



COMMUNITY DEVELOPMENT DEPARTMENT

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City of Palm Coast Floodplain Management Annual Progress Report August 2013

Executive Summary

The purpose of this document is to provide an annual account of activities associated with the City of Palm Coast (“City”) Floodplain Management Program. This document facilitates information that can benefit public officials, businesses, and the Citizens of Palm Coast.

The Flagler County Local Mitigation Strategy (LMS) serves as the City’s Floodplain Management Plan under the Community Rating System (CRS) of the National Flood Insurance Program (NFIP).

Under CRS Activity 510, the City’s is required to complete a Floodplain Management Plan annual progress report. This document serves as that report.

Annual Progress Report Development

This document was prepared by one (1) of the City Certified Floodplain Managers (CFM), Denise Bevan, and subsequently reviewed by the three (3) remaining City CFM staff, Constance Bentley, Kendra Iannotti, and Michael Brennan. The referenced staff routinely conduct meetings to ensure that CRS program activities are managed and processed throughout the year.

Mrs. Constance Bentley has been designated as the City’s primary CFM. She manages the City’s CRS program and facilitates updates throughout all City Departments. Further, Mrs. Bentley is the primary reviewer of elevation certificates during the building permit stage of development.

Ms. Denise Bevan is the City Liaison for the Flagler County Local Mitigation Strategy (LMS) Workgroup. Ms. Bevan also participates in the development process as a Senior Environmental Planner and reviews land use changes, development agreements, plats, and site development applications.

Mrs. Kendra Iannotti actively participates in all CRS program activities and CFM meetings. Mrs. Iannotti primary responsibility is within the City Manager’s Office, but provides continued support to Mrs. Bentley and Ms. Bevan.

Mr. Michael Brennan secured the CFM designation in March 2013 and has dually served as a City Liaison to the LMS Workgroup. Mr. Brennan is the Engineering & Stormwater Department’s Stormwater Manager and oversees a multitude of flood hazard mitigation projects. His role and knowledge will significantly serve the CRS program and has already proved to be a tremendous asset.

Adoption of the LMS / Updates

The Flagler County LMS was adopted by *Resolution No. 2011-66* by the City Council on June 7, 2011. The LMS is required to be updated every five years and is due for an update by June 14, 2016. This update was provided through the 2011 Annual Progress Report and is referenced herein due to no additional updates being required. The LMS working group has been meeting regularly to review and assess the LMS. No additional projects have been applied since the annual update conducted in January 2012 for the City of Palm Coast. Project status of the listed projects is detailed further in the “List of Mitigation Initiatives” section.

Purpose and Objectives of the LMS

The purpose of the LMS is to develop a unified approach among County and municipal governments for dealing with identified hazard and hazard management problems, including flooding, in the Flagler County area. The LMS serves as a tool to direct the County and municipal governments in their ongoing efforts to reduce the vulnerability to the impacts produced by both natural and man-made hazards. The LMS also helps establish funding priorities for current proposed mitigation projects and develop priority mitigation projects to be completed with such disaster assistance funds as may be available after a disaster.

The primary hazard mitigation goals, objectives, and guiding principles of the LMS are to:

- Goal 1.0** Protect the citizens of Flagler County from natural and manmade hazards.
- Goal 2.0** Provide public services during and after a disaster.
- Goal 3.0** Reduce the vulnerability of critical and public facilities from the effects of terrorism, natural, manmade, and technological disasters.
- Goal 4.0** Protect public and private property from disasters.
- Goal 5.0** Make reasonable efforts to protect water resources, unique natural habitats, and ecologically sensitive areas such as wetlands and hardwood hammocks, and restore, to the maximum extent possible, degraded natural systems to their original state.
- Goal 6.0** Improve coordination of disaster preparedness information to increase public awareness and participation in preparedness, response, recovery, and mitigation activities.

