities	<p>Verify Repetitive Loss Property Data - Monroe County and municipalities that participate in the CRS will verify the repetitive loss property data obtained from FEMA. The NFIP maintains records of past flood insurance claims and tracks properties that have received multiple claims. These properties and similarly situated buildings present likely opportunities for mitigation. Verifying the data serves two purposes: it helps the NFIP improve its records, and it helps identify Repetitive Loss Areas.</p> <p>Prepare Repetitive Loss Area Maps - Monroe County and municipalities that prepare Repetitive Loss Area Analyses will identify repetitive loss areas within their jurisdiction using the methods described in FEMA/CRS guidance. Identification of Repetitive Loss Areas helps identify property owners who may be interested in reducing their exposure and working with the communities to seek mitigation funds.</p>	This action is ongoing in the communities with identified repetitive loss properties. Data verification occurs annually and repetitive loss area maps are updated upon request.
9	Monroe County and municipalities	County-Wide Emergency Back-Up Power Enhancement for Critical Facilities	Under ENG Review, Monroe County estimates 20% progress toward completion
10	Monroe County and municipalities	Acquisition-Demolition of Residential Structures	
11	Monroe County and municipalities	Elevate Buildings Located within Floodprone Areas	
12	Monroe County and municipalities	Residential Mitigation Reconstruction Project	
13	Monroe County and municipalities	Trailer Park Acquisition and Reconstruction Sites A, B, C, D, & F	
14	Monroe County and municipalities	Wind Retrofit of County Facilities	Under ENG Review, this project is considered to be a back-up project
15	Monroe County and municipalities	Residential Wind Retrofitting Project	
16	Monroe County and Municipalities	Comprehensive hazard mitigation (prevention) education and outreach program targeted to government employees, the construction industry, and trades, and the general public. During the development of the LMS the working group identified the need to provide information about the mitigation concept and how to use it. To address education government employees about the benefits of mitigation awareness, training programs, and materials will be developed. Through this training, agencies' staff will understand the concept of reduction of loss and risk and be able to apply it at their jobs and homes. The project would involve the construction industry by developing educational materials and arranging for seminars through the private sector. Businesses such as private contractors and building supply companies would help arrange for and participate in the programs. Groups such as building officials and public works and construction staff could participate. Local governments will be encouraged to allow their personnel to attend. In addition, the programs would be submitted to the appropriate authorities to determine eligibility for CEU credits. Finally, a mitigation brochure will be produced and distributed to the public. It will include information about government mitigation programs (such as elevating utilities and techniques to strengthen homes from hazards). Public information campaigns will be targeted at such groups as condo and homeowners associations	No progress has been made toward this action to date.

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17	Monroe County and municipalities	Promote hurricane and flood awareness to residents and businesses. Once residents and businesses become more aware of their risk, they are more likely to mitigate their property and support community efforts to mitigate. Risk awareness can be challenging in most parts of Florida with long intervals between events and with new residents moving in. The LMS working group should actively seek effective risk communication information and opportunities to promote steps businesses and residents can take to reduce their flood and hurricane risk.	Monroe County has a multi-jurisdictional PPI in place. The County and municipalities continue to use education and outreach throughout the County.
18	Monroe County and municipalities	Replacement of Storm Damaged wastewater treatment facility: locations could include package treatment plants that serve small communities and businesses within the County.	No progress has been made to date on this action.
19	Monroe County and municipalities	County-wide Road Elevation and Drainage Improvements (Phase 1 of 2)	Back-up project; to date no progress has been made toward completion.
20	Monroe County and municipalities	Purchase New Wellfield for water supply to address threat of saltwater intrusion and hypersaline water from FPL cooling canals.	Project currently in Planning Phase
21	Monroe County and Municipalities	Natural Resources Adaptation Plan	
22	Monroe County and municipalities	Engine Generators at Water Treatment Plant	
23	Monroe County and Municipalities	Hospital Hardening: Evaluate/identify necessary improvements needed to retrofit hospital facilities and perform needed retrofits to mitigate storm damages. Facilities include: Lower Keys Health Systems, De Poo Hospital, Fisherman's Hospital, Mariners' Hospital, Nursing Homes (including Bayshore Manor)	New Project.
