



# V I L L A G E O F K E Y B I S C A Y N E

Office of the Village Manager

## MEMORANDUM

*Village Council*  
Robert L. Vernon, *Mayor*  
Enrique Garcia, *Vice Mayor*  
Michael W. Davey  
Robert Gusman  
Michael E. Kelly  
Jorge E. Mendia  
Thomas Thornton

DATE: November 29, 2010  
TO: Honorable Mayor and Members of the Village Council  
FROM: Genaro "Chip" Iglesias, Village Manager  
RE: Local Mitigation Strategy

### RECOMMENDATION

It is recommended that the Village Council adopt the Local Mitigation Strategy (LMS) as per the resolution attached hereto.

The Village of Key Biscayne has been participating in Miami Dade County's Local Mitigation Strategy Program since 1998 and by adopting it the Village will obtain credit for the Community Rating System (CRS) recertification and reclassification.

### BACKGROUND

The National Flood Insurance Program's (NFIP) Community Rating System (CRS) is a voluntary incentive program that recognizes and encourages community floodplain management activities that exceed the minimum NFIP requirements.

Federal Emergency Management Agency (FEMA) funded a national initiative to help communities develop local mitigation strategies that identify projects to mitigate the effects of natural disasters and to identify sources of funds to address those problems.

The Village of Key Biscayne Local Mitigation Strategy establishes Miami Dade County's overall mitigation policy. The LMS serves as a reference tool for those seeking to understand the vulnerabilities that exist within Miami Dade County.

This document also benefits Planning and Zoning by facilitating appropriate Comprehensive Development Master Plan update efforts.

Tetra Tech Services is in the process of updating the LMS as part of the Floodplain Management Plan which is included in the scope of services of the SWMP Update.

**RESOLUTION NO. 2010 - \_\_\_\_\_**

**A RESOLUTION OF THE VILLAGE COUNCIL OF THE VILLAGE OF KEY BISCAYNE, FLORIDA, ADOPTING THE MIAMI-DADE COUNTY LOCAL MITIGATION STRATEGY; AND PROVIDING FOR AN EFFECTIVE DATE.**

**WHEREAS**, the Federal Emergency Management Agency funded a national initiative to help communities develop local mitigation strategies that identify projects to mitigate the effects of natural disasters and to identify sources of funds to address those problems; and

**WHEREAS**, the Florida Department of Community Affairs (the “DCA”) entered into a contract with Miami-Dade County (“County”) to provide funding for the County and the municipalities therein to jointly develop a local mitigation strategy in order to become a component of the statewide mitigation strategy; and

**WHEREAS**, the County’s local mitigation strategy (the “Local Mitigation Strategy”) meets the DCA contract requirements and was accomplished with the participation of local governments, the Miami-Dade School Board, and a broad range of private not-for-profit agencies, businesses and universities coordinated by the County’s Office of Emergency Management; and

**WHEREAS**, the Village of Key Biscayne (the “Village”) wishes to adopt the Local Mitigation Strategy attached as Exhibit “A;” and

**WHEREAS**, the Village Council finds that this Resolution is in the best interest and welfare of the residents of the Village.

**NOW, THEREFORE, BE IT RESOLVED BY THE VILLAGE COUNCIL OF THE VILLAGE OF KEY BISCAYNE, FLORIDA, AS FOLLOWS:**

**Section 1. Recitals Adopted.** Each of the above stated recitals are hereby adopted, confirmed and incorporated herein.

**Section 2.**    **Local Mitigation Strategy Adopted.** The Village Council hereby adopts the Local Mitigation Strategy attached as Exhibit “A.”

**Section 3.**    **Effective Date.** This Resolution shall be effective immediately upon adoption.

PASSED AND ADOPTED this \_\_\_\_ day of December, 2010.