Flagler County Local Mitigation Strategy Workgroup

A Local Mitigation Strategy Workgroup has been established to review and make recommendations concerning the LMS. The Workgroup consists of representatives of local municipalities, local organizations and County departments, and is coordinated by staff of the County Emergency Management Division. The LMS Workgroup meets quarterly, at a minimum, and has submitted an update of the LMS and regularly reviews and revises its List of Mitigation Initiatives that are eligible for federal and state funding, i.e. Hazard Mitigation Grant Program (HMGP), Flood Mitigation Assistance (FMA) Program, etc.

List of Mitigation Initiatives

The LMS Workgroup has established a List of Mitigation Initiatives. The list contains projects that are eligible for HMGP, FMA, and other federal and state funding. Many of the projects listed help to mitigate the potential of flood hazards.

See Attachment A to the report for the complete List of Mitigation Initiatives. As referenced in “Adoption of the LMS / Updates”, three (3) additional projects were added to the list in January 2012; however, the formal list will not be updated until the next update expected in 2013. This status was verified with Flagler County staff.

1. Resolve Drainage Problems within the Bulldog Drive Community Redevelopment Area (CRA)
There are several small businesses and residences affected by flooding when heavy rains occur. The stormwater system has been isolated from its traditional patterns by new developments surrounding the neighborhood. A new drainage pattern needs to be designed and constructed to alleviate the current situation.
2. Land acquisition for permanent emergency access to Cypress Knoll
Currently, an access easement and stabilized road exists but crosses private ownership. If parcel is developed, a possibility exists that the emergency access may be eliminated. With public ownership of the access, a permanent secondary access is secured. Project includes lot acquisition and construction of access.
3. Remote monitoring and control of canal water levels and velocities
There are 20 structures that would be controlled, monitored, or both. As control structures are replaced electro / mechanical gates that can be remote controlled will be installed. Palm Coast currently has 8 gates installed, 3 of which can be remotely controlled via the internet with 1 rain gauge soon to be online. Eventually, a total of 16 structures will be controlled remotely and all structures will have their water levels and velocities monitored.

Of the thirteen (13) originally listed projects, over half have been completed since being placed on the list. One of these projects, “Mitigate Weir Canal Palm Coast” line item, inventories all major planned weir projects. Of the referenced weirs, the following structures have associated updates. A figure has been attached to depict the locations of the listed structures and photographs provided for completed projects.

- BT2 Weir: Completed
- L4 Weir: Completed
- I1, I4, I6 Weirs (Three Sisters): Completed
- Sections 31 & 37 Stormwater Model: Analysis completed
- K1, L1, and M3: Future Projects

Completed Improvements



BT - 2 Weir inlet (underwater, upstream)



BT - 2 Weir outlet (downstream)



BT-2 After Construction



L-4 Weir Before



L-4 Weir After



Three Sisters Before



Three Sisters After

Beyond LMS projects, the City maintains a well-structured and rigid maintenance schedule of the stormwater drainage network which reduces the risk of flooding hazards. The following section inventories 2012 maintenance activities conducted to ensure long-term sustainability of the City's infrastructure.

- Swale maintenance and rehabilitation (25 miles)
- Resurfacing and maintaining streets (8 miles)
- Valley gutter removal and replacement (12)
- Culvert pipe replacement (30 locations)

The actions taken within the section(s) above are part of the City of Palm Coast 5-year Capital Improvement Program (CIP). The following Exhibit depicts the projects associated with maintaining the City's drainage and is effective during the reporting timeframe of this report. The amended CIP for FY 13/14 will take effect on October 1, 2013.

CAPITAL IMPROVEMENT PROGRAM

PROJECT NAME: Control Structure Rehabilitation	PROJECT # 55005
DEPARTMENT: Stormwater Management	DATE: August 28, 2012
LOCATION: Various Locations	PROJECT MANAGER: John Moden
JUSTIFICATION/DESCRIPTION:	ORIGINAL PLAN DATE: July 31, 2003

This project is to replace control structures located in the canal system throughout the City.

