

Local Mitigation Strategy



Whole Community Hazard Mitigation Part 7: Flooding - The NFIP and CRS



November 2014

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INTRODUCTION

In 2013 a number of events occurred that led to the decision to expand Part 7 of the LMS to help capture and compile information in support of the Community Rating System (CRS) communities and more thoroughly address our current and future flood risks and mitigation measures. Key events included:

- The rollout of new Storm Surge Planning Zones based upon updated Sea Lake Overland Surge from Hurricanes (SLOSH) data
- The 2013 update to the CRS Coordinators Manual
- The desire to integrate climate change and sea level rise considerations into the LMS
- The Biggert-Waters Act and reforms to the National Flood Insurance Program (NFIP)
- The desire to integrate the planning consideration of the Comprehensive Development Masterplan (CDMP) and Stormwater Management Masterplan into the LMS, since the LMS is the Floodplain Management Plan for the County

Actions taken to further incorporate flooding considerations into the LMS and community mitigation included:

- Designation of the local CRS User Group as a Sub-Committee of the LMS
- Nichole Hefty, the Chief of the Miami-Dade Office of Sustainability was nominated to become a member of the LMS Steering Committee
- The Office of Emergency Management (OEM) hosted the L-278 class CRS training to assist our local communities in preparing for the changes
- Additional maps were developed to determine flood risk
- OEM and Miami-Dade Water and Sewer Department (WASD) partnered to work on an educational component to introduce stakeholders to a new interactive model to help determine potential impacts from Sea Level Rise
- Identification of activities that Miami-Dade County Departments conduct that may assist all of our communities with uniform credit
- Collaboration with the newly appointed State CRS Coordinator
- Integration of Sea Level Rise considerations into the Miami-Dade Threat and Hazard Identification and Risk Assessment (THIRA)

Scope

Part 7, as with other portions of the LMS, will identify what CRS activities the sections align with, as applicable. The CRS/Flood Sub-Committee will be responsible for supporting the development and review of this section of the LMS. This section is meant to be supplementary to and not replace the responsibilities of the community CRS Coordinator.

Planning Process

As identified in *Part 1*, the LMS is a reflection of the initiatives that are identified and supported by the LMS Chair, LMS Co-Chair, the LMS Steering Committee, the LMS Working Group (WG) and the LMS Sub-Committees(S-C). As illustrated in *Part 4 Appendix B*, there is a diverse representation of agencies from the whole community engaged in the LMS.¹

The LMS Working Group meets on a quarterly basis and the Steering Committee and Sub-Committees meet on an as needed basis. All meetings are open to the public and are advertised on the LMS webpage.

<http://www.miamidade.gov/fire/mitigation.asp>.

Meeting Notes and Attendance Sheets are maintained in *Part 5 – Meeting Notes*. The LMS Chair develops and sends out a monthly LMS Information Bulletin to the LMSWG and posts this on the website.² The LMS Information Bulletin provides information on updates and changes to the LMS program, training and outreach activities, information on new mitigation products, and information pertinent to the stakeholders.

The LMS undergoes a five year cycle for submittal to the State and FEMA for review and approval. Upon FEMA approval, the plan is adopted locally by the Board of County Commissioners (BCC). Miami-Dade has a metropolitan form of government, (as discussed in *Part 1* with supporting documentation in *Part 4 Appendix G*). When the BCC passes a resolution or ordinance, that action automatically includes all the

¹ CRS – 510(Step 1) (b) and 501(Step 2)(a)

² CRS – 510 (Step 2) (a)

municipalities within the county. In the event a municipality does not wish to participate in the action, that municipality must, through their own resolution, opt out. For example, when the BCC adopted this LMS, the municipalities were automatically included and none opted out. The latest adoption documents are provided in Part 4 Appendix D.³

Local communities that wish to utilize the LMS as their floodplain management plan for credit under the CRS program will have to do a local adoption of the plan. Local communities are welcome to have their Annual Report (Activity 510) report included in *Appendix B* of this document.

Assessing the Hazard

South Florida is vulnerable to flooding from rainfall events and rainfall and storm surge from tropical cyclones. As illustrated and discussed in the THIRA, in *Part 4 Appendix I*, flooding, hurricanes and tropical storms have a moderately high risk to our communities. Miami-Dade has a relatively flat topography and is interlaced with extensive canal systems operated by South Florida Water Management District, PWWM and local municipalities. Miami-Dade is surrounded by water with the Atlantic Ocean, Intracoastal Waterway, Biscayne Bay, Florida Bay and the Florida Everglades. The County is close to sea level with an underground water supply just below the ground surface. The future threat of sea level rise and the potential impacts are being considered and additional modeling and mapping are being conducted to help us understand how communities may be impacted differently depending upon their geographic location and specific considerations. Some of our coastal communities are already experiencing “sunny day flooding” during king tides, typically occurring between September and November.

The LMS will continue to incorporate and provide speakers and reference material to promote mitigation measures throughout our community.

- Canal and groundwater elevations, when combined with seasonal rainfall variations and the volume of the potential storm, result in a definite flood hazard to inland areas.

³ CRS - 510(Step 1) (c)

- All tropical weather systems have to be carefully monitored, several days before they make landfall. Because of the time needed to move water through canals to increase capacity, more advanced monitoring is needed.
- Coastal flooding has potential to impact residential and commercial development along the east coast of South Florida and Biscayne Bay, primarily through storm surge and inundation

Rainy Season

South Florida's rainy season typically runs from May to October with an average of 155 days. According to NWS – Miami Office, the 2014 rainy season lasted 143 days and the average amount of rainfall overall was 39.4 inches, slightly above the average across the region. A report compiled by NWS – Miami Office has Miami –Dade with four of the top ten sites for rainfall in the 2014 season.

Table 1: Top 10 Rainfall Sites in South Florida in 2014 Rainy Season

Below is a list of the top 10 wettest sites for the 2014 rainy season (NOTE: CoCoRaHS sites are considered unofficial).

Top 10 Rainfall Sites for 2014 Rainy Season	May 26- Oct 15	Departure from Normal
1. NWS Miami - Sweetwater (NWS COOP)	53.82	
2. West Boynton Beach (CoCoRaHS)	53.23	
3. Juno Beach (NWS COOP)	52.93	
4. Hialeah (NWS COOP)	48.80	+3.68
5. Miami International Airport (NWS ASOS)	48.33	+8.13
6. Greenacres (CoCoRaHS)	47.99	
7. Naples/Golden Gate (NWS COOP)	47.07	
8. North Miami Beach (NWS COOP)	46.50	
9. Plantation East (CoCoRaHS)	45.89	
10. Golden Gate Estates (CoCoRaHS)	45.29	

The South Florida dry season typically lasts from October into May with an average rainfall of 12-19 inches, lowest in the interior and western portions of south Florida.

Background and History

During the early stages of development in Miami-Dade County, the land was frequently inundated for long periods due to the flat topography, low land elevations and the high groundwater table in the Biscayne aquifer. To remedy this situation, and to make the land suitable for habitation, various local governments and private entities initiated the construction of the canal system that exists today. This system was designed to move water to the east and ultimately to Biscayne Bay using gravity flow. The excavation of the canal system exposed the Biscayne aquifer, the county's primary source of drinking water, to saltwater intrusion. In order to stem the flow of salt water into the Biscayne aquifer, salinity control structures were constructed at the mouths of both primary and secondary canals throughout Miami-Dade County.

The early design of the canal system did not consider the extensive development that has occurred in the western parts of the county. These western areas are lower in elevation, and thus more flood-prone. The system relies on gravity to discharge, and is inadequate to remove storm water volume caused by major rain events, particularly considering large tidal surge that may accompany tropical storm events.

Today, the canal system in Miami-Dade County consists of over 616 miles laid out in approximate one to two-mile grids. The canal system is divided into 360 miles of primary canals, 260 miles of secondary canals, 350 miles of smaller ditches under private jurisdiction, and 75 miles of coastal waterways. The primary system, including most of the salinity control structures, is operated by the South Florida Water Management District. The secondary system is the responsibility of Miami-Dade County. In general, the secondary canal system connects into the primary system, which empties into Biscayne Bay. The private ditches discharge into the secondary and primary canals and the coastal ditches discharge directly into Biscayne Bay. The ability to move water in the secondary system is dependent on the available capacity of the primary system, which, in turn, is dependent in part on the proper operation of the salinity control structures. The canal systems are depicted in Map 1.

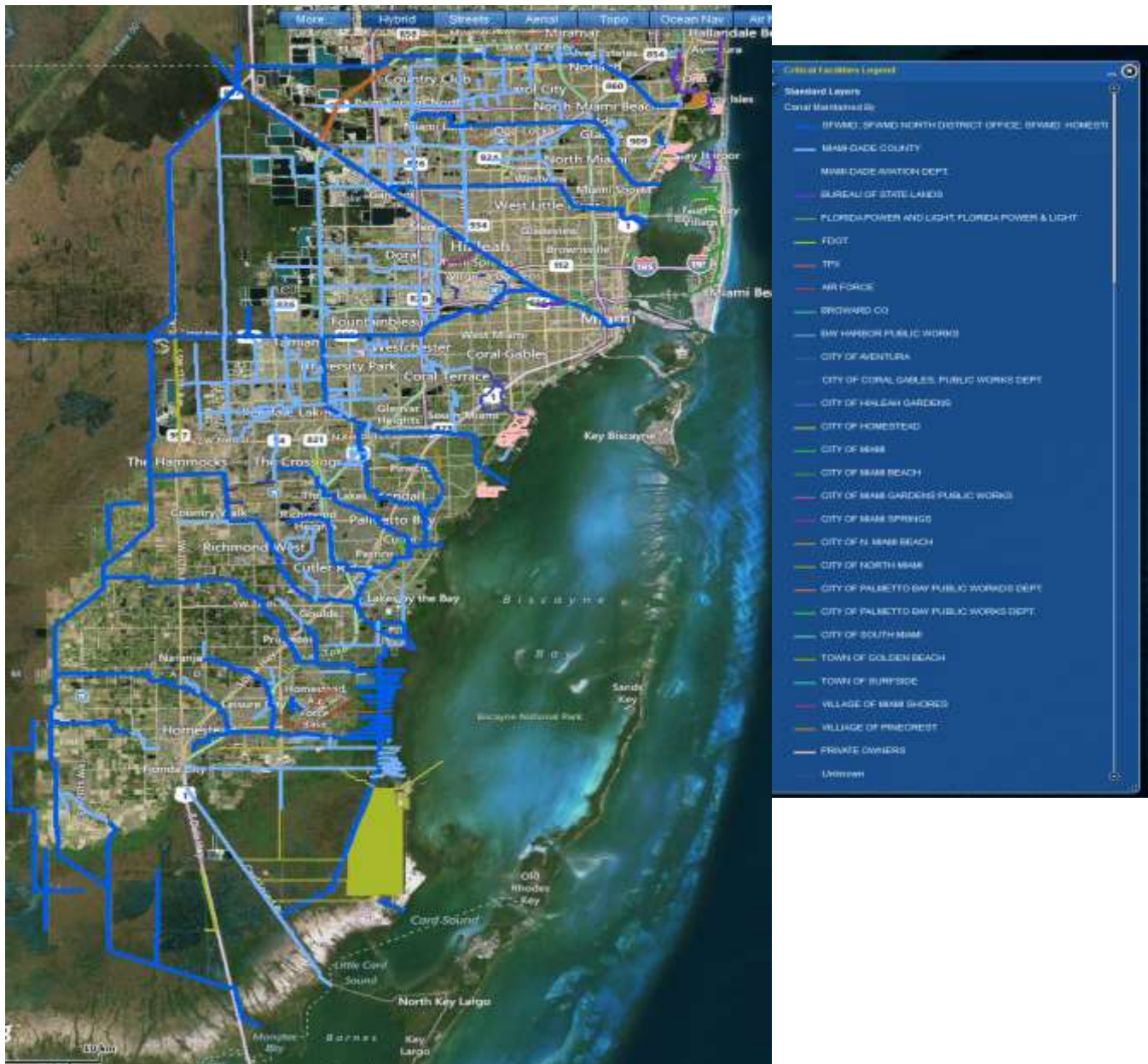
The principal functions of the canal system are:

- To maintain adequate groundwater levels in the Biscayne aquifer, to provide for both water supply and to prevent salt-water intrusion. In general, the water levels in the canal system are lower than the groundwater levels. The canal system can be used to recharge the Biscayne aquifer during the dry season when flow is conveyed from Lake Okeechobee and the water conservation areas into the urbanized areas. Conversely, during the wet

season, groundwater flows from the aquifer into the canals and is discharged to the ocean, as needed, to prevent flooding.

- To provide for drainage during periods of excess rainfall, when the control structures must be operated to prevent overtopping of canal banks.

Map 1: Canals in Miami-Dade County



Flood Events

Two flood events of note in 1999 and 2000 changed the way water managers, emergency managers and residents approached disasters in south Florida. In October 1999, Hurricane Irene (DR-1306) developed and started a path towards South Florida. Initial projections were correct in stating the hurricane would impact the west coast of Florida, and Irene traveled through the state and, on October 15, passed just to the west of Miami-Dade County.

Although the hurricane did not pass directly through the county and no exceptionally high winds were experienced, the heavy rainfall associated with this storm did hit Miami-Dade County, and the impacts were severe. Some roads were impassible for weeks, electricity was out in certain areas, and residents and businesses suffered heavy losses. As a result of Hurricane Irene, the Miami-Dade County Board of County Commissioners created a Flood Management Task Force, to analyze why certain areas were so heavily impacted by floodwaters. After eight months of meetings with affected residents and industry, the Task Force offered eighteen recommendations. These recommendations are being implemented where possible, and progress is being tracked.

On October 3, 2000, a low-pressure system, later to become Tropical Storm Leslie, developed off the west coast of Cuba, and headed toward South Florida (DR-1345). Water managers and weather officials closely tracked the storm, and preemptive measures were taken to start moving water out of the canals. Weather forecasts called for 4-8 inches of rainfall from this storm, and unfortunately, once the storm passed over south Florida, it dropped 14 to 18 inches of rainfall over a linear area in the center of the county. Equally as unfortunate were residents and businesses that experienced a similar result as in Irene.