\_\_\_\_\_  
FRANK CAPLAN, MAYOR

ATTEST:

\_\_\_\_\_  
CONCHITA H. ALVAREZ, CMC  
VILLAGE CLERK

APPROVED AS TO FORM AND  
LEGAL SUFFICIENCY

\_\_\_\_\_  
VILLAGE ATTORNEY

The  
**Local Mitigation  
Strategy**

\*\*\*\*\*

**Hazard Mitigation  
for  
Miami-Dade County  
and its  
Municipalities, Departments and Private Sector Partners**

**LMS  
Miami-Dade**

**June 30, 2010**

**The Miami-Dade Local Mitigation Strategy**  
June 2010

The Indian Creek Stormwater Utility System constructed of 3,750 lineal feet of pipe along Indian Creek Drive, eighteen outfalls having a total length of 9,500 L.F. and thirty-seven catch basins and French drains. The existing drainage system consists of a combination of positive drainage and seepage systems. Portions of the system were video taped showing the reinforced concrete pipe is deteriorating and failing at the joints, which are separating causing erosion over and around the pipe. Soil is entering the line and flowing to Biscayne Bay. The audit has fully depreciated the system.

Reduction in total suspended solids, nitrogen, phosphorus and other metals into Biscayne Bay, repair the deteriorating system and alleviate flooding conditions.  
Estimated cost: \$1,000,000

**Project 2: Repair Surfside Bridge**

Repair deck, superstructure and substructure including slab and beam repairs, bearing and expansion joint replacement, traffic railing and light plaster repairs, pier and abutment repairs. Estimated cost: \$850,000

**City of Islandia**

The City of Islandia no longer participates in the Miami-Dade Local Mitigation Strategy. However, it lies entirely within the boundaries Biscayne National Park and all essential infrastructure is provided and maintained by the National Park Service.

**Village of Key Biscayne**

**Project 1: Comprehensive Review of Local Laws and Regulations**

Relates to the "Public Information" initiative including among others, the village's master plan, zoning ordinance, building code, flood ordinance, subdivision regulations and other local codes, ordinances and regulations relating to floodplain management. These may include, without limitations, measures aimed at keeping flood damage-prone development out of hazardous and sensitive areas within the floodplain, as well as those aimed at imposing standards on what is allowed to be built within such areas. The project would involve: extracting, abstracting and otherwise organizing the web of relevant provisions of existing laws and regulations to facilitate their understanding, compliance and administration; drafting proposals for improvements, including the enactment of legislation as necessary; and securing the resources required to implement the laws and regulations as improved. This project stands in first priority in the village's Floodplain Management Plan, and includes, as a sub-project the preparation of a new "Storm Drainage Management Master Plan". Estimated cost: \$50,000.

**Project 2: Storm Drainage System Upgrade**

This project which stands as priority #2 in the village's Floodplain Management Plan consists of two distinct parts: One is essentially an engineering and design analysis to deter-

**The Miami-Dade Local Mitigation Strategy**  
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mine: a) The “as-built” effectiveness of the system compared with the criteria governing its design; b) Its mitigation potentials in terms of protection against rainstorms and weather events of recurring frequency intervals of 25, 50 and 100 years; c) The technical feasibility of achieving these potentials, in terms of capital and operating projects; and, d) The justification for such projects in terms of benefit-cost analysis geared to the eligibility criteria of potential funding agencies. The other component is the implementation and execution of the sub-projects and programs defined by the first component of this Project. One sub-project includes the completion of storm sewers in the remaining portions of Key Biscayne still served by “French Drains” or other below standards means. Estimated cost: \$1,300,000

**Project 3: Feasibility Study for Additional Open Space Preservation**

Relates to the “Prescribed Burns” initiative, including comprehensive search of new opportunities for Key Biscayne to increase its inventory of areas to be preserved as open space, as well as proposals and programs to assure the preservation of open space areas already identified. The study would include benefit-cost and related economic analysis for each potential transaction; identification of implementation tools and resources; analysis of incentives and potential business arrangements and agreement among the parties at interest of policy context for the implementation of this activity.

**Project 4: Elimination of Converted Garages**

In “old law” buildings, garages were built per the old code with only 9” above street grade. When such garage space was subsequently converted into living space the potential for flooding damage was materially increased. Raising the elevation of the converted space to or above the building elevation could help mitigate this problem at relatively little cost compared to major mitigation measures such as flood proofing or elevating the entire structure. The project would involve the identification of the properties involved; an analysis of the benefits and costs involved; a legal analysis to determine the best method for inducing the elimination of the problem; and development of a program for implementing this improvement.