	FY 13	FY 14	FY 15	FY 16	FY 17
Three Sisters Replacement	1,200,000				
L1 Weir Replacement		220,000			
M2 Weir Replacement		50,000			
K1 Weir Replacement			225,000		
K6 Weir Replacement					197,000
M3 Weir Replacement				350,000	
Seminole Woods @ Iroquois Canal I-2	250,000				
Major Crossings		500,000	500,000	500,000	500,000

PROJECT COSTS:	FY 13	FY 14	FY 15	FY 16	FY 17	TOTAL
Engineering & Planning	30,600	46,000	47,000	48,000	49,000	220,600
Land						
Construction	1,419,400	724,000	678,000	802,000	648,000	4,271,400
Equipment						
Materials and Supplies						
TOTAL COSTS:	1,450,000	770,000	725,000	850,000	697,000	4,492,000

SOURCE OF FUNDS:	FY 13	FY 14	FY 15	FY 16	FY 17	TOTAL
General Fund						
Streets Improvement Fund						
Park Impact Fee Fund						
Fire Impact Fee Fund						
Development Special Projects Fund						
Transportation Impact Fee Fund						
SR100 CRA Fund						
Capital Projects Fund						
Utility Capital Projects Fund						
Stormwater Utility Fund	1,450,000	770,000	725,000	850,000	697,000	4,492,000
Information Tech & Comm Fund						
Fleet Management Fund						
TOTAL REVENUE:	1,450,000	770,000	725,000	850,000	697,000	4,492,000

Pipe Replacement	Stormwater Management	55003	\$ 845,000	\$ 850,900	\$ 856,918	\$ 863,056	\$ 869,317	\$ 4,285,192
Control Structure Rehabilitation	Stormwater Management	55005	1,450,000	770,000	725,000	850,000	697,000	4,492,000
Swale Rehabilitation Program	Stormwater Management	55105	1,325,112	1,351,614	1,378,647	1,406,220	1,434,343	6,895,936
Valley Gutter Improvements	Stormwater Management	55205	75,000	75,000	75,000	75,000	75,000	375,000
Canal and Seawall Replacements	Stormwater Management	55230	65,000	65,000	65,000	65,000	65,000	445,000
Modeling Improvements	Stormwater Management	55231	100,000	334,000	100,000	200,000	200,000	934,000
Land Acquisitions	Stormwater Management	55400	23,000	15,000	15,000	15,000	15,000	83,000
Fresh Water Dredging	Stormwater Management	55500	-	-	-	50,000	50,000	100,000

Total Stormwater Management Fund	\$ 3,883,112	\$ 3,491,514	\$ 3,245,565	\$ 3,554,276	\$ 3,435,660	\$ 17,610,128
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CRS Program Participation

The LMS references the importance and benefit of the City's participation in the Community Rating System (CRS) of the National Flood Insurance Program (NFIP). Under the CRS, the City undertakes flood protection measures beyond the minimum requirements of the NFIP. By doing so, the City has recently achieved a "Class 6" certification, resulting in a 20% discount of flood insurance premiums issued within the Special Flood Hazard Area (SFHA) in the City.

The City achieves CRS points by undertaking various activities that promote flood protection. These activities are conducted by Floodplain Managers and various City departments. Following is a summary of certain ongoing activities by the Floodplain Managers and various departments resulting in points under the CRS program:

Activity	Departments	CRS Activity #
Collect, review, and maintain elevation certificates. Provide copies to the public.	Floodplain Managers/ Planning/ Zoning/ Stormwater and Engineering	310
Provide Flood Insurance Rate Map (FIRM) information. Provide Flood Zone Determination Letters to the public. Review, maintain and update FEMA Letters of Map Amendments or Revisions. Provide flood insurance information.	Floodplain Managers	320
Provide outreach to the community. Provide flood protection information.	Floodplain Managers	330
Provide flood protection information at the library and on City website	Floodplain Managers/ Information Technology/ Flagler County Public Library	350
Provide technical advice and assistance to public with flooding conditions. Annually publicize the service.	Floodplain Managers/ Stormwater and Engineering	360
Preserve floodplain in open space and public acquisition.	Planning	420
Maintaining higher regulatory standards. Provide low density areas for floodplain properties. Review new development for compliance. Enforcement of regulations.	Floodplain Managers/ Planning/ Stormwater and Engineering/ Building Department/ Code Enforcement	430
Maintain and use digitized maps. Day to day management of the floodplain. Maintenance elevation reference marks.	Floodplain Managers/ Information Technology/ Stormwater and Engineering	440
Stormwater management, soil and erosion control, and water quality. Review building elevation to meet floodplain regulations.	Stormwater and Engineering/ Planning/ Floodplain Managers	450
Maintain repetitive loss records. Provide yearly notice of property protection.	Floodplain Managers	502
Implement and update Floodplain Management Plan.	Flagler County/ Planning/ Capital Improvements/ Floodplain Managers	510
Enforce and publicize stream dumping regulations.	Floodplain Managers/ Stormwater and Engineering	540
Provide drainage system maintenance. Emergency response program.	Stormwater and Engineering/ Flagler County	610