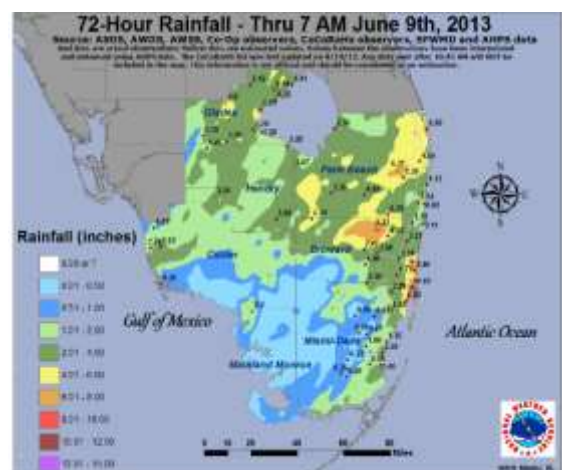
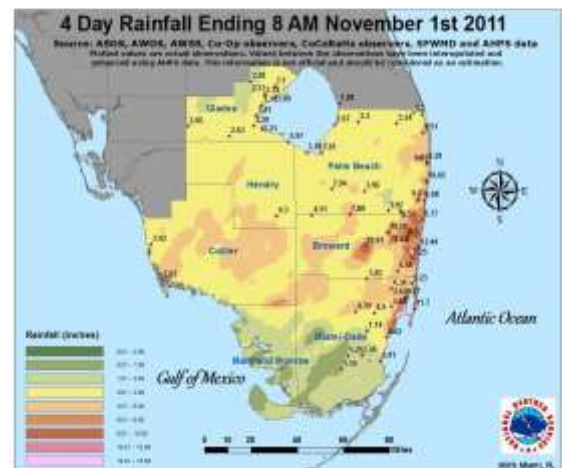
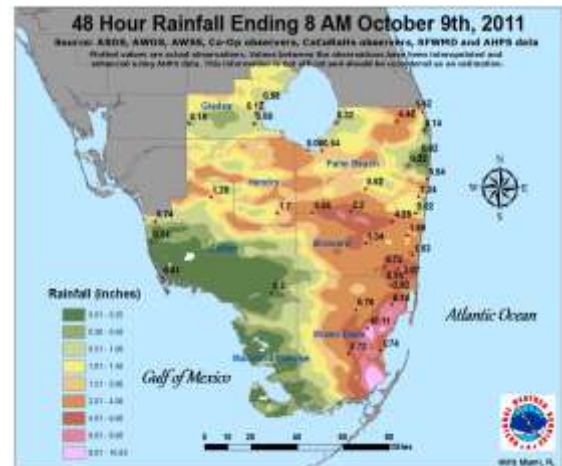
Immediately after this so-called "no-name" storm hit, the county commission reconvened the Task Force, to re-examine the problem.

Hurricane Katrina in August, 2005 was every bit as much a flood event as it was a windstorm. Large areas in south Miami-Dade County were impacted by flooding, especially in the agricultural community.

On October 9, 2011 we experienced a heavy rain event in Miami-Dade with over 10" of rain falling at the West Kendall/Tamiami Airport. The top graphic illustrates the rain fall amounts for a 48-hour period.

From October 28-31, 2011 another heavy rain event occurred with the greatest impacts being felt in Miami Beach. The areas of heaviest showers and thunderstorms were over Pinecrest, Coral Gables and Coconut Grove and remained over that area for another few hours. This area of rainfall produced anywhere from 6 to 10 inches of rain in only a few hours from Cutler Bay to Coconut Grove, leading to severe street flooding and intrusion of water into dozens of homes across this area. Estimates from the South Florida Water Management District indicate that isolated areas in Coconut Grove may have received in excess of 12 inches during this time span. Portions of Miami-Dade County experienced 3-7 inches of rain in a few hours causing significant street flooding. The middle graphic illustrates the rainfall amounts.

In June of 2013 as Tropical Storm Andrea passed across north Florida, south Florida was on the receiving end of torrential rains over northeastern Dade as the tail of the storm moved across the area. Up to 14" of rain was measured in North Miami Beach in only a few hours and 8-12" from North Miami to the southern portion of Broward County. The event caused severe street flooding and flooding of buildings. The bottom graphic illustrates the rainfall for this event.



In October of 2013, several more severe rain events occurred. On October 3, 2013 significant flooding occurred in Kendall, the Falls area and Pinecrest with measured rainfall of amounts up to 10” in 8 hours causing street flooding and damages to homes and several apartment buildings.

Local flood events have been documented by the National Weather Service Miami Office and can be found at http://www.srh.noaa.gov/mfl/?n=events_index



Flood Impacts

The impact of floods could range anywhere from wet carpets or floors to damaged interiors leading to destruction of property. In addition, floods can potentially cause damage to infrastructure, such as washing out roads and bridges, or standing water inhibiting movement of vehicular or train traffic. Furthermore, floods also impact the agricultural community due to crops being inundated over an extended time or being washed away. Flooding, whether in rural or urban areas, can last up to several weeks as was the case during Hurricane Irene.

Flood Regulations in Miami-Dade County

Pre-FIRM structures represent a potential flood hazard, in that, due to the relatively flat terrain, older structures built lower will experience more of a hazard than structures built to FIRM elevations. In fact, because newer structures may be sited close to the pre-FIRM buildings, their potential risk for flood damage may be even greater.

The CRS Sub-Committee identified major milestones for flood regulation in Miami-Dade County as depicted in Table 2. Map 2 and Table 3 Show the number of structures by municipality by the flood regulation milestones. Individual jurisdictional maps were made available to all of the municipalities.

Table 2: Major Flood Regulation Dates for Miami-Dade County

Color	Year	Description	% of housing stock
	Pre-1957	No special elevation requirements in effect.	22.25%
	1957-1973	General Countywide requirement of the highest of the County Flood Criteria maps (10-year event) (CFC), back of sidewalk (BOS), or highest adjacent crown of road (COR) + 8 inches for residential or 4 inches for commercial construction	23.92%
	1973-1992	First FIRM maps developed identifying flood areas. CFC still enforced.	27.73%
	1993-2008	Incorporated areas begin enforcing flood codes.	24.12%
	2009-2011	Updated FEMA Flood Maps	1.33%
	2012 - present	New Florida Building Code requiring free board for properties within Special Flood Hazard areas, following ASCE24 Table, to be elevated depending on the building category	0.65%

Map 2, provides an overview of the residential construction in relation to these major milestones. This information was gathered from the Miami-Dade Property Appraiser database looking at the year of construction. This is meant to provide an overview of year of construction but does not tell us much about the elevation to which the structures were actually built but at least the standard in place at time of the original construction. There is not currently a comprehensive database of elevation certificates for all structures, though information is being gathered.

Map 3 shows the FEMA Flood Insurance Rate Maps that went into effect in 2009. Miami-Dade County is currently undergoing a new coastal study with maps projected to take effect in 2019.

Map 4 illustrates the number of buildings that are in FEMA Flood Zones for Miami-Dade County based upon the 2014 Miami-Dade Property Appraiser data and Table 4 provides a breakdown of buildings by jurisdiction.

Map 2: Residential Construction by Flood Regulation Milestones

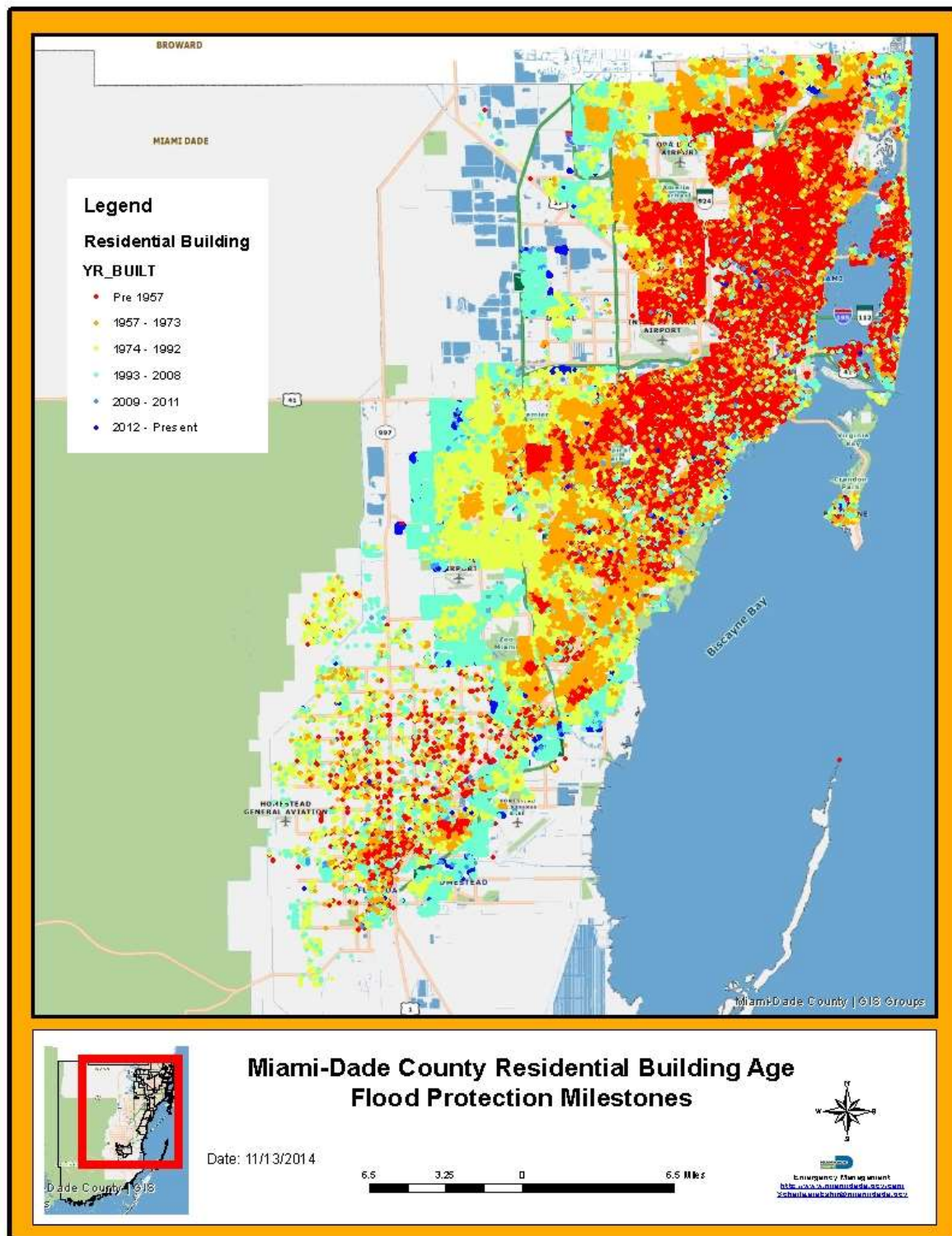
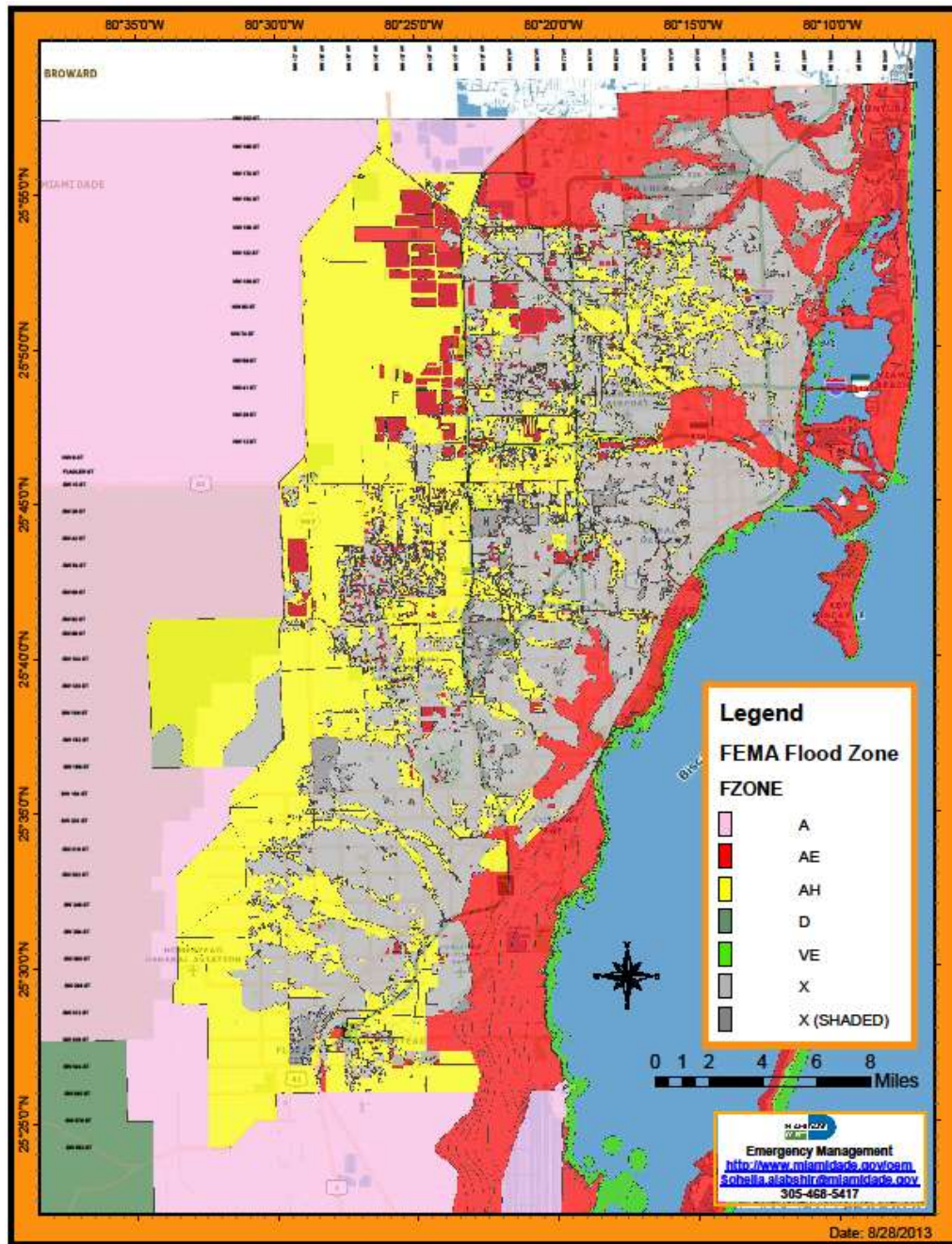