49	Monroe County and Key West	Improve Satellite Communication	Keys Energy is lead
50	Monroe County and Key West	Storm Hardening of Electrical Service to Critical Government Facilities	Keys Energy is lead
51	Monroe County and Key West	Backup Generators for Critical Facilities	Keys Energy is lead
52	Monroe County and Key West	Harden Material Distribution Center	Keys Energy is lead
53	Monroe County and Key West	Transmission Pole Water Crossing	Keys Energy is lead

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54	Islamorada, Key Colony Beach, Key West, Layton, Marathon	Evaluate protective measures for critical infrastructure and facilities to protect against dynamic hazards including flood, wind, sea level rise, and strong storms. Critical facilities provide services that the whole community depends on for basic functioning. The communities will evaluate the need for protecting critical facilities and infrastructure and address as needed.	Islamorada: Facilities to be addressed have been identified (fire stations and wastewater facility); funding for main fire station and wastewater facility are in the RFP process. The other two stations are in the queue. The community hopes to floodproof these facilities that sit at BFE+1'. Key Colony Beach is currently in the planning phase to build a new City Hall and will begin demolition and construction soon. Key West has developed a multi-department adaptation team; many stormwater master plan projects are in progress and planning grants have been applied for (Home elevation education and post disaster redevelopment plan grants have been received) Layton has retrofitted roof systems to 18- mph with heavy insulation and replaced all windows with impact windows. Elevation of buildings and hardening properly is being explored.
61	Key West	EOC Upgrades	New Communications poles were put up. SOS Kitchen will serve as kitchen.
62	Key West	Planning/Development of Sister City EOC: Develop a plan and implement a Sister City Emergency Operations Center for large scale pre & post disaster situations	No progress
63	Key West	Emergency warning signal: install a siren or message device to be heard all across the city.	No Progress
64	Key West	Hazard Mitigation Strategies Planning Support	No Progress
65	Key West	Post-Disaster (Flood) Recovery Plan	Plan Completed 2021. Awaiting FDEO comments on Comp Plan and LDR Changes.
66	Key West	Repetitive Loss Property Mitigation Planning Support	Will be part of Adaptation Plan.
67	Key West	Reconstruction of Key Plaza Site B: Demolition and Reconstruction of 50 affordable apartment units.	Planning in discussions with multiple plaza owners about possibilities.
68	Key West	Rehabilitation and Retrofit of George Allen Apartments: Rehabilitation, Window replacement, & retrofit shutters to Dade County approved wind resistance for 117 public housing project units	Unknown. This is Housing Authority.
69	Key West	Generators for Critical Facilities (5)	Completed in house.
70	Key West	Wind-Retrofit(s) of First Responder Facilities	In contracting process.
71	Key West	Fire Station 3	The City dropped the FEMA 361 aspect from the previous plan; Key West has applied for CDBG-DR, MIT-GI, & BRIC funding for the project.
73	Key West	Garrison Bright/Wahoo Pier Hardening	Completed
74	Key West	Elevation of Floodprone Residential Properties	Partnered with County on Education Outreach and FMA applications.
75	Key West	Shutter Bayview Park Scorebox	No progress
76	Key West	Shutter Fire Station Museum: Install Dade county approved shutter system on structure.	No Progress
77	Key West	Shutter Park-n-Ride: Feasibility of shuttering the parking garage for storage of City Emergency vehicles and equipment; post disaster relief site.	No Progress

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78	Key West	Wind Retrofit of Homes: The City will manage a project to examine homes and provide recommendations to homeowners for wind retrofit and fund the structural retrofit.	No Progress
79	Key West	1010 Windsor Lane: Structural retrofitting of existing auditorium building	No Progress
80	Key West	Wind-Retrofit(s) of Historically and Culturally Significant Facilities	Missed HLMP grant cycle, waiting for additional funding opportunities.
81	Key West	Wind-Retrofits of Public Service Facilities	In contracting process.
82	Key West	Affordable Rentals, Phase III; New construction of affordable housing units. This is a continuation of project funded under prior Unmet Needs Funding. New construction of 14 affordable rental unit elderly persons.	Garden View and 3.2 Acres.
83	Key West	Elevation of Public Works Facility	No Progress
85	Key West	Force Main Relocation Project (Infrastructure Hardening)	Received Contract for HMGP (also CDBG-DR1, DR2 & MIT-GI Funds)
86	Key West	Outfall system for Dennis & Venetian (Drainage)	Complete
87	Key West	Staples Avenue exfiltration trench	No progress
88	Key West	Tide Valves and Outfall Improvements (Drainage)	In design phase; Have CDBG-DR2 & MIT-GI funds
89	Key West	Fogarty and 3rd Street Pump Station	HMGP: In design phase.
90	Key West	Harris and 10th street expanded project: installation of new outfall at Harris & 10th street with a pollution control box near the outfall to improve drainage in the low elevation area	In contracting process.