Certified Floodplain Manager Program

The Association of State Floodplain Manager (ASFPM) has established a national program for professional certification of floodplain managers. The program recognizes continuing education and professional development that enhances the knowledge and performance of local, state, federal, and private-sector floodplain managers. As referenced, two staff in the City's Planning Division, one in the City Manager's Office, and most recently one in Engineering & Stormwater Department has achieved the status of Certified Floodplain Manager (CFM), which reflects the City's commitment to professional services in implementing the City's Floodplain Management Plan.

Training

The City CFM staff has participated in many training sessions to maintain the required Continuing Education Units (CEU). Of these courses, one topic was of particular focus in 2012.

- 1) The Flood Provisions of the 2010 Florida Building Code: On September, 25, 2012, City CFMs attended an all-day training session in Jacksonville. See attached flyer. Staff is working diligently to ensure that processes in effect for the FBC are consistent with CRS manual updates.
- 2) U.S. Department of Housing and Urban Development (HUD) Environmental Review Training: On May 21 and May 22, 2013, a City CFM attended a two-day training workshop in Orlando, Florida. See attached agenda. Staff continues to integrate floodplain management in other aspects of City initiatives.

Outreach

City staff targets opportunities to initiate and partner with external agencies to educate the general public regarding floodplain management and associated effects on insurance policies and safety matters. Staff has participated in various events to promote flood awareness. Please see the following. In addition, the City provides a “Citizen’s Academy” that is designed to educate residents about the operation of city government which includes the City’s management of flood control and regulations. There are four (4) academies per year, and each class is limited to approximately 35 City of Palm Coast Citizens per session.

Annual Arbor Day Event (May 18, 2013)



Splash: City “Save Our Swales” program



City Tent: Engineering & Stormwater Department Booth

Summary

The LMS, which serves as the City's Floodplain Management Plan under the CRS of the NFIP, was formally adopted by the City of Palm Coast City Council on June 7, 2011 with no significant modifications to date. As part of the LMS, the City accounts for "Mitigation Initiative Projects" and associated status. Two weirs have been completed since the 2012 annual report with many other structures planned for rehabilitation / construction in future years.

City of Palm Coast continues to maintain a Class 6 certification under the CRS. Activities are undertaken by various City departments on an ongoing basis to retain the CRS certification, which results in substantial discounts to flood insurance premiums in the City of Palm Coast. City Certified Floodplain Managers have confirmed that the first phase of the five-year CRS cycle visit was conducted on June 11, 2013 with the region's appointed ISO / CRS Coordinator. On August 15, 2013, the State of Florida Division of Emergency Management (DEM), State Floodplain Management Office held a Community Assistance Visit to verify that the City of Palm Coast was conducting activities to maintain compliance with the minimum standards of the NFIP.

City staff have broadened educational outreach beyond previous years. Annual events have become the new venue to reach the general public about floodplain management.