Table 3: Jurisdictional Residential Structures by Flood Milestones

Jurisdiction	Pre 1957	1957-1973	1974-1992	1993-2008	2009-2011	2012-Present
Aventura	35	3740	10574	7533	66	70
Bal Harbour	457	810	1135	598	8	5
Bay Harbor	708	1380	167	139	5	28
Biscayne Park	943	89	36	2	1	0
Coral Gables	1307	4132	2853	4647	286	357
Cutler Bay	20	843	4112	10926	749	717
Doral	20	843	4112	10926	749	717
El Portal	682	47	4	14	1	2
Florida City	316	484	265	1018	26	3
Golden Beach	141	29	77	86	10	6
Hialeah Gardens	4	273	2148	3210	5	37
Hialeah	14882	12762	16910	5606	58	55
Homestead	1399	989	2969	11261	280	376
Indian Creek Village	7	4	6	13	2	0
Key Biscayne	570	2352	2317	1192	41	60
Medley	19	20	21	14	1	31
Miami Beach	12384	17229	6305	9847	435	218
Miami Gardens	9125	12970	4389	2295	187	35
Miami Lakes	12	2866	2717	3240	8	6
Miami Shores	3120	538	177	80	3	2
Miami Springs	2,808	818	248	71	7	8
Miami	457	810	1135	598	8	5
North Bay Village	709	1392	581	713	39	1
North Miami Beach	6161	5023	1270	159	12	8
North Miami	8305	5271	1217	644	15	9
Opa-locka	1873	589	151	274	9	2
Palmetto Bay	348	4452	2152	965	12	13
Pinecrest	1464	2891	831	800	47	34
South Miami	1929	743	541	565	16	17
Sunny Isles Beach	196	5009	4107	5531	854	2
Surfside	1144	714	644	616	3	1
Sweetwater	60	817	1826	767	7	1
Virginia Gardens	435	128	50	8	0	0
West Miami	1405	85	23	70	2	0
Unincorporated	41310	75601	120150	70366	1689	2574
Total:	114755	166743	196220	154794	5641	5400

Map 3: FEMA Flood Zones Miami-Dade County 2009



Flood information on a specific area or address may be obtained online at:
<http://gisweb.miamidade.gov/floodzone/>

Map 4: Buildings By FEMA Flood Zones

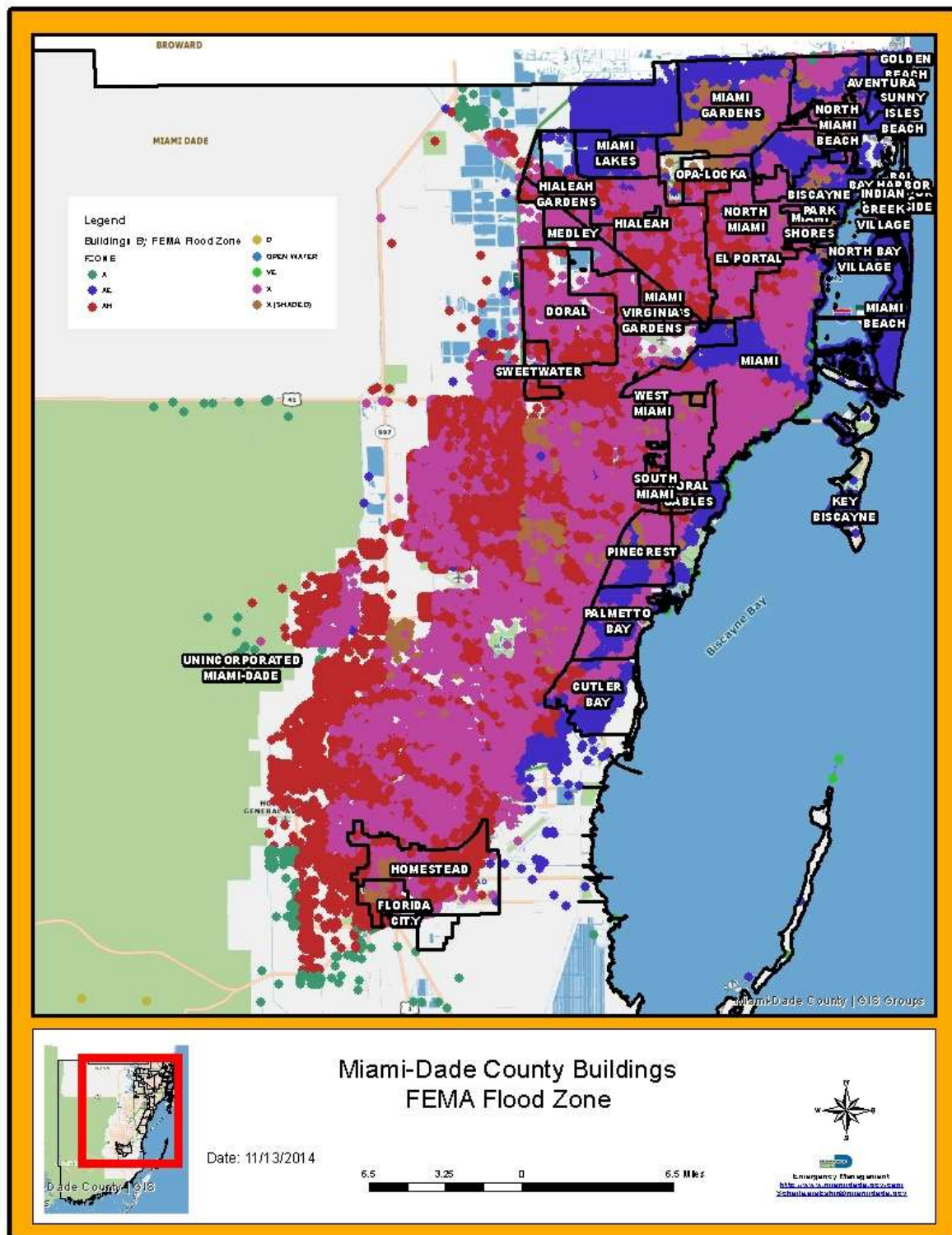


Table 4: Buildings by Jurisdiction in Flood Zones

Jurisdiction	A	AE	AH	D	VE	X	XE
Aventura		24,149				52	31
Bal Harbour		738				955	2250
Bay Harbor		2576					
Biscayne Park		991				42	42
Coral Gables		2770	1209		58	13209	1466
Cutler Bay		8840	1871			3886	
Doral		93	3768			16746	
El Portal		6	97			566	92
Florida City	3	2	1097			396	817
Golden Beach		262				98	
Hialeah Gardens		133	271			5802	
Hialeah		1304	18513			36496	
Homestead		222	8824			9098	746
Indian Creek Village		33				4	1
Key Biscayne		7056					
Medley		19	251			578	
Miami Beach		51049				4381	123
Miami Gardens		12103				9083	8638
Miami Lakes	0	8317				1263	
Miami Shores		843	3		19	2470	552
Miami Springs		11	2029			2125	21
Miami		43094	6441		3897	68535	2215
North Bay Village		3872					
North Miami Beach		5650				7212	653
North Miami		8190			261	5637	1995
Opa-locka		714	543			1319	1275
Palmetto Bay		4701			41	3590	80
Pinecrest		2168	268			3563	260
South Miami		2	784			3660	
Sunny Isles Beach		11351			1	7647	0
Surfside		1560				1878	
Sweetwater		1	582			367	
Virginia Gardens			122			445	86
West Miami						960	768
Unincorporated	582	44750	105976	2	28	169059	20053
Total:	585	247,570	152649	2	4305	381122	42164

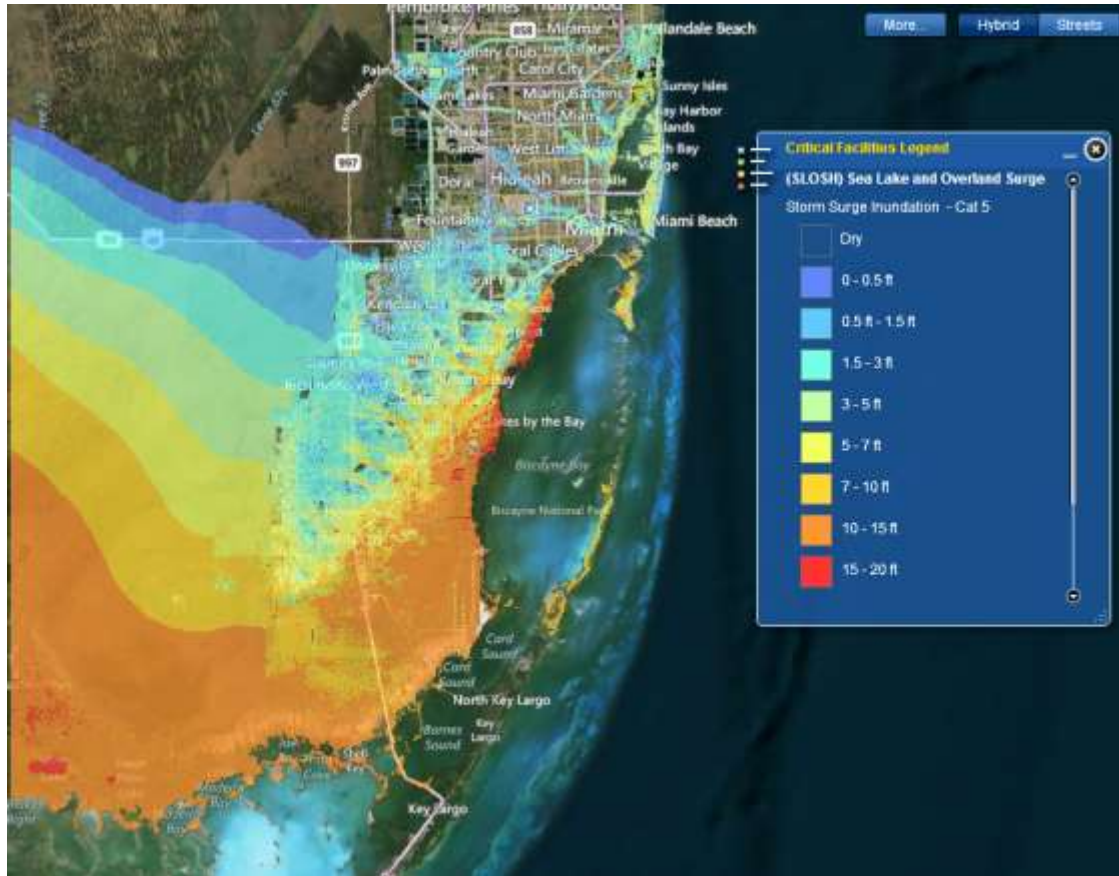
Storm Surge

One of the other areas of concern for flooding in Miami-Dade County is associated with storm surge inundation from tropical cyclones. Miami-Dade is at risk from storm surge from storms travelling from the east, south and west. To model storm surge, the Sea, Lake Overland Surges from Hurricanes (SLOSH) model is utilized. In 2010 the State of Florida conducted regional evacuation studies that included collecting updated topography information utilizing Light Imaging Detection and Ranging (LIDAR) data. The Miami-Dade Office of Emergency Management (OEM) was presented with the data to then go about setting areas for potential evacuation from storm surge.

Map 5 is a depiction of the Maximum of Maximums for a Category 5 Hurricane, on the Saffir-Simpson Scale. It should be noted that ranges of storm surge are no longer strictly tied to categories of hurricanes and with updated technology OEM and the National Hurricane Center utilize directional information to better predict where storm surge will occur for each individual storm. Map 5 illustrates areas of the county that could potentially get surge from at least one direction of an impacting storm with winds of 157 mph and greater. Map 6 depicts the areas OEM selected as Storm Surge Planning Zones, which indicate areas that are potentially at risk for storm surge and may be designated as evacuation areas. Table 5 lists the population in each zone and the estimated clearance times for evacuations.

Map 7 provides an illustration of the buildings by type within the storm surge planning zones and Tables 6 and 7 provide a listing of building types by jurisdiction within the storm surge planning zones.

