



Village of Key Biscayne Floodplain Management Plan (FMP) 2014-2015 Annual Progress Report

For the purpose of this report, the concept of a Repetitive Loss Plan, as used in this Community Rating Services (CRS) recertification document, is synonymous with Key Biscayne’s Floodplain Management Plan (FMP). Progress on FMP implementation, as required in Section X of the FMP, 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) for the purpose of reducing and minimizing the impact of flooding, particularly in repetitive loss areas and to obtain assistance with mitigation of flood damage through federal and state funded grants. Update of the LMS flood project list is submitted and published biannually under Part II-The Projects which is available on the County website at <http://www.miamidade.gov/fire/mitigation.asp>. The status of the current list is summarized below as required under Activity 510 of the Annual CRS Recertification as of the latest update.

Project #	Description	Status
1	Additional Training – Fire Department	Future Unfunded Project
2	CERT Readiness	Future Unfunded Project
3	Coastal Dune Vegetation	Funding Secured
4	Comprehensive Review of Local Laws and Regulations	75% complete – Annual review on-going
5	CRS Outreach Program	Pursuing grant funding
6	Drainage Improvements on East Heather Drive	Project in Planning Stage-Pump Station portion completed
7	Drainage Improvements on Fernwood Road & Hampton Road	Funding Secured
8	Elevate Repetitive Loss Properties	Future Unfunded Project
9	Emergency Operation Center	Future Unfunded Project
10	Environmental Forum	Other
11	Erosion Control Web Q&A and Response System	Project in Planning Stage
12	Feasibility Study for Additional open Space Preservation	Other

Project #	Description	Status
13	Flap Gates at Outfalls	Funding Secured – SW Utility – On-going.
14	Hardening of Village Hall Generator	Future Unfunded Project
15	New Stormwater Outfall Construction	Funding Secured
17	Reverse 911 Community Notification System	Future Unfunded Project
18	Stormwater Outfall Rehabilitation	At time of LMS Update - 75% complete. Completed August 2015
19	Traffic Signage & Pavement Marking Improvements Master plan	25% complete-Funding Secured by Council in September 2013 - Completed
20	Village K-8 Center Stormwater Pump Station	Project in Planning Stage

In addition to the LMS projects listed above, the following stormwater improvement projects were included as part of the Village’s Five Year Capital Improvement Plan and Emergency Repairs. These projects enhanced the Village storm water system and provide significant safety and quality of life improvements for residents. This information was provided by the Public Works Division.

1. Outfall O-15R Replacement – Completed Construction August 2015
2. Rehabilitation of eight (8) wells – Completed June 2015

Three (3) flooding events occurred during the 2014-2015 reporting period. The first was on October 2, 2014, the second on September 22, 2015 and the third on September 28, 2015. The first two flooding events resulted from related rainfall storm events. The areas flooded during the rain event on October 24, 2014 were inspected by Village Public Works staff and recorded at approximately 2.92 inches during an ebbing tide via GIS Online Web site. The areas affected west of Crandon Boulevard included the bordering streets of the elementary school along Ridgewood Road, W. McIntyre Street, Glenridge Road and W. Enid Drive; the 400/500 blocks of Ridgewood Road, Woodcrest Road, Hampton Lane, and Glenridge Road; W. Palmwood Lane, Allendale Road, and W. Heather Drive; and 400/500/600 blocks of Fernwood Road. The east end of Galen Drive at Ocean Drive and the south end of Harbor Point Drive flooded. Both stormwater pumps at E. Heather Drive and Ocean Lane Drive performed as intended and maintained Ocean Lane Drive and Holiday Colony. The re-opened outfall at 260 Harbor Drive with new backflow preventer discharged as designed and prevented additional water into the system as anticipated. An emergency stormwater project was under construction at the time, and since then completed, to reopen an existing collapsed outfall pipe to alleviate the flooding occurring upstream of the outfall. These areas coincide with some repetitive loss areas. No additional repetitive losses have been reported as a result of these events.

The areas flooded during the second short, but intense storm event on September 22, 2015 were inspected one (1) hour and five (5) hours after the event. Upon the initial inspection after one (1) hour, general flooding of approximately 1.0 inch to 3.0 inches was observed in the floodprone areas previously affected. The newly installed backflow preventer at Outfall O-15R was observed to be discharging properly to the Bay. The two (2) drainage wells that were recently redeveloped along Galen Drive proved to be effective with no flooding in the adjacent parking areas. Both pumps in the existing stormwater pump station at E. Heather Drive were running as anticipated. The Pump Station at Ocean Lane Drive was observed functioning properly. After the second inspection five (5) hours after the event, all flooding throughout the Village had subsided except along the southern end of Fernwood Road.

The third flood event that occurred on September 28, 2015 was not related to any rainfall or storm event. The flooding resulted from the effects of the Supermoon which occurs annually when the moon is at the closest point in its orbit around Earth. The high tides are amplified and called King Tides which cause tides exceeding 1 to 3 feet above regular high tide. During the event the Village's Owner Representative observed the water above existing docks by the Yacht Club marina of approximately 6-inches. The inner streets of W. Heather Drive, Allendale Road, Glenridge Road, plus the perimeter around the Key Biscayne Public School were flooded. The flooding subsided approximately two hours after the high tide

The FMP includes a number of ongoing tasks that are significant in the mitigation of flood hazards. These tasks extend beyond continued management of "normal" ongoing CRS-mandated activities such as Drainage System Maintenance, Flood Warning, Map Information, Outreach Projects and Library.

The Village's Beach Renourishment Project and Dune are particularly significant in that the beach-dune system represents a barrier island's first line of defense against storm surges. The Village maintains a capital outlay expenditure item for these efforts as part of the Activity #420.

In July 17, 2012 a Beach Renourishment Project was completed. The project placed 37,500 cubic yards of beach compatible fill material along 5,425 linear feet of the Village's shoreline. The permits are valid for subsequent renourishment events over a ten year period. The Village has committed funding in FY2016 for an additional Beach Renourishment Project if deemed necessary by the Village's Coastal Engineers.

In September 2014 a coastal dune vegetation report identified 1,510 square yards in need of exotic removal. The area was cleared of invasive vegetation and replanted with 2,000 Sea Oats to promote sand built up and to preserve the dunes. Funding for this ongoing maintenance project is secured in FY2016.

The FMP update report was prepared by the Village Floodplain Manager, Web Manager, CRS Coordinator and Village Consultant. It was transmitted to the Village Manager and Council Members for review and approval on September 29, 2015.

The Village issued a press release to local newspapers.

A copy of this report can be obtained in the Village's website www.keybiscayne.fl.gov