**Table 5
Mitigation Initiative Projects List for Flagler County**

LMS Goal	LMS Objective	LMS Ranking	Project Name	Project Description	Date Updated	Hazard/ Jurisdiction	Agency Resp	Time Frame	Possible Funding Source(s)	Mitigate New or Existing Buildings/ Infrastructure	Score	Project Status
Prevention												
1.0	1.5 Safe evac of residence	11	Emergency Access for Cypress Knoll Subdivision	Provide a permanent secondary emergency access route for the Cypress Knoll subdivision. Estimated costs \$300,000.00	3/9/2011	All Hazards/ Palm Coast	City of Palm Coast	1-3 yrs	HMGP, Palm Coast Ad Valorem Taxes, CDBG	Existing Infrastructure	26	Complete
4.0	4.1 Reduce loss of personal and public property	2	Aerial Emergency Response Improvements	Equipment improvements for FireFlight for emergency response, recovery, and mitigation.	1/20/2011	All Hazards/ All Jurisdictions	Flagler County Emergency Management	2 yrs	UASI	Existing Infrastructure	42	Delayed-funding
4.0	4.1 Reduce loss of personal and public property		City of Bunnell Safety Complex	Bunnell to outfit a Safety Complex for Public Safety	1/20/2011	All Hazards/ Bunnell	Bunnell	4 years	CDBG-R, HMGP, Bunnell Taxes	New Building	34	Delayed-funding
Property Protection												
3.0	3.3 Incorporate hazard mitigation measures	10	Enhance FCSO Storage Capabilities	Harden facility which exceeds standard building codes for the storage of emergency equipment and materials. *Alternate use as a pet-friendly shelter	1/20/2011	All Hazards/ All Jurisdictions	Flagler County Sheriff's Office	2 yrs	HMGP, Ad Valorem Tax	New Building	27	Delayed-funding
2.0	2.3 Improve communications between agencies	8	City Wide 800MHz Radio System Upgrade		1/20/2011	All Hazards/ All Jurisdictions	City of Palm Coast	1 yr	Ad Valorem Tax	Existing Infrastructure	30	Complete
3.0	3.3 Incorporate hazard mitigation measures	17	Storm Shutters for Palm Coast Public Works	Retrofit existing facility to withstand hurricane force winds	1/20/2011	Hurricanes/ Palm Coast	City of Palm Coast	1 yr	HMGP, CDBG, Palm Coast Ad Valorem Tax	Existing Infrastructure	17	Awaiting Update
5.0	5.3 Retain public lands for public benefits	15	Flagler Beach Pier Damage Mitigation	Strengthen the design/structure of the ocean pier in the City to mitigate future damage caused by strong wind and wave action.	1/20/2011	Hurricanes/ Flagler Beach	City of Flagler Beach	2 yrs	HMGP, Flagler Beach Ad Valorem Tax	Existing Infrastructure	22	In Process
3.0	3.3 Incorporate hazard mitigation measures	4	Hardening of Critical Facilities	Allow for sustainment of critical services during high wind events	1/20/2011	All Hazards/ All Jurisdictions	Flagler County Emergency Management	2 yrs	HMGP, CDBG, Ad Valorem Tax	Existing Infrastructure	38	Planning