Map 5: Maximum of Maximums (MOM) Storm Surge for Category 5



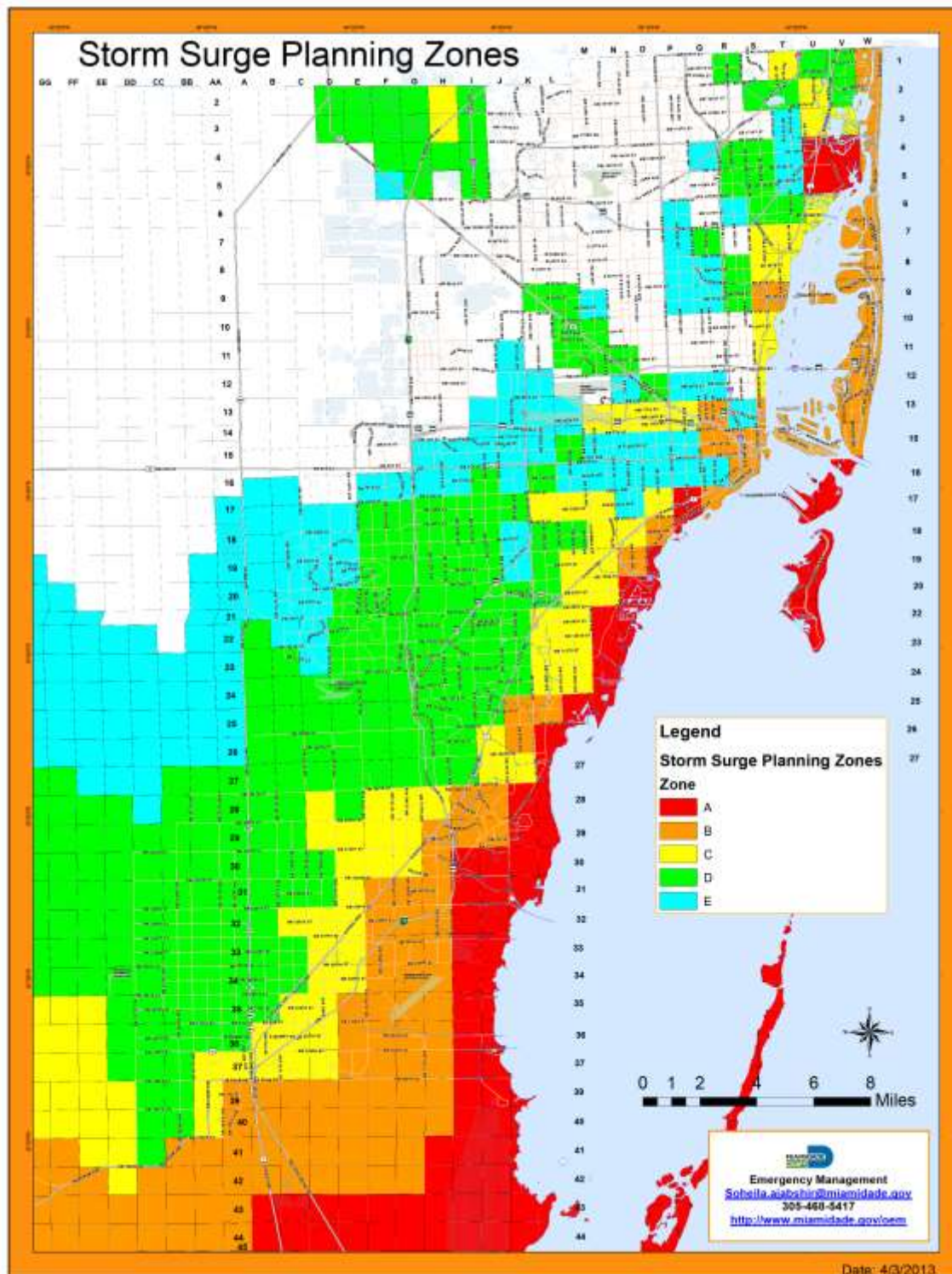
Source: Miami-Dade FLIPPER

Table 5: Population Estimates and Evacuation Clearance Times for Storm Surge Areas

	Risk Area	Cumulative	Mobile Homes Tourists	In County Clearance Times	Out of County Clearance Times
A	68,317		103,238	23 hrs.	22 hrs.
B	354,068	422,385		24 hrs.	24.5 hrs.
C	302,039	724,424		27.5 hrs.	28 hrs.
D	631,399	1,355,823		32 hrs.	33.5 hrs.
E	495,629	1,851,452		51.5 hrs.	52.0 hrs.
Total	1,851,452		1,954,690		

**Clearance times from Base Scenario provided by SFRPC on 4/14/2014*

Map 6: Map of Miami-Dade Storm Surge Planning Zones



Map 7: Buildings within Storm Surge Planning Zones

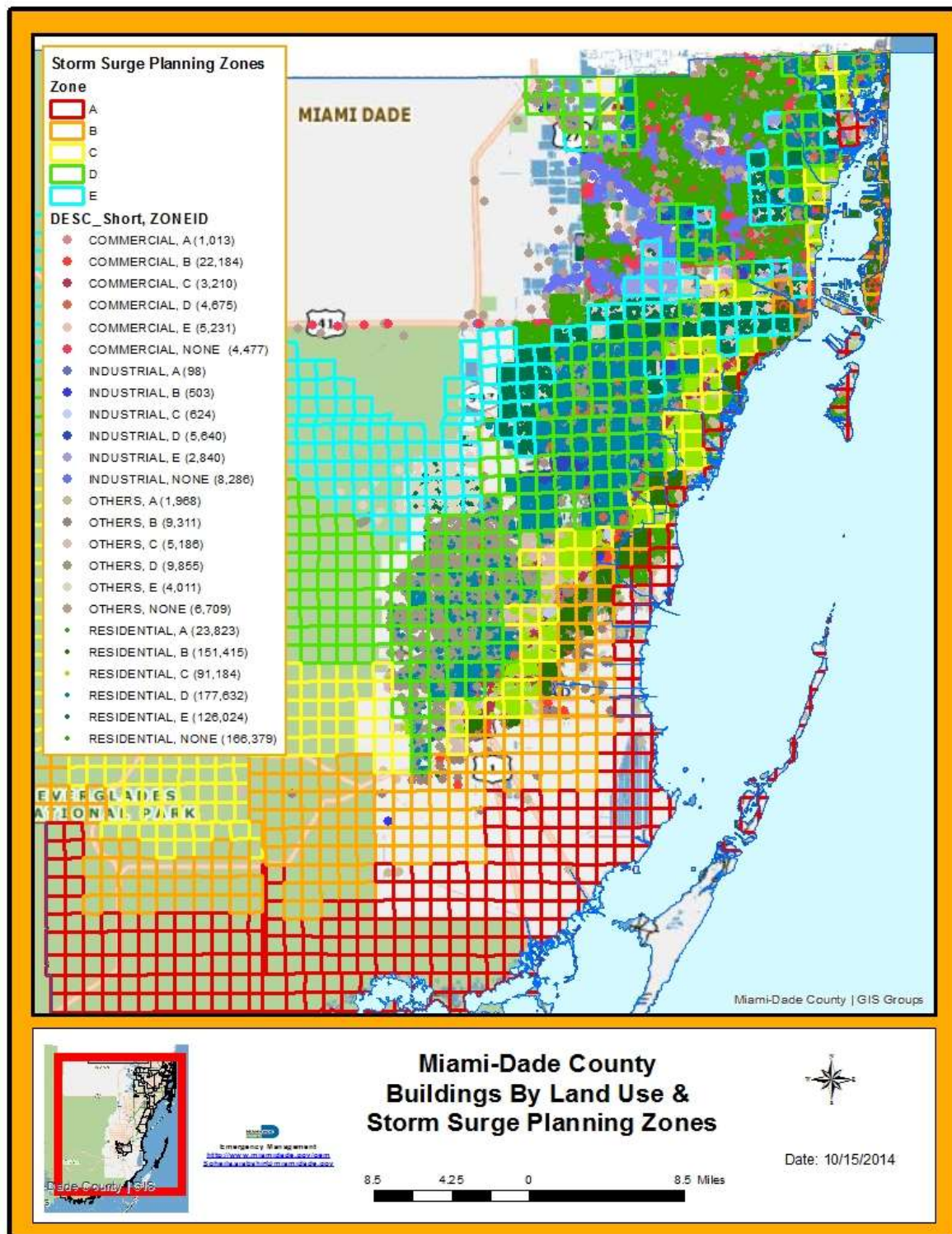


Table 6: Commercial and Industrial Facilities by Municipality in Storm Surge Planning Zones

JURISDICTION	COMMERCIAL		INDUSTRIAL	
	Count	Bldg Value	Count	Bldg Value
AVENTURA	237	412,642,130	25	20,710,431
BAL HARBOUR	682	1,652,267,919		
BAY HARBOR ISLANDS	97	45,250,603		
BISCAYNE PARK				
CORAL GABLES	1,304	1,530,909,828	17	7,604,059
CUTLER BAY	107	110,484,222	2	4,010,204
DORAL	635	895,123,737	2,356	1,599,282,733
EL PORTAL	7	1,447,630	1	1,295,212
FLORIDA CITY	125	110,424,581	40	20,540,233
GOLDEN BEACH				
HIALEAH	1,591	732,427,700	2,627	671,506,281
HIALEAH GARDENS	169	\$ 94,480,379	308	80,697,399
HOMESTEAD	521	244,987,653	180	43,318,083
INDIAN CREEK VILLAGE			673	689,693,968
KEY BISCAYNE	295	188,279,601	1,413	334,011,832
MEDLEY	52	19,590,981	11	1,756,701
MIAMI	16,223	7,741,130,240	374	341,494,663
MIAMI BEACH	7,995	4,532,548,698	409	169,096,549
MIAMI GARDENS	404	487,906,023	1	84,384
MIAMI LAKES	157	249,934,462	8	2,711,847
MIAMI SHORES	76	34,542,122	2	4,402,072
MIAMI SPRINGS	171	139,483,910	2,627	671,506,281
NORTH BAY VILLAGE	137	51,551,085	308	80,697,399
NORTH MIAMI	609	259,531,912	133	46,813,127
NORTH MIAMI BEACH	498	302,658,179	56	15,192,672
OPA-LOCKA	175	\$30,374,557	631	165,797,265
PALMETTO BAY	247	154,986,293	1	1,540,548
PINECREST	143	122,847,307	1	185,510
SOUTH MIAMI	548	199,298,249	33	3,756,442
SUNNY ISLES BEACH	1,322	317,161,218		
SURFSIDE	48	11,408,102		
SWEETWATER	138	396,044,015	351	179,049,169
UNINCORP. MIAMI-DADE	5,957	3,388,837,629	8,306	2,953,844,452
VIRGINIA GARDENS	23	25,527,254	3	5,937,275
WEST MIAMI	97	20,717,177	29	3,467,223
TOTAL	40,790	24,504,805,396	17,991	7,367,800,334

Table 7: Residential and Other Structures by Municipality within Storm Surge Zones

JURISDICTION	RESIDENTIAL		OTHER	
	Count	Bldg Value	Count	Bldg Value
AVENTURA	22,067	\$7,353,362,771	1,903	\$589,998,701
BAL HARBOUR	3,013	\$2,065,111,108	248	\$143,291,649
BAY HARBOR ISLANDS	2,432	\$544,847,704	47	\$40,082,298
BISCAYNE PARK	1,070	\$131,726,494	5	\$816,927
CORAL GABLES	16,935	\$6,065,921,180	456	\$493,996,179
CUTLER BAY	13,596	\$1,500,319,689	892	\$153,280,837
DORAL	17,372	\$2,976,510,794	244	\$510,299,633
EL PORTAL	749	\$80,758,362	4	\$2,429,256
FLORIDA CITY	2,070	\$104,940,748	80	\$53,801,677
GOLDEN BEACH	354	\$229,696,574	6	\$836,173
HIALEAH	49,669	\$4,671,419,681	2,426	\$786,394,680
HIALEAH GARDENS	5,650	\$640,297,886	79	\$207,677,998
HOMESTEAD	17,068	\$1,293,836,792	1,121	\$385,041,980
INDIAN CREEK VILLAGE	32	\$135,218,524	6	\$5,148,996
KEY BISCAYNE	6,533	\$4,884,340,942	228	\$493,353,379
MEDLEY	74	\$3,832,240	49	\$20,362,160
MIAMI	98,703	\$19,249,522,305	7,843	\$3,738,123,952
MIAMI BEACH	46,212	\$17,507,335,275	1,335	\$1,102,579,306
MIAMI GARDENS	28,738	\$2,264,882,565	308	\$322,407,043
MIAMI LAKES	8,839	\$1,439,202,664	175	\$196,979,129
MIAMI SHORES	3,768	\$583,932,844	42	\$93,159,747
MIAMI SPRINGS	3,954	\$545,454,373	53	\$65,356,328
NORTH BAY VILLAGE	3,442	\$589,832,119	291	\$80,300,567
NORTH MIAMI	14,801	\$1,504,945,907	540	\$260,808,569
NORTH MIAMI BEACH	12,046	\$1,185,919,717	915	\$163,507,298
OPA-LOCKA	2,904	\$203,527,749	141	\$103,738,423
PALMETTO BAY	7,917	\$1,598,412,469	247	\$103,338,624
PINECREST	6,074	\$1,949,510,915	41	\$79,305,464
SOUTH MIAMI	3,781	\$646,507,410	84	\$119,948,075
SUNNY ISLES BEACH	15,699	\$8,023,905,384	1,978	\$585,459,453
SURFSIDE	3,122	\$843,630,141	268	\$198,206,935
SWEETWATER	3,481	\$430,623,942	321	\$104,650,928
UNINCORP. MIAMI-DADE	312,085	\$36,683,366,293	14,112	\$6,651,747,383
VIRGINIA GARDENS	621	\$69,027,146	6	\$6,796,096
WEST MIAMI	1,585	\$186,718,443	17	\$8,495,008
TOTAL	736,456	\$128,188,399,150	36,511	\$17,871,720,851