**Project 5: Earth Shaping Master Plan**

This project involves: 1) The development of topographical survey information with respect to the districts within Key Biscayne that contain the most flood prone properties; 2) The design of changes in the existing topography, including, a system of swales among other earthworks, at selected locations within the drainage basins, to improve the behavior of stormwater, particularly in areas where surface drainage problems tend to exist; and, 3) The development of an implementation program including the identification of potential funding sources, and a timelines the incremental execution of this project.

**Project 6: Demonstration Project**

Relates to the “Public Information” county initiative involving the selection of one or more flood prone properties to be used as a demonstration for the application of “elevation”, “flood proofing” and other measures available for the mitigation of flood hazards and problems.

The demonstration will serve a number of purposes:

It will test state-of-the-art technology, various methods for elevating buildings and various other flood proofing measures;

- It will provide a firm basis for measuring all of the costs involved;
- It will provide a physical model to which the public can relate when subjects such as retrofitting and flood proofing are discussed;
- It will represent a laboratory where other flood damage prevention measures can be illustrated; and,
- It will enable a benefit-cost analysis that will provide a well-documented assessment of the measure’s cost effectiveness.

#### **Project 7: Economic Incentives**

This project involves the creation of a package of economic incentive to induce property owners to undertake such flood protection measures as elevating structures above the BFE, flood proofing improvements and the like. In this connection the following are examples of the kinds of means that might be considered for study, analysis, feasibility, etc.

- Low interests loans to help owners pay to elevate or rebuild structure;  
Deferral for a number of years, or forbearance, of ad-valorem tax increases which may be triggered by the building elevation or flood proofing work;

Zoning and other land utilization concessions off-setting the cost of the flood mitigation work with an opportunity for maximizing the value of the underlying land;

Deduction of the cost of mitigation from the cost of “Substantial Improvements against the property in the application of the 50 % rule.

#### **Project 8: Flood Insurance Research Project**

This project will seek to determine the number and characteristics of properties that do not have flood insurance and the reasons therefore. It would culminate with an action program designed to increase the number of properties covered by the flood insurance and with a local information program including brochures, pamphlets and the like designed to de-mystify the subject. The project will also review the validity of the BFE as reflected on the FIRM and explore the possibilities of variable flood insurance rates that distinguish within the same flood zone between properties that are flood prone and vulnerable to flooding hazards and those which are not and/or have taken steps to correct the potential problem.

**Project 9: Erosion Control Hot Line and Response System**

This project involves creating and implementing a discreet program of inspection, focused on construction sites, as well as public areas within the village, to assure that policies and regulations with respect to erosion and sedimentation control are effectively followed. The program would be designed to operate in tandem with normal storm sewer maintenance activities and normal construction site inspection activity. The intent is to create a second, primarily volunteer-based, line of defense for the protection of storm water management facilities.

**Project 10: Environmental Forum**

This project involves the organization of an ongoing program of lectures and events, including field trips, as necessary, bringing the public together with speakers from the various agencies whose concerns straddle floodplain management and environmental issues. The lecture program would be supplemented with the production of publications, and, if affordable, a video promoting awareness of environmental issues such as beach erosion, non-point source pollution, hydrology/hydraulics, BMP benefits, and the like.

**Town of Medley**

**Project 1: Paving and Drainage Improvements**

The work for these projects can be done either by using the Town's personnel and equipment or by hiring an outside contractor.

1. NW South River Drive and NW 116<sup>th</sup> Way – from NW South River Drive to the FEC Railway right-of-way. Drainage installation and paving. Estimated construction cost of \$400,000.
2. Intersection of NW South River Drive and NW 109<sup>th</sup> Street – new drainage installation and concrete paving. Estimated construction cost of \$190,000.
3. NW 95<sup>th</sup> Avenue from the northeastern end of Waste Management, Inc. to NW 106<sup>th</sup> Street. Drainage installation and paving. Estimated construction cost of \$870,000.
4. NW 100<sup>th</sup> Street from NW 95<sup>th</sup> Avenue to NW 91<sup>st</sup> Court. Drainage installation and paving. Estimated construction cost of \$271,000.
5. NW 101<sup>st</sup> Street from NW 95<sup>th</sup> Avenue to NW 91<sup>st</sup> Court. Drainage installation and paving. Estimated construction cost of \$315,000.