



Village of Key Biscayne Floodplain Management Plan (FMP) 2013-2014 Annual Progress Report

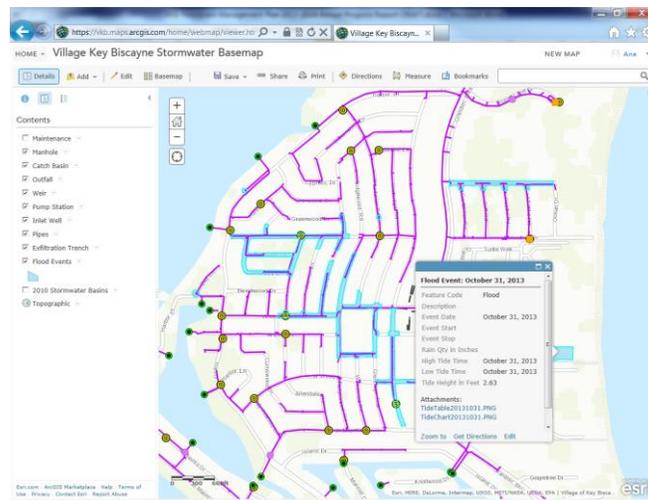
For the purpose of this report, the concept of a Repetitive Loss Plan, as used in this Community Rating Services (CRS) recertification document, is synonymous with Key Biscayne's Floodplain Management Plan (FMP). Progress on FMP implementation, as required in Section X of the FMP, falls within the context 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	Comprehensive Review of Local Laws and Regulations	Completed in February 2012 – Revised Flood Ordinance per FEMA comments resulting from Community Assistance Visit September 2011.
2	Stormwater Master Plan (SWMP) Update (formerly Storm Drainage System Upgrade)	Completed in June 2011
3	Flap Gates at Outfalls	Funding secured through SW Utility- Recommendation resulting from SWMP Update
4	Drainage Improvements on East Heather Drive	Funding secured through SW Utility - Pump Station improvements completed in May 2014
5	Drainage Improvements on Fernwood Road & Hampton Road	Funding secured through SW Utility – Recommendation resulting from SWMP Update – Project has been delayed till Budget Fiscal Year 2015
6	Village Hall Courtyard Improvement	Future Unfunded – being Revised/under Review
7	Stormwater Outfall Rehabilitation	Project Completed September 2013.
8	New Stormwater Outfall Construction	To be updated – No longer being considered. To be designed by developer.
9	Hardening of Village Hall Generator	Future Unfunded – Pursuing grant funding
10	Ocean Lane Drive – Drainage Wells	Completed 2012
11	Traffic Signage & Pavement Marking Improvements Master Plan	Funded by Council on September 24, 2013.
12	Feasibility Study for Additional Open Space Preservation	Reviewed/Revised – Study conducted in 2009 resulted in creation of dog park at 530 Crandon Blvd considered “open space”
13	Demonstration Project	Future Unfunded
14	Erosion Control Web Q&A and Response System	Funded/On-going
15	CRS Outreach Program	Funded/On-going – Pursuing grant funding
16	Environmental Forum	Funded/On-going

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-16 Removal and Replacement – Completed Construction September 2013
2. Rehabilitation of ten (10) wells – Completed September 2014

Two (2) flooding events occurred during 2013-2014. One on October 31, 2013 and the other on July 9, 2014. The areas flooded during the rain event on October 31, 2013 were inspected by Village Public Works staff and recorded at approximately 1.5 inches during and ebbing tide via GIS Online Web site. A snap shot is provided below. These areas coincide with some repetitive loss areas. An emergency stormwater project is currently under design and permitting to reopen an existing collapsed outfall pipe to alleviate the flooding occurring upstream of the outfall. No additional repetitive losses have been reported as a result of these events.



The areas flooded during the second flood event on July 9, 2014 were inspected one (1) hour and four (4) hours after the event. Upon the initial inspection after one (1) hour, general flooding of approximately 2.5 inches was observed throughout the Village, not only in specific floodprone areas. The newly installed backflow preventer at Outfall O-16 was observed to be discharging properly to the Bay. An existing stormwater pump station at East Heather Drive had only one (1) pump operating. Maintenance on the pump station was performed subsequently to investigate cause of malfunction. Pump Station at Ocean Lane Drive was observed functioning properly. After the second inspection four (4) hours after the event, all flooding on the east side of the Village were dry except for ponding remaining at the discharge point of Well 2(c) at East Enid, This well was subsequently scheduled for cleaning. Approximately 67% of the west side of the Village remained flooded. Wells within the subbasins 3, 7 and 8 were scheduled for cleaning to improve discharge. These areas will benefit from the emergency outfall repair and replacement project.

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.

After several years of permitting, construction commenced on June 4, 2012 and was completed on July 17, 2012. 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 is planning an additional Beach Renourishment Project to take place in 2015-2016.

As stated in the 2009 update, the Village completed a Dune Restoration Program by bringing in approximately 5,000 tons of sand to restore and enhance two specific problem areas along the municipal beachfront, removing all exotic species in the dune area and replacing them with native ones. In June 2013 a coastal dune vegetation report identified 1,265 square yards in need of additional vegetation to help retain sand and preserve the dunes. In August, 2013, 2,530 Sea Oats were planted. In FY2014 a Capital Improvements line item was created for the removal of all exotic species invading the Village's beach-dune system. The report identified 1,510 square yards with exotics for removal. All exotics were removed and the area is being replanted with 2,000 Sea Oats to promote sand built up. This project is 90% complete and is scheduled to be finalized by September 30th, 2014.

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 25, 2014.

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