Sea Level Rise

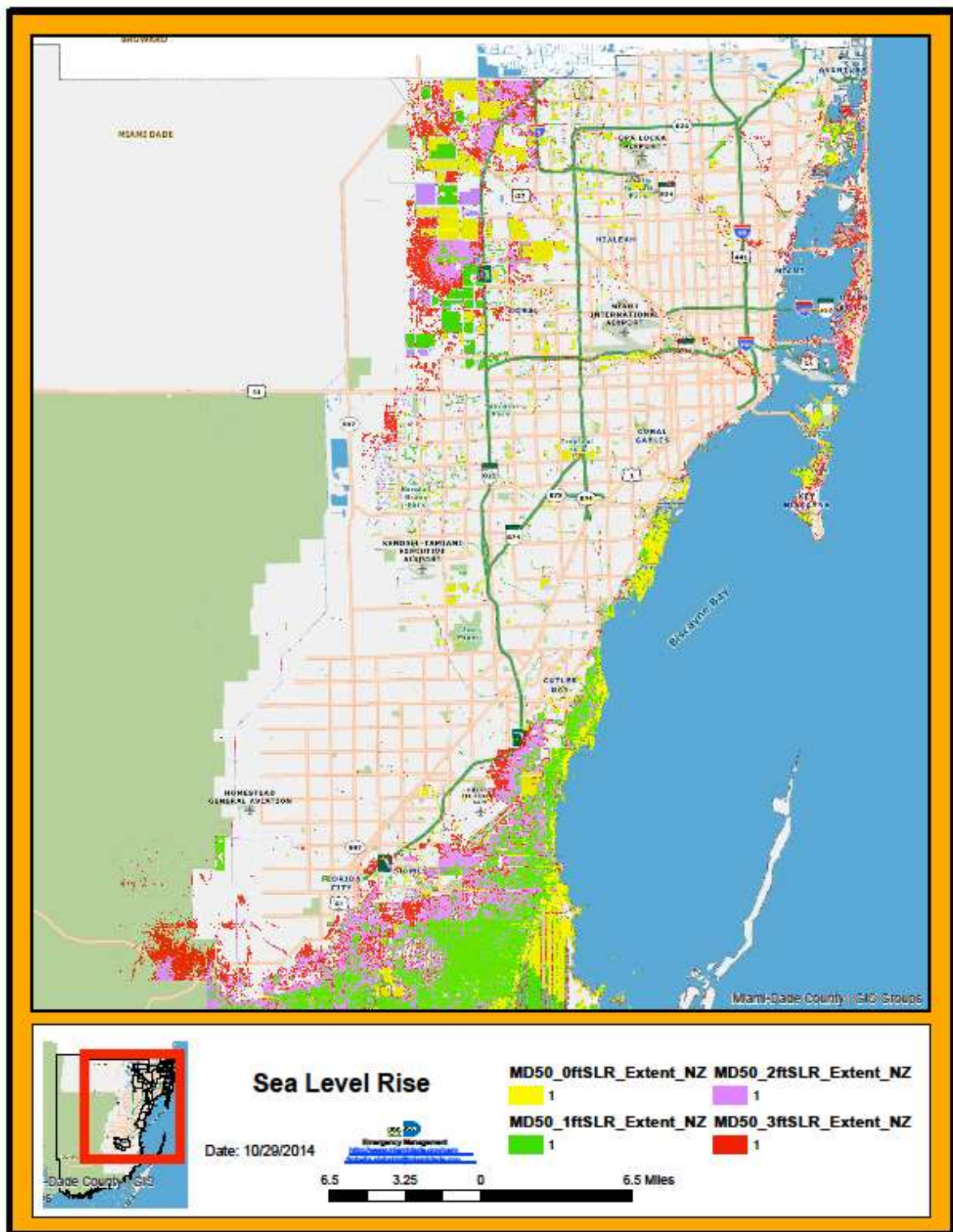
Incorporation of the future threat of sea level rise presents challenges in that the consideration and determination of what the potential impacts will be vary depending upon the modeling variables that are considered.

OEM continues to work with RER, PWWM and WASD in relation to the interactive model designed by WASD and USGS. OEM and WASD interns drafted an educational component to better explain the hydrogeology of our county and this eventually will be used to help reach out to community members to help them understand the complexities of modeling and how we may see differences in how different communities are impacted. The Office of Sustainability will continue to lead the charge in working with agencies to implement the Climate Action Plan. A review of the Climate Action Plan can be found in Part 4 Appendix I, Integration Document. The LMS will continue to identify areas where climate change and sea level rise can be integrated into mitigation planning. The Vulnerability Assessment performed for Miami-Dade County has been added to the THIRA, see Part 4 Appendix J.

During the Evaluation and Appraisal Report adopted in 2011, climate change was identified as one of the priorities to address in the County's Comprehensive Development Master Plan (CDMP). Miami-Dade has incorporated climate change considerations and language in several of the Elements of the CDMP update which was approved by the Board of County Commissioners in October, 2013. These policies now form a sound foundation for Miami-Dade County to begin actively incorporating these considerations into existing capital investment and infrastructure planning processes.

Map 8 provides a demonstration of the possible impacts of sea level rise in Miami-Dade County and was developed from data collected for the Climate Change Compact. Additional information is provided in *Part 4, Appendix I*.

Map 8: Potential Sea Level Rise Impacts Miami-Dade



Mapping Integration

To provide greater access to county data layers to the LMSWG, OEM has integrated a number of data layers to our geographic information mapping based system known as the Florida Interoperable Picture Processing for Emergency Responders (FLIPPER). The LMS Chair worked with the Information Technology Department representative assigned to OEM to identify data layers and information to assist with drawing linkages and integrating mapping into the LMS Projects.

The following actions have occurred since 2013:

- Upgraded the way LMS Projects are tracked to build in additional information including flood basins and address locations
- Additional layers added to FLIPPER for stakeholders to access including:
 - Hydrology and Topology
 - Canal Structures
 - Canal By Type
 - Canal Maintained By
 - Primary Canal Basin
 - Contour Lines – Ground Elevation
 - FEMA Panels
 - FEMA Flood Zone - to the parcel level
 - SLOSH data, by directional Maximum Envelopes of Water (MEOW) and Maximum of Maximums (MOM)

Through FLIPPER agencies can assess the risk of their facilities from potential storm surge, determine overall elevation of the land surrounding their facilities and determine proximity to canal structures and which drainage basin they are in. Presentations have been provided to community agencies and through the LMSWG meetings and the LMS Information Bulletin on how to utilize the system.

Moving forward the LMS will work to map LMS projects to potentially identify areas where multiple projects may be occurring or areas where mitigation projects may need to be considered.

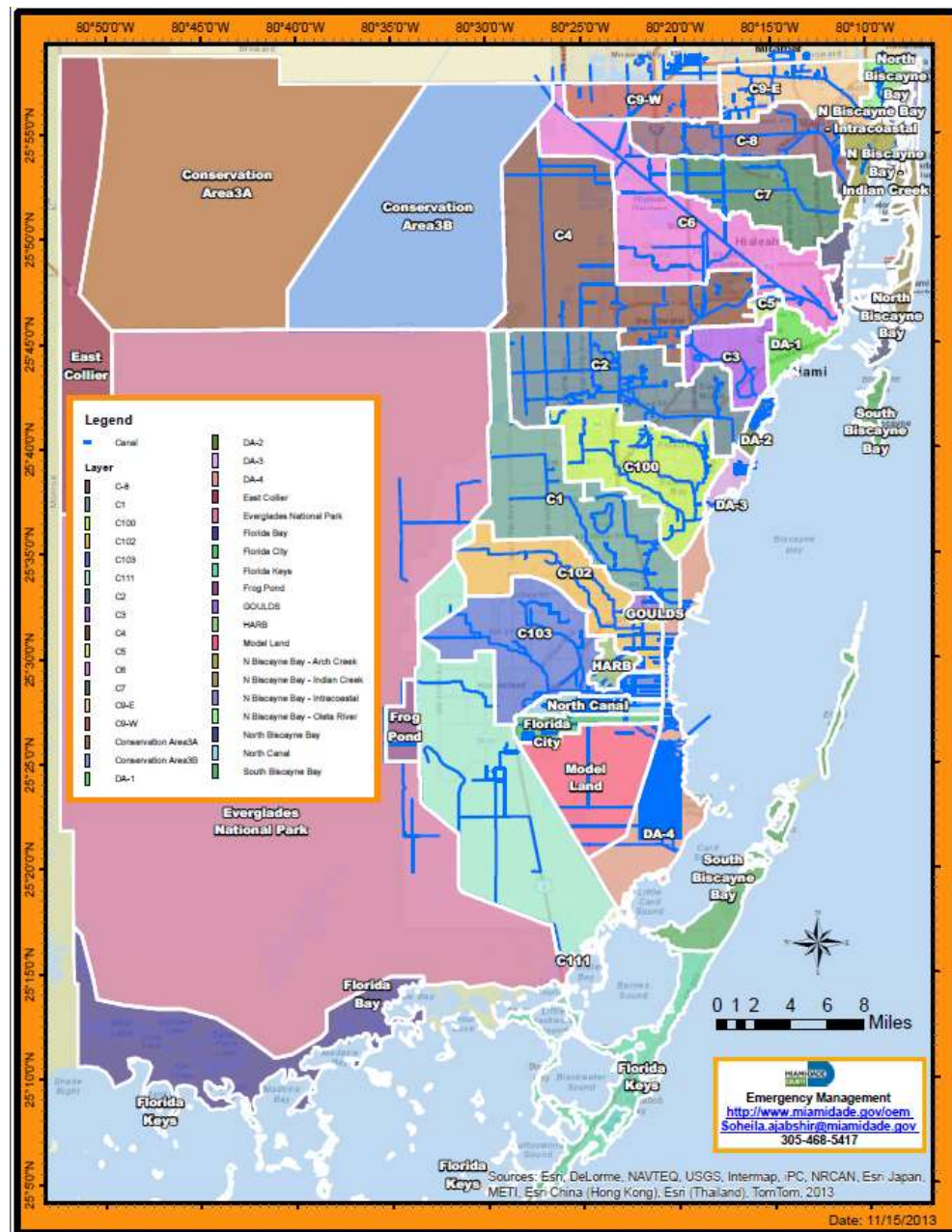
Primary Drainage Basins

Maps 9 and 10 provides illustration of the location of the canal systems in Miami-Dade to the drainage basins. The LMS will continue to work with the SFWMD,

PWWM and other responsible parties for canal mitigation measures. Our communities are very reliant upon the ability of the canals to provide drainage.

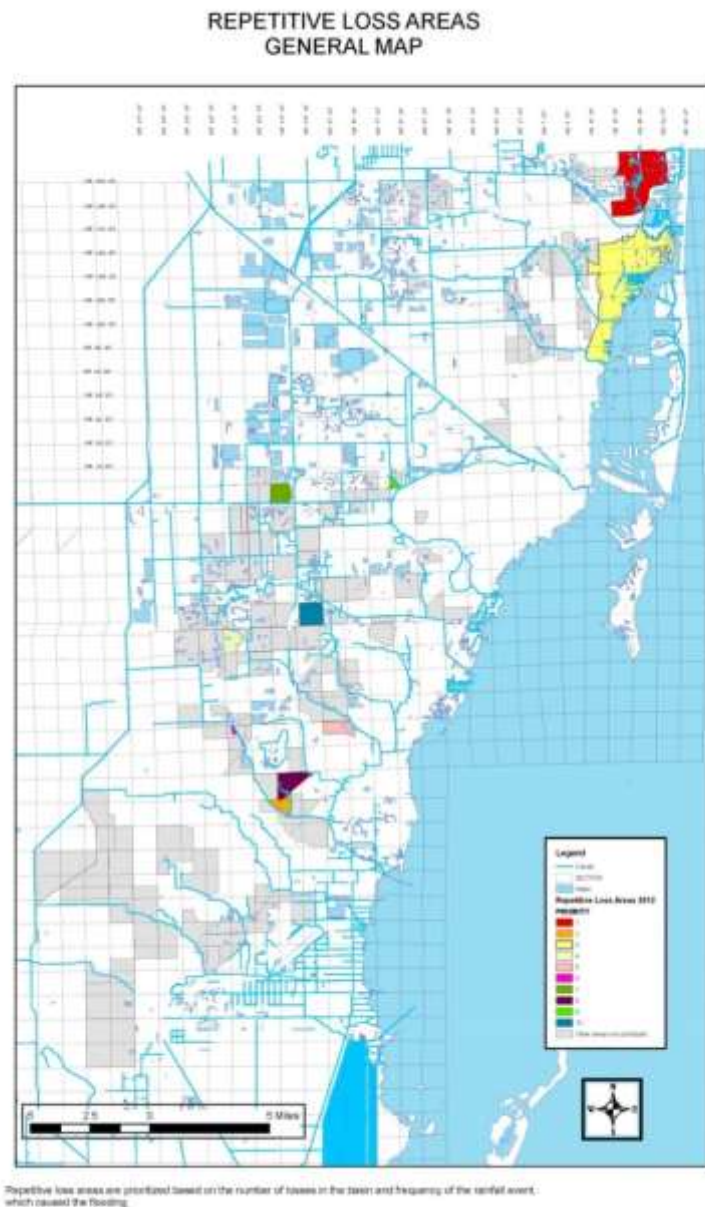
Map 9 shows how canal basis cross jurisdictional lines and how it is paramount for us to help track where drainage projects are planned so we can best collaborate with one another to continue to mitigate flood hazards.

Map 9: Drainage Basins with Canals Identified



Repetitive Loss Properties

Repetitive loss data has been gathered from FEMA and the National Flood Insurance Program to help guide local mitigation measures. Most of the repetitive losses sites are identified, funded and mitigated through several Miami-Dade County programs, such as the Stormwater Management Master Plan, Flood Inspections, Quality Neighborhoods Improvement Program, Public Works Capital Budget, General Obligation Bond, Stormwater Utility and Secondary Canal Dredging Programs. The objective of this program is the mitigation of localized flooding problems not identified or addressed any other programs, including flooding of residential units above their finished floor elevations, through the construction of minor drainage improvements at various locations throughout Miami-Dade County. These sites (residential/commercial or industrial facilities) are reported by the Federal Emergency Management Agency (FEMA) on a yearly basis as having experienced flooding above their finished floor elevations, two (2) times or more with a damage claim of \$1,000.00 or more each time. Map 11 shows the repetitive loss areas within the county.



Map 11: Repetitive Loss Areas, General Map

Map 12 shows all repetitive loss properties throughout the county as reported through the NFIP. This maps does not show us uninsured or privately insured losses.