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5.0	5.3 Acquire public lands to provide public benefits	7	Long's Landing Land Acquisition	Acquisition of floodway area and shoreline stabilization improvements	1/20/2011	Floods/ Palm Coast	City of Palm Coast	3 yrs	HMGP, CDBG, Palm Coast Ad Valorem Tax	Existing Infrastructure	31	Complete
5.0	5.3 Acquire public lands to provide public benefits	8	Waterfront Park Land Acquisition	Acquisition of floodway area and shoreline stabilization improvements	1/20/2011	Floods/ Palm Coast	City of Palm Coast	2 yrs	HMGP, CDBG, Palm Coast Ad Valorem Tax	Existing Infrastructure	30	Complete
5.0	5.3 Acquire public lands to provide public benefits	14	Big Mulberry Branch Land Acquisition	Acquisition of floodway area and shoreline stabilization improvements/ 41 lots acquired- 3 structure update included in expansion of this project	1/30/2013	Floods/ Palm Coast	City of Palm Coast	4 yrs	HMGP, CDBG, Palm Coast Ad Valorem Tax	Existing Infrastructure	23	Complete
5.0	5.4 Protect public utilities	11	Mobile Pumps	Purchase 6" centrifugal mobile pumps to alleviate flooding during a natural disaster. *Master Storm Water Plan	1/20/2011	Floods/ Palm Coast/ All Jurisdictions	City of Palm Coast	1 yr	Palm Coast Ad Valorem Tax	Existing Infrastructure	26	Planning
5.0	5.4 Protect water sources, public utilities, natural habitats	12	Sand Bag Machine	Purchase sand bag machine for protection of property from effects of flooding	1/20/2011	Floods/ All Jurisdictions	City of Palm Coast	1 yr	Palm Coast Ad Valorem Tax	New Infrastructure	25	Awaiting Update
5.0	5.4 Protect water sources, public utilities, natural habitats	13	Herbicide Equipment to Control Weeds in Canal	Purchase equipment to control aquatic weeds in the canal to maintain stormwater system	1/20/2011	Floods/ Palm Coast	City of Palm Coast	1 yr	Palm Coast Ad Valorem Tax	New Infrastructure	24	Awaiting Update
2.0	2.3 Improve communications between agencies	16	GIS Development	Address emergency management capabilities, maintain core municipal infrastructure assets in GIS, increase internal and external public access to GIS via web applications	1/20/2011	All Hazards/ All Jurisdictions	City of Palm Coast	1 yr	Palm Coast Ad Valorem Tax	Existing Infrastructure	20	In Process
3.0	3.2 Develop and maintain energy during periods of disrupted energy	6	Emergency Generators for Wastewater Pump Stations	Provide emergency power to critical pump stations and utilities in the wastewater collection system. *Master Storm Water Plan	1/20/2011	Floods/ All Jurisdictions	Countywide	2 yrs	Ad Valorem Tax	Existing Infrastructure	32	Planning
1.0	1.1 Maximize protection of public's safety	4	Flood Monitoring System	Remote multi-site flood monitoring system. *Included in Master Storm Water Plan	1/20/2011	Floods/ All Jurisdictions	Flagler County Emergency Management	1-1.5 yrs	Ad Valorem Tax, EMPA, HMGP	New Infrastructure	38	Planning

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Mitigation Initiative Projects List for Flagler County**

LMS Goal	LMS Objective	LMS Ranking	Project Name	Project Description	Date Updated	Hazard/ Jurisdiction	Agency Resp	Time Frame	Possible Funding Source(s)	Mitigate New or Existing Buildings/ Infrastructure	Score	Project Status
Public Education & Awareness												
6.0	6.1 Education Program of preparedness & mitigation	1	Emergency Preparedness and Local Mitigation Strategy Educational Pamphlet	All hazard/ all jurisdiction flip page guidebook on all hazard preparedness for the residents of Flagler County as well as education on benefits of joining LMS Taskforce	1/30/2013	All Hazard/ All Jurisdictions	Flagler County Emergency Management	1-1.5 yrs	Ad Valorem Tax, EMPA, HMGP	New Infrastructure	20	Ongoing
Natural Resource Protection												
4.0	4.2 Protect natural resources	4	Flagler County Shore Protection Project	Protect shoreline from increasing rate of erosion and deteriorating dune system	3/9/2011	Floods, Hurricanes/ Flagler Beach, Beverly Beach, Marineland	Flagler County Engineering	Immediate	HMGP, CDBG, Ad Valorem Tax	Existing Infrastructure	38	Waterfront Park & ICWW Trail Stabilized
1.0	1.1 Maximize protection of public	3	Wildfire Mitigation, Containment, and Suppression Improvements	Improve wildfire containment and suppression throughout Flagler County	1/20/2011	Wildfires/ All Jurisdictions	Flagler County Emergency Services	Ongoing	HMGP, CDBG, Ad Valorem Tax	Existing Infrastructure	41	In process
Structural Projects												
4.0	4.1 Reduce loss of personal property	1	Weir Canal Palm Coast	Mitigate Weir Canal Control Structure. Weir projects: Ditch 10- Complete. R1/ Mulberry Creek & Ripling Water Way utilizing HMGP. Three Sisters to begin February 2013. #1- BT2 (Bird of Paradise)- complete, #2 I1, I4- complete, #3 K1, #4- L1, #5- M3	1/30/2013	Floods, Hurricanes/ Palm Coast	City of Palm Coast	1-2 yrs	HMGP, Ad Valorem Tax	Existing Infrastructure	44	Added new projects
1.0	1.1 Maximize protection of public	4	Enhance Public Safety Disaster Response and Recovery	Procure equipment and institute plans to provide a safe environment for public safety responders and citizens before, during, or after an emergency.	1/20/2011	All Hazards/ All Jurisdictions	Countywide	1 yr	CDBG, Ad Valorem Tax, UASI, Homeland Security Grant	Existing Infrastructure	38	Planning
4.0	4.1 Reduce loss of personal property	12	Stormwater System Maintenance/Repair Equipment	Long Range Hydraulic Excavator to perform maintenance and repair stormwater system pre-storm to prevent flooding	1/20/2011	Floods/ Palm Coast	City of Palm Coast	1 yr	HMGP, CDBG, Ad Valorem Tax	Existing Infrastructure	25	Awaiting update