91	Key West	White & Petronia	Did not get HMGP/CDBG-DR2 funding. Waiting for additional funding opportunities
92	Key West	3rd street Well or Exfiltration Trench	No progress
93	Key West	4th street Well or Exfiltration Trench	No progress
94	Key West	Cindy & 19th Street Outfall	No Progress
95	Key West	Additional Well for Patricia/Ashby Pump Station	Got FEMA Grant - design phase
96	Key West	Duck Avenue & 19th Street Gravity Well	No Progress
97	Key West	Eagle and 20th outfall	No Progress
98	Key West	Eagle Avenue Between 16th and 17th street trench	No Progress
99	Key West	Eisenhower Drive Twin 24" Pipeline	No Progress
100	Key West	Flood Control Flagler Avenue: Install nine wells to intercept water from Flagler Avenue and put tide valves to stop storm surge.	Tide valves only
101	Key West	Florida & Olivia Street Gravity Well	No Progress
102	Key West	Olivia Street at Phalski & at Francis Gravity Well	No Progress
103	Key West	Packer Street at Olivia - trench and well	No Progress
104	Key West	Hazard Mitigation Community Revolving Loan Fund	No Progress
105	Key West	Hazard Mitigation Policies Upgrade: (PDRRP?)	Some with PDRRP, some with upcoming Adaptation Plan
106	Key West	Comprehensive Pervious Program to decrease runoff. Tie to vertical (cistern) Stormwater Management options.	SWMP, Phase 3 in FY23
107	Key West	Erosion Program, to track, disclose & utilize living shorelines when possible.	Part of Adaptation Plan
108	Key West	Living Shoreline Plan to protect our island from erosion.	Part of Adaptation Plan
109	Key West	Neighborhood Flood Protection Plan	Part of Adaptation Plan
110	Key West	Water Supply Plan: Require high efficiency water fixtures	Will complete FY22

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111	Key West	Turf Replacement with Synthetic options	Part of Adaptation Plan
112	Key West	Assess vulnerability to Severe Wind	Part of Adaptation Plan
113	Key West	CRS Group to work together on Beyond Minimum requirements	No Progress
114	Key West	Research using New Town alleyways to protect powerlines or for stormwater	Part of Adaptation Plan
115	Key West	Survey all City owned buildings for Wind/Flood resiliency needs	Part of Adaptation Plan
116	Key West	Enforce existing irrigation regulations (sensors, timing)	Part of Water Supply Plan
117	Key West	Feasibility study for greywater systems	Part of WWTP, Phase 3
118	Key West	Feasibility Study for WWTP Potable Water Treatment (Toilet to Tap)	Feasibility in FY23
119	Key West	Heat Island Program, to increase tree canopy, green/cool roofs & a community cooling center	Part of Adaptation Plan
120	Key West	Map first floor elevation for all buildings	Will complete FY22
121	Key West	Map subsidence areas	Will complete FY22
122	Key West	Piling Replacement at KW Historic Seaport	Occurring now
123	Key West	Seawall Repair at KW Historic Seaport	Complete
124	Key West	Structural Repairs at 201 William St Building	Complete
125	Key West	Tarpon Finger Pier Extensions	Unknown
126	Key West	Greene Street Redevelopment	FY23
127	Key West	Expand Public Outreach: Mapping, outreach, floodproofing, disclosures, financing, etc.	Ongoing
128	Key West	Cohost Public Workshops with FIRM (NFIP, mitigation, etc)	Ongoing
129	Key West	Track High Water Marks	no progress
130	Key West	Educational material to share across websites	Part of Adaptation Plan
131	Key West	King Tide Educational Map	Part of Adaptation Plan
132	Key West	Minimum Reccomended Residential Mitigations	Part of Adaptation Plan
133	Key West	Potable Water Treatment option for WWTP (Design and Build)	See #118
134	Key West	Poincianna Housing: affordable housing for Police Dept	Waiting for funding
135	Key West	Cisterns for additional water supply during hurricanes	CARIP: Power and Water
136	Key West	Replace Sludge Conveyor	Waiting for funding
137	Key West	Third Effluent Pump	Complete
138	Key West	Palm Ave Bldg: Remodel to raise equipment and staff above flood.	FY25
139	Key West	Atlantic Ave Rebuild: Raise and Protect	FY23 Design
140	Key West	Diesel Plant: Design & Construction to stabilize building of historical and cultural significance	RFQ to go out soon
141	Key West	Douglass Gym Expansion: Community Center	Budgeted FY23, looking for grant to upgrade to Resilience Hub
142	Key West	Duval Street Stormwater Revitalization: Raise road to reduce stormwater/SLR	Design starts FY22
143	Key West	Elevate or Floodproof essential public buildings	Part of Adaptation Plan
144	Key West	Elevate or Floodproof historically or culturally significant buildings	Part of Adaptation Plan
145	Key West	Govt Road Culverts	Unknown
146	Key West	KOTS: Construct/Develop new Keys Overnight Temporary Shelter for homeless	Applied for Grant, in last round
147	Key West	Lift Station Renovation - Phases 1 and 2	Complete
148	Key West	Parking lot stormwater storage pilot	No Progress
149	Key West	Update Stormwater Master Plan	FY22
	Key West	Residential Floodproofing Program	No Progress
	Key West	United St./Jose Marti drainage improvements	In design phase