Map 12: Repetitive Loss Properties

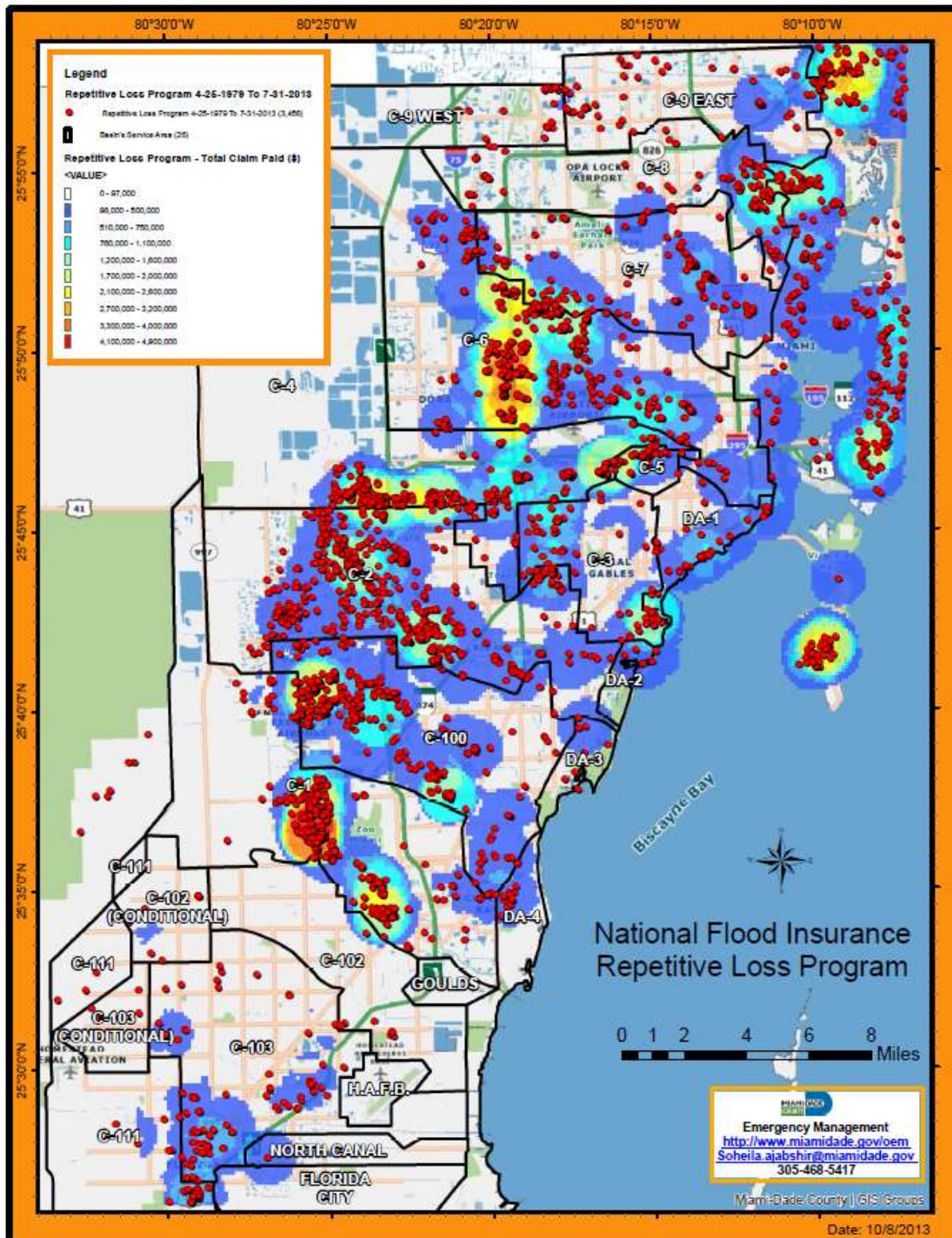


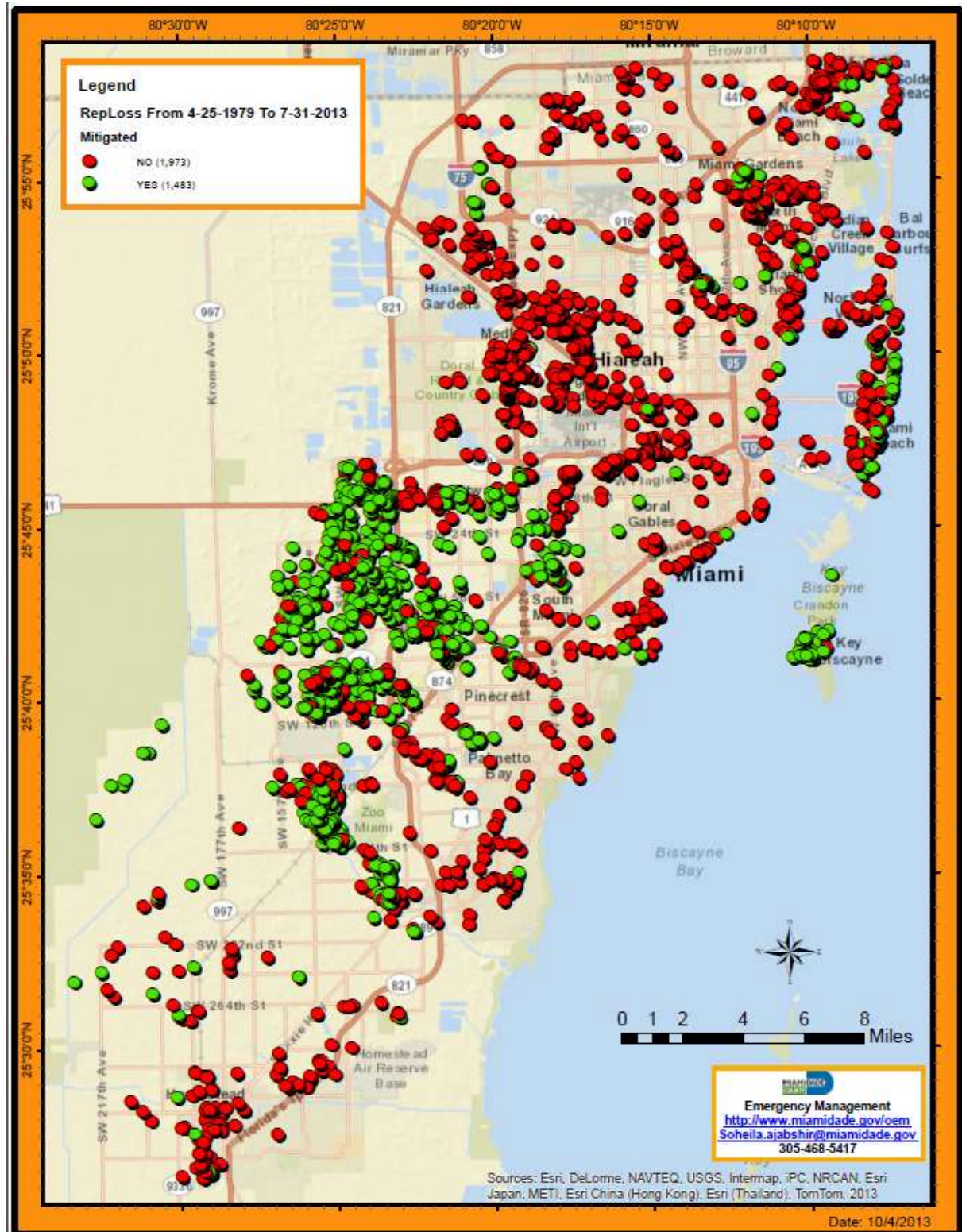
Table 8 shows the number and type of structures that have been reported and having repetitive losses.

Table 8: Repetitive Losses by Jurisdiction

Jurisdiction	2-4 Family	Assmd- Condo	Non Resident	Other Res.	Single Fam.	Total
Aventura	1	0	1	2	2	6
Bal Harbour		1				1
Bay Harbor Islands	0	0	0	0	1	1
Biscayne Park	0	0	0	0	3	3
Coral Gables	0	1	2	0	17	20
Cutler Bay	0		0		25	25
Doral	0	5	24	17	9	55
El Portal	0	0	1	0	4	5
Florida City	0	0	0	0	43	43
Golden Beach	0	0	0	0	0	0
Hialeah	14	4	19	4	163	204
Hialeah Gardens	1	0	15	0	23	39
Homestead	0	1	7	5	23	36
Indian Creek Village		0	0	0	0	0
Key Biscayne	0	1	3	4	23	31
Medley	0	2	11	0		13
Miami	26	8	17	21	139	211
Miami Beach	1	1	15	30	46	93
Miami Gardens	0	0	2	0	30	32
Miami Lakes	0	0	0	0		0
Miami Shores	0	0	0	0	8	8
Miami Springs	3	2	3	0	60	68
North Bay Village	0	0	0	0	7	7
North Miami	2	1	3	1	34	41
North Miami Beach	1	0	1	0	9	11
Opa-locka	0	3	2	2	10	17
Palmetto Bay		0	1	0	9	10
Pinecrest	0	0	2	0	9	11
South Miami	0	0	1	0	6	7
Sunny Isles Beach	0	0	1	1	1	3
Surfside	0	0	1	0	2	3
Sweetwater	17	0	0	0	66	83
Virginia Gardens	0	0	0	1	7	8
West Miami	0	0	0	0	18	18
Unincorporated Area	47	21	108	53	830	1059
					Total	2172

Map 13 shows properties where mitigation work has been reported as completed and has shown a reduction in flooding for rain events subsequent to the mitigation measure.

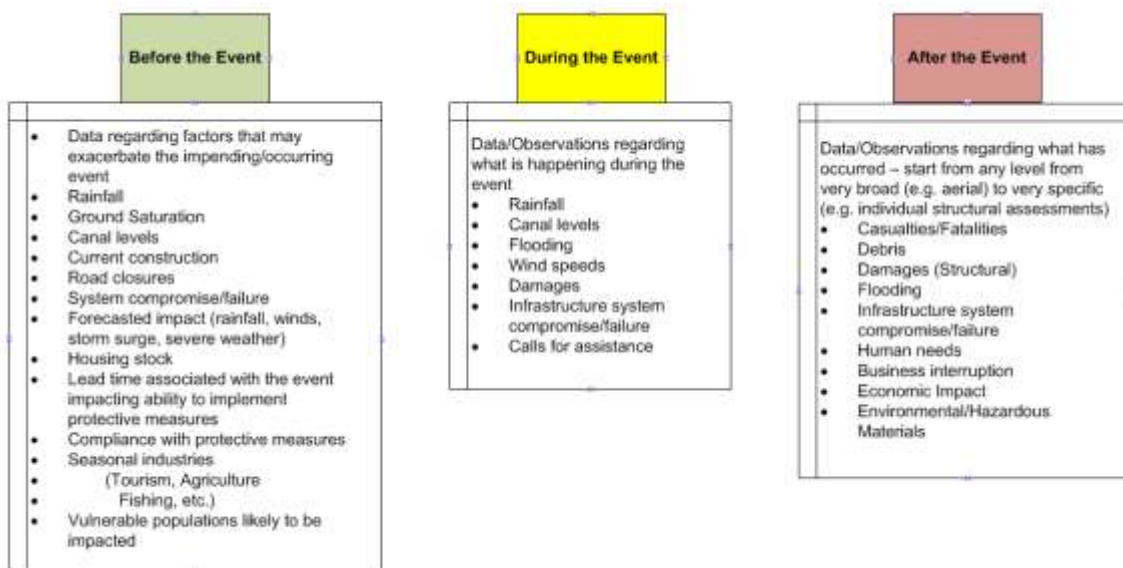
Map 13: Mitigated Repetitive Loss Properties



Impact Assessment

As part of the Hazard Impact and Assessment Plan (HIAP), OEM is currently working on how to better assess the potential and actual impacts of event. This involves gathering data before, during and after an event. Figure 1 is extracted from the HIAP to provide an overview of how this will be accomplished. The HIAP can be found in Volume III of the Comprehensive Emergency Management Plan (CEMP).

Figure 1: Impact Assessments: Before, During and After an Event

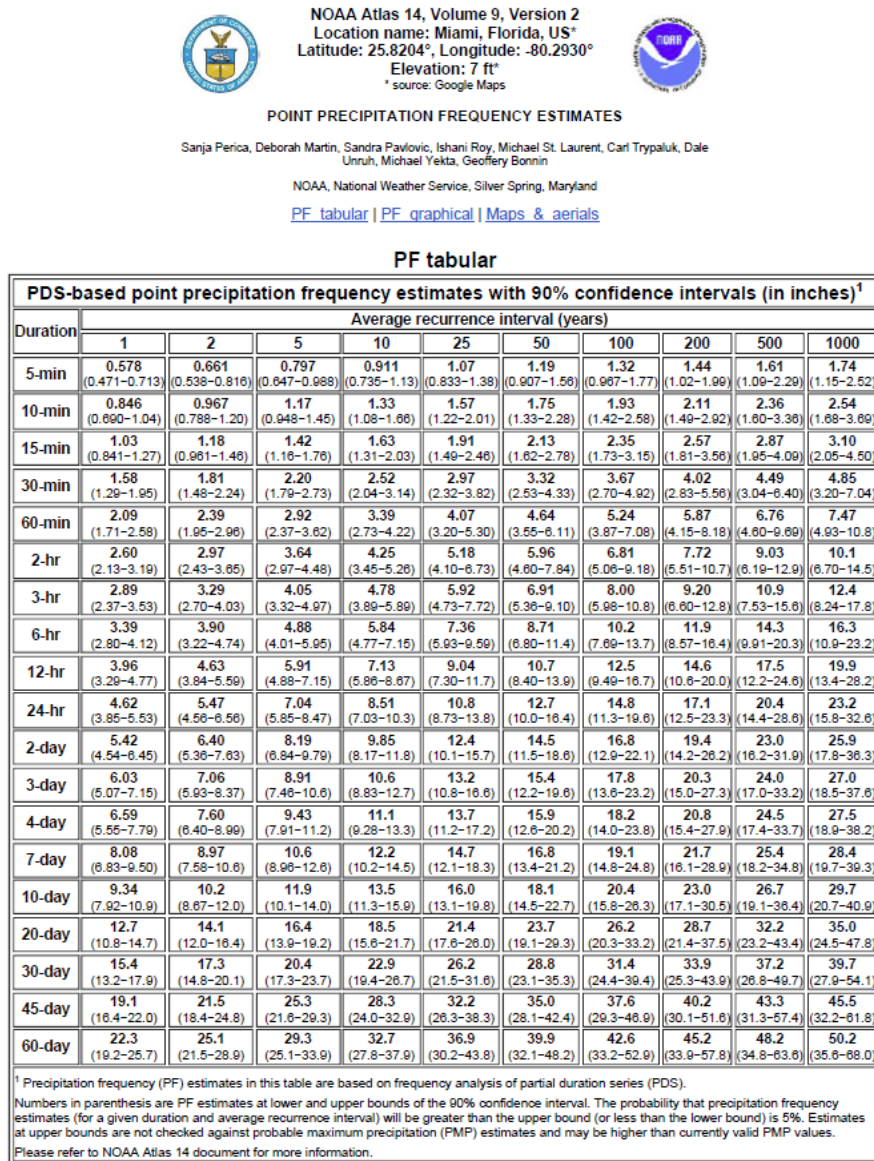


Determination of a Significant Rain Event

To help local communities determine if a rain event is considered significant the following site and chart from the National Oceanic and Atmospheric Administration (NOAA) Hydrometeorological Design Studies Center maintains the Precipitation Frequency Data Server (PFDS) which is a point-and-click interface developed to deliver NOAA Atlas 14 precipitation frequency estimates and associated information. To determine the amounts and rates of rain that could create a various internal rain event (e.g 100 yr or 500 yr) this website provides local information. http://hdsc.nws.noaa.gov/hdsc/pfds/pfds_map_cont.html?bkmrk=fl

Using a location in Miami-Dade County with a 7 foot elevation, the following chart depicts the rainfall amounts per an interval of time that could determine if a significant rain event has occurred.