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Mitigation Initiative Projects List for Flagler County**

LMS Goal	LMS Objective	LMS Ranking	Project Name	Project Description	Date Updated	Hazard/ Jurisdiction	Agency Resp	Time Frame	Possible Funding Source(s)	Mitigate New or Existing Buildings/ Infrastructure	Score	Project Status
5.0	5.4 Protect and enhance water sources, public utilities	17	Gravity Sewer Smoke Testing	Perform smoke testing in areas of gravity sewer that has a history of hydraulic overloading during wet weather	3/9/2011	Floods/ Palm Coast	City of Palm Coast	1 yr	Ad Valorem Tax	Existing Infrastructure	17	In-process
4.0	4.1 Reduce loss of personal property	18	Marineland Acres Repetive Flooding	Improve drainage, elevation of structures, and other mitigation actions to prevent flooding in this repetitive flood area. *looking to retention on site. *Master Storm Water Plan	1/20/2011	Floods/ Marineland/ All Jurisdictions	Flagler County	3 or more yrs	HMGP, Ad Valorem Tax	Existing Infrastructure	15	In-process
4.0	4.1 Reduce loss of personal and public property	5	Flagler Beach Stormwater Management	Develop and implement plans to mitigate stormwater drainage problems throughout the city. *Master Storm Water Plan	1/20/2011	Floods/ Flagler Beach/ All Jurisdictions	City of Flagler Beach	Ongoing	CDBG, HMGP, Ad Valorem Tax	Existing Infrastructure	35	Planning
4.0	4.1 Reduce loss of personal and public property	3	Bunnell Main Canal Restoration	Complete blockage of water flow in Bunnell main canal causing flood threat to entire city. *Master Storm Water Plan	1/20/2011	Floods/ Bunnell/ All Jurisdictions	City of Bunnell	2 yrs	CDBG-R, HMGP, Bunnell Taxes	Existing Infrastructure	41	Planning
4.0	4.1 Reduce loss of personal and public property	3	Bunnell Stormwater Analysis	Complete a comprehensive analysis of the Bunnell Stormwater System. *include in master storm water plan	1/20/2011	Floods/ Bunnell/ All Jurisdictions	City of Bunnell	2 yrs	CDBG-R, HMGP, Bunnell Taxes	Existing Infrastructure	41	Delayed-funding
3.0	3.1 Designing and installing water proofing components for critical facility	5	School Board Stormwater Analysis	Engineering study to plan for mitigation of longstanding stormwater drainage issues at FPC. *Master Storm Water Plan	1/20/2011	Floods/ Palm Coast/ All Jurisdictions	School Board	2 yrs	HMGP, CDBG, School Board Tax	Existing Infrastructure	35	Planning
3.0	3.2 Develop and maintain energy during periods of disrupted energy	14	PEP Panel Replacement	Replace PEP panel with new panel equipment to allow power when interrupted	3/9/2011	All Hazards/ Palm Coast	City of Palm Coast	5 yrs	HMGP, Ad Valorem Tax	Existing Infrastructure	23	In-process