Figure 2: Significant Rain Event Chart

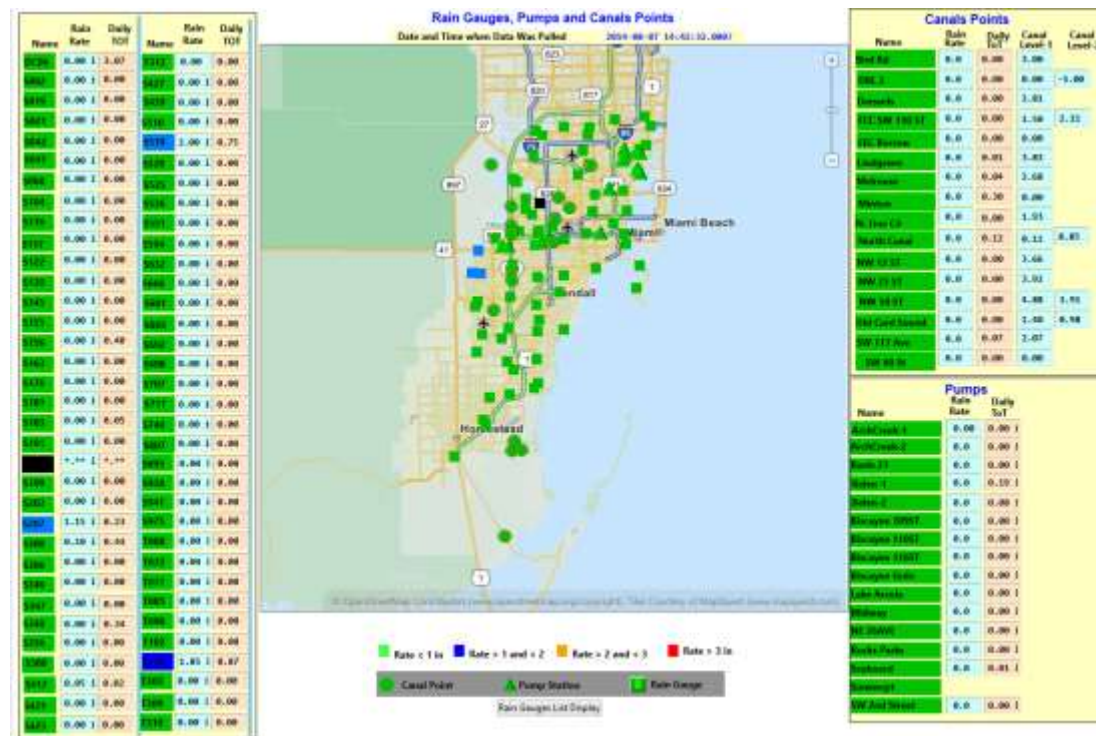


Miami-Dade Communities will be able to utilize this source to help identify significant rain events in their areas based on rain fall amounts.

Tracking Local Rainfall Amounts

The Miami-Dade PWWM maintains a number of rain gauges that collect breakpoint and rain total information over a 24-hour period of time. A review of this data may help identify when significant rain events have occurred and also allow us to better document and track rain events.

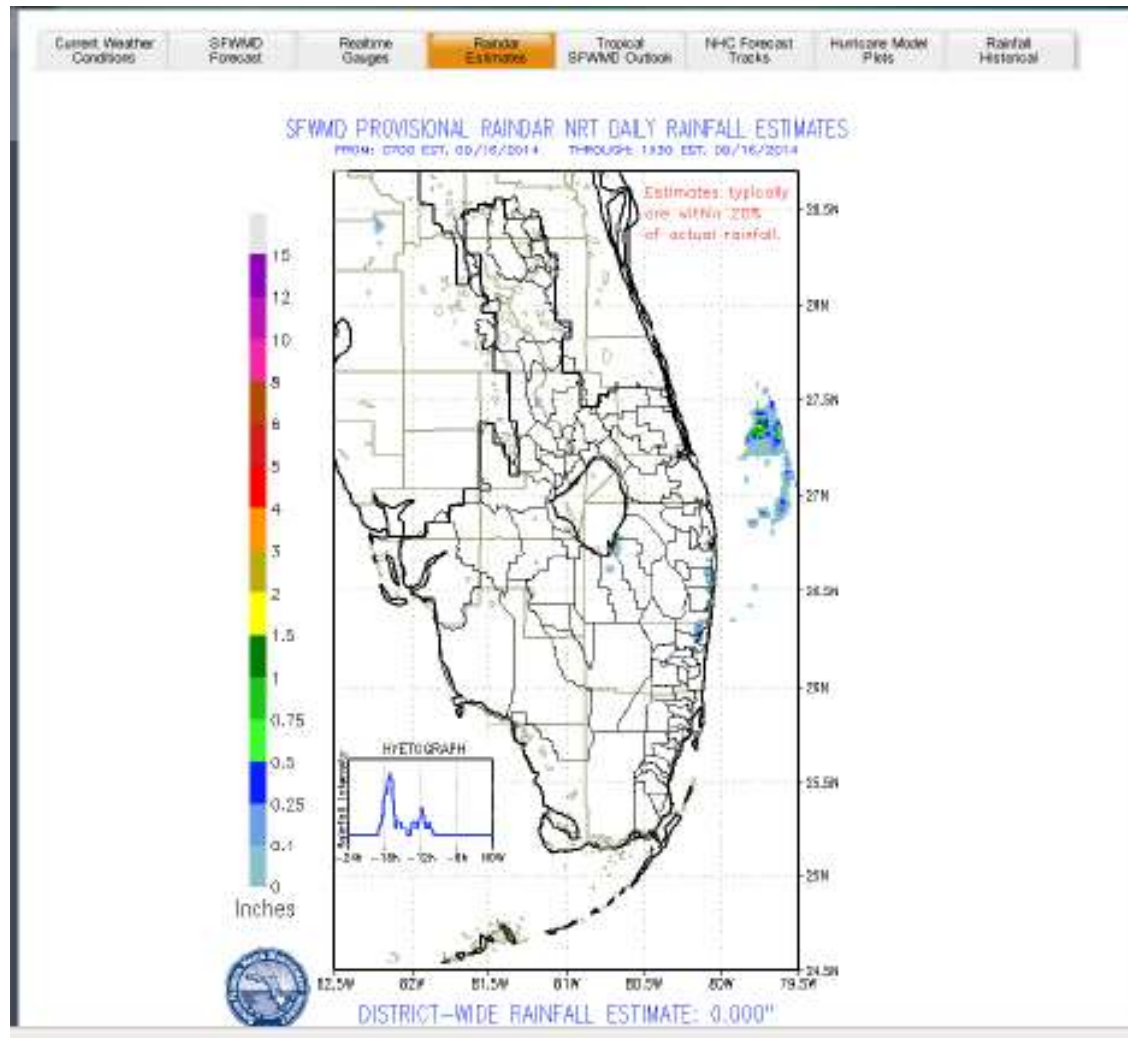
Figure 3: PWWM Rain Gauge and Canal Monitoring



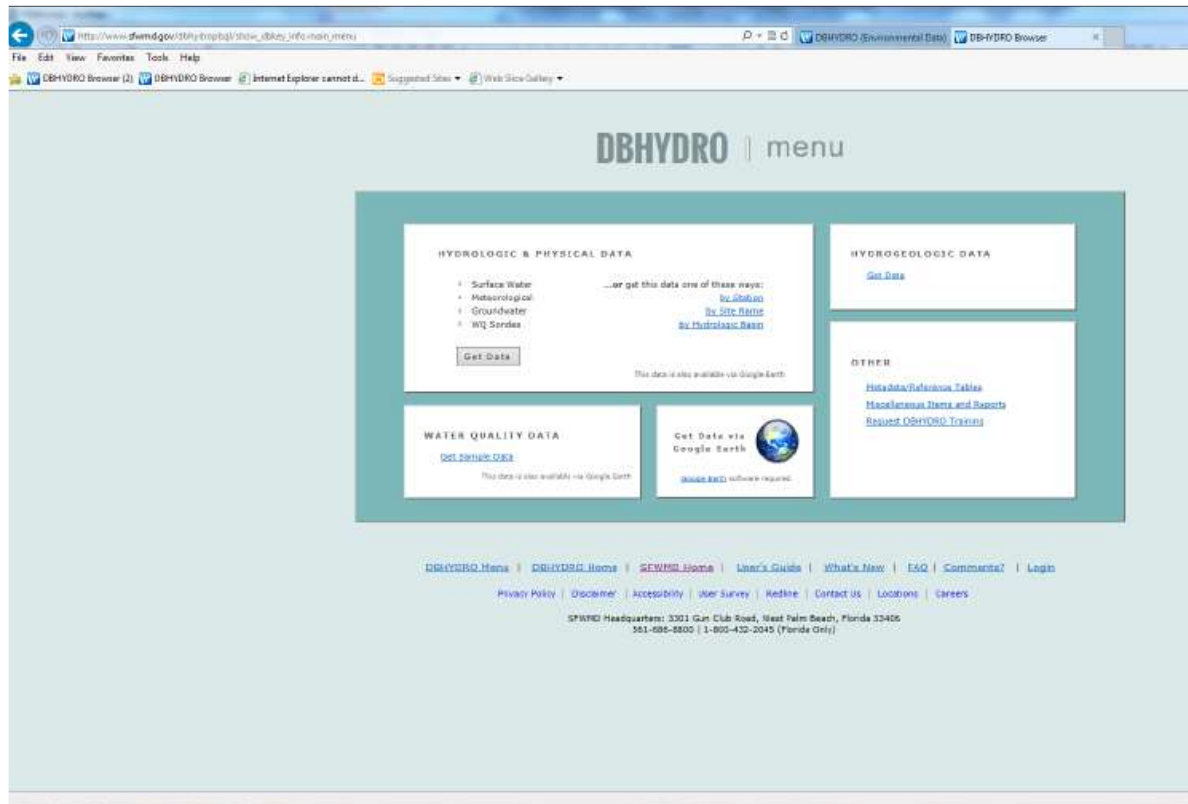
In addition to the PWWM rain gauges and NOAA information, rainfall and canal stage data are tracked through the South Florida Water Management real-time gauge website, where provisional data is posted:

<http://www.sfwmd.gov/portal/page/portal/levelthree/live%20data>)

Figure 4: SFWMD DBHYDRO Map



Evaluations of past events are also analyzed using data from the SFWMD Database (DBHYDRO), where breakpoint data for rainfall, stages and flows are available:



Impact Assessment System

In 2014, OEM began implementing a new system for tracking impacts of events. The system is known as ARM360 and is designed for field assessments to be gathered on a local device (tablet or laptop) and synchronized on a county server to help provide information of where damages have occurred. This system is being made available to stakeholders and can be used to track any type of event, including localized flooding events. OEM is providing training to assist personnel with using the system. It is hoped that this system will help us better track localized impacts and damages that may not be captured in the NFIP RL data.

Mitigating the Risk

OEM sponsored a locally delivered session of L-278 FEMA NFIP Class December 3-6, 2013. This class was sponsored and offered locally to provide advisor training to assist local communities with familiarization with the updated CRS Coordinator Manual that had a number of changes.⁴ This opportunity also allowed the LMS Coordinator to learn more about the requirements of the CRS program and identify opportunities where the LMS could incorporate information to help support the CRS program.

The following representatives from Miami-Dade, the Florida Division of Emergency Management and ISO attended:

Jurisdiction/Agency	Representative
Bal Harbour	Suramy Cabrera
Coral Gables	Dario Gonzalez John Kevin Ray
Cutler Bay	Alfredo Quintero, Jr. Yenier Vega
Doral	Antonio Brina Edward Rojas
Key Biscayne	Eugenio Santiago
Miami	Guari Mascaro
Miami Beach	Linda Blanco Mohsen Jarahpour
Miami Gardens	Mike Gambino
Miami Lakes	Eliezer Palacio Lourdes Rodriguez
Miami Shores	David Dacquist Ismael Naranjo
North Miami	Jeff Geimer Thomas Positano
Opa-locka	Arshad Viqar
Palmetto Bay	Sandra Cuervo
Miami-Dade Public Works and Waste Management	Bassam Moubayed Marcia Steelman
Miami-Dade Emergency Management/LMS	Cathie Perkins
FL Division of Emergency Management/State CRS Coordinator	Danny Hinson
ISO	Heidi Liles

⁴CRS – 362.d (2)

The LMS Coordinator and CRS Sub-Committee will continue to identify training opportunities to help continue to provide information and more effectively administer the CRS program locally.

Higher Regulatory Standards

Since the establishment of the former Miami-Dade County Department of Environmental Resource Management (DERM) in 1974 (now the Division of Environmental Resources Management in the Department of Regulatory and Economic Resources), Miami-Dade County has developed several comprehensive and innovative programs such as the Northwest Wellfield Protection Plan to protect the Biscayne Aquifer, the County's primary source of drinking water. Moreover, since the adoption of the CDMP in 1975, Miami-Dade County has been sensitive to the multiple challenges of water resource management. The present County programs also implement stormwater management plans to eliminate pollution to water bodies: freshwater, estuarine, and coastal, and natural areas management, to eliminate the invasion of exotic pest plants that threaten native ecosystems. Through local and regional partnerships, the County will continue to work towards sustainable development patterns, while protecting unique natural resources critical to the County's and the South Florida economy.

The environmental sensitivity of Miami-Dade County is underscored by the fact that the urban portion lies between two national parks, Everglades and Biscayne National Parks, and the Florida Keys National Marine Sanctuary. The close proximity of an expanding urbanized area to national and State resource-based parks, and over 6,000 acres of natural areas within County parks, presents a unique challenge to Miami-Dade County to provide sound management. The County has addressed this challenge in several ways including working closely with other public and private sector agencies and groups to obtain a goal of sustainability. The close relationship of tourism to the preservation of Miami-Dade County's unique native plants, wildlife, beaches, and near shore water quality is recognized as both an economic and an environmental issue. The Conservation Element builds upon past and present initiatives such as the East Everglades Resource Management Plan, and planning for the Bird Drive-Everglades, Arch Creek, and C-111 Basins, the Governor's Commission on a Sustainable Everglades Restoration Plan, the GreenPrint, the County's plan for sustainability, and over four decades of local planning, monitoring, and evaluating proposed activities in wetlands and uplands.

Chapter 11C of the Code of Miami-Dade County

This is the County-wide flood protection ordinance, establishing rules for development within or outside the Special Flood Hazard Areas, including minimum fill criteria (CFC) for lots and roadways, minimum elevation criteria for the lowest floor, which is the elevation of the back of sidewalk (BOS), or highest adjacent crown of road (COR) + 8 inches for residential or 4 inches for commercial construction

Chapter 24 of the Code of Miami-Dade County

This is the County-Wide Miami-Dade County Environmental Protection Ordinance, focused on the protection of water resources, particularly the Biscayne Bay and wellfield protection. Requires compliance with water quality standards for surface waters, water and wastewater treatment plants; requires drainage for all new construction; preserves native trees; protects against dumping to ground or surface waters; prohibits cutting or altering mangroves without a permit; regulates development in wellfield protection areas. Regarding flood protection, this ordinance include provisions for preservation of the storage capacity, making reference to Chapter 40E-40 of FAC and Cut and Fill Criteria, for special basins.

2010 Florida Building Code

Effective March 15, 2012 the Florida Building Code incorporates flood resistant provisions that apply to buildings and structures in flood hazard areas, establishes a one-foot freeboard requirement for non-residential structures, and extra freeboard for structures in V zones, depending on the type of construction.

Building Code Efficiency Grading System (BCEGS)

Communities that apply for BCEGS get credit in their Building or other departments for how they regulate new construction activities. Activities such as requiring multiple inspections during construction; increasing levels of education and experience of the Inspectors; mentoring junior building staff; using the International Building Codes for compliance with standards; and other activities gain credit in CRS.

Chapter 40-E.40 F.A.C.

Effective March 15, 2012 the Florida Building Code incorporates flood resistant provisions that apply to buildings and structures in flood hazard areas.

Miami-Dade County Flood Criteria

Implemented in 1970, this is a general Countywide requirement for minimum elevation of roadways and lots. This criteria is equivalent to the 10-year groundwater table plus a 3.5-foot freeboard. It was initially implemented to guarantee minimum

ground elevations to prevent frequent flooding, and to allow the installation of septic tanks drains at adequate elevations.

Environmental Resource Permit (ERP)

Permit required for any development that includes two or more acres of impervious areas, up to 100 acres. This permit requires establishing minimum elevations for structures, roads, and requires drainage systems that capture runoff within the property. This permit improves stormwater quality and reduces flooding through its standards.

Environmental Resource Management Plans:

Biscayne Bay Management Plan

Approved in 1981 addressed canal discharge and storm water runoff, water clarity, recreational and developmental user impacts and habitat management.

Cut and Fill Criteria

Cut and Fill Criteria was created to ensure that development occurring in the western reaches of Miami-Dade County did not worsen flooding conditions for those areas or areas to the east. This is done by establishing criteria that requires setting aside lands for stormwater management whenever projects are proposed in those areas.

- East Everglades Resource Management Plan
- Bird Drive-Everglades
- Arch Creek
- C-111 Basin
- Environmentally Endangered Lands Program (EEL)

The State of Florida and Miami-Dade County are implementing higher regulatory standards to address the future threat of sea level rise through the designation of Adaptation Action Areas.

Chapter 163.3177, Florida Statutes

163.3177(6)(g). ...The coastal management element shall set forth the principles, guidelines, standards, and strategies that shall guide the local government's decisions and program implementation with respect to the following objectives:

- (10) At the option of the local government, develop an adaptation action area designation for those low-lying coastal zones that are experiencing coastal flooding due to extreme high tides and storm surge and are vulnerable to the impacts of rising sea level. Local governments that adopt

an adaptation action area may consider policies within the coastal management element to improve resilience to coastal flooding resulting from high-tide events, storm surge, flash floods, stormwater runoff, and related impacts of sea-level rise. Criteria for the adaptation action area may include, but need not be limited to, areas for which the land elevations are below, at, or near mean higher high water, which have a hydrologic connection to coastal waters, or which are designated as evacuation zones for storm surge.

Miami-Dade County CDMP**Conservation, Aquifer and Recharge Element**

It is the intent of this Element to identify, conserve, appropriately use, protect and restore as necessary the biological, geological and hydrological resources of Miami-Dade County. Since the adoption of the Comprehensive Development Master Plan (CDMP) in 1975, Miami-Dade County has been committed to protection of environmentally sensitive wetlands and aquifer recharge and water storage areas. Protecting and restoring environmentally sensitive uplands has been recognized as important to the County's present and future, thus, Miami-Dade County has sought to channel growth toward those areas that are most intrinsically suited for development. This Element and the proposed natural resources objectives, policies and maps in the Land Use Element and Coastal Management Element continue that established trend. In addition, many experts suggest that South Florida will be significantly affected by rising sea levels, intensifying droughts, floods, and hurricanes as a result of climate change. As a partner in the four county Southeast Florida Regional Climate Change Compact, Miami-Dade has committed to study the potential negative impacts to the County given climate change projections, and is working to analyze strategies to adapt to these impacts and protect the built environment and natural resources.

Policy CON-2A: The basin stormwater master plans produced by Miami-Dade County pursuant to Objective CON-5 will continue to prioritize the listing of stormwater/drainage improvements to correct existing system deficiencies and problems and to provide for future development. At a minimum, these lists shall include:

- Drainage/stormwater sewer systems within wellfield protection areas;
- Drainage/stormwater sewer systems in industrial and heavy business areas and areas with large concentrations of small hazardous waste generators;

- Basins and sub-basins that fail to meet the target criteria for the twelve NPDES priority pollutants listed in Policy CON-5A and additional parameters, referenced in CON-5A.

Policy CON-2B. Miami-Dade County's Stormwater Utility Program shall fund the identification and retrofitting of deteriorated storm sewer systems and positive outfalls and the proper maintenance of stormwater systems.

Policy CON-2F. Miami-Dade County shall continue to utilize Best Management Practices established for potential sources of water pollution, that discharge wastewater to the ground, to reduce environmental risk and, where possible, to begin effective water reuse and recycling. Established management practices may be reviewed and modified as new science becomes available. New management practices shall be developed for new potential sources of water pollution as they are identified.

Policy CON-2G. Best Management Practices for potential sources of water pollution shall include reduction in the use of hazardous materials and, wherever possible, the reuse and recycling of materials on site. Best Management Practices shall also be established to address those wastes that must be removed from site, including reusing and recycling of the waste in other operations. All practical recycling and reuse alternatives shall be investigated before seeking permanent disposal of hazardous wastes.

Policy CON-2J. Miami-Dade County shall continue to enforce a 500-foot protection zone for non-community, non-transient water supplies that serve uses such as public or private schools and trailer parks.

Policy CON-2K. Miami-Dade County shall use the data generated in its ambient ground and surface water monitoring programs to determine levels of concentrations for the twelve National Pollution Discharge Elimination Systems (NPDES) priority pollutants, as well as for the additional recommended NPDES parameters referenced in Policy CON-5A and any other pollutants of interest.

Policy CON-3A. No new facilities that use, handle, generate, transport or dispose of hazardous wastes shall be permitted within wellfield protection areas, and all existing facilities that use, handle, generate, transport or dispose of more than the maximum allowable quantity of hazardous wastes (as specified in Chapter 24-43 of the Code of Miami-Dade County, as may be amended from time to time) within wellfield protection areas shall be required to take substantial measures such as secondary containment and improved operating procedures to ensure environmentally safe operations.

Policy CON-3B. The water management systems that recharge regional wellfields shall be protected and enhanced.

Policy CON-3F. The ambient groundwater monitoring program, which includes all wellfield protection areas, shall be continued to serve as an "early warning system" for monitoring high- risk land uses and point sources.

Policy CON-4B. All future development and redevelopment shall use retention, infiltration and detention systems to retain to the maximum extent feasible, the full runoff from a one in five year storm and minimize the use of impermeable surfaces. In the event that an emergency overflow is provided, a minimum of the first inch of runoff shall be retained on-site.

Policy CON-4C. The approved fill encroachment criteria for the Western C-9 Basin as established by the South Florida Water Management District and for all other basins as established by the Miami-Dade County Division of Environmental Resource Management (Basin B, North Trail and Bird Drive) shall continue to govern the extent to which land can be filled, and additional fill encroachment criteria shall be developed for all the undeveloped, poorly drained areas in western and southern Miami-Dade County which are determined to have urban development potential. These criteria shall retain the predevelopment net recharge and runoff values for basin areas.

Policy CON-4D. Water conserving irrigation and other landscape practices such as Florida Friendly landscaping shall be used wherever feasible. Through its site and landscape reviews, Miami-Dade County shall ensure that appropriate native and Florida Friendly landscaping plant materials are used, particularly in the salt-intruded areas of the County where public water is used to water lawns, golf courses and landscaped green spaces.

Policy CON-4E. Miami-Dade County shall continue to investigate the feasibility of large-scale water reuse through water reuse demonstration projects and other appropriate means. Investigate the suitability of reused water in wetland hydration.

CON-4F. The Miami-Dade County Division of Environmental Resources Management (DERM) shall work with the County's Cooperative Extension Department to develop guidelines for improving the efficiency and/or uniformity of irrigation systems for appropriate crops grown in Miami-Dade County.

Policy CON-4G. In accordance with the goals of the South Florida Water Management District's Lower East Coast Regional Water Supply Plan and Objective WS-7, and its related policies, Miami-Dade County shall develop alternative water supply sources to supplement withdrawals from the Biscayne Aquifer. Such sources

may include withdrawals from the Floridan Aquifer, implementation of water conservation methods and projects, and development of reclaimed and wastewater reuse strategies and projects.

Policy CON-5A. The Stormwater Management (Drainage) Level of Service (LOS) Standards for Miami-Dade County contain both a Flood Protection (FPLOS) and Water Quality (WQLOS) component. The minimum acceptable Flood Protection Level of Service (FPLOS) standards for Miami-Dade County shall be protection from the degree of flooding that would result for a duration of one day from a ten-year storm, with exceptions in previously developed canal basins as provided below, where additional development to this base standard would pose a risk to existing development. All structures shall be constructed at, or above, the minimum floor elevation specified in the federal Flood Insurance Rate Maps for Miami-Dade County, or as specified in Chapter 11-C of the Miami-Dade County Code, whichever is higher.

1. Basin-specific FPLOS standards shall be established through the adoption of a Stormwater Master Plan to be approved by the Miami-Dade County Board of County Commissioners and the South Florida Water Management District. Until the approval of basin-specific FPLOS standards through this coordinated process, the following additional exceptions shall apply:

a) Wherever Miami-Dade County has adopted cut and fill criteria pursuant to Chapter 24-48.3(6) of the County Code (November 30, 2004) including fill encroachment limitations necessary to prevent unsafe flood stages in special drainage basins, the minimum applicable FPLOS standard shall be the degree of protection provided by the applicable cut and fill criteria;

b) Where cut and fill criteria have not been established north of S.W. 152 Street inside the Urban Development Boundary (UDB), the minimum acceptable FPLOS standard shall be protection from the degree of flooding that would result for a duration of one day from a ten-year storm;

c) West of Levee-31 N, there shall be no off-site drainage, all septic tank drainfields shall be elevated above the hundred-year flood elevation, and the extent of land filling shall be minimized as provided in applicable provisions of the Miami-Dade County East Everglades Zoning Overlay Ordinance. The County shall review these criteria when the water management facilities programmed in the N.E. Shark River Slough General Design Memorandum and the C-111 General Reconnaissance Review are fully operational.

2. The Stormwater Management Water Quality Level of Service (WQLOS) component of the standard shall be met when the annual geometric mean for each of the following twelve priority NPDES pollutants does not exceed the following target criteria for each of those pollutants within a canal basin, or sub-basin, as determined in accordance with procedures established by Miami-Dade County DERM:

Pollutant

Target Criterion

- Biological Oxygen Demand (BOD): 9 mg/l
- Chemical Oxygen Demand (COD): 65 mg/l
- Total Suspended Solids (TSS): 40 mg/l
- Total Dissolved Solids (TDS): 1,000 mg/l
- Total Kjeldahl Nitrogen (Ammonia-Nitrogen and Organic Nitrogen): 1.5 mg/l
- Total Nitrate (NO₃-N): 0.68 mg/l
- Total Phosphate (TPO₄): 0.33 mg/l
- Dissolved Phosphate (DPO₄): Not Available
- Cadmium (Cd): 0.0023 mg/l
- Copper (Cu): 0.0258 mg/l
- Lead (Pb): 0.0102 mg/l
- Zinc (Zn): 0.231 mg/l

Additionally, recommended NPDES parameters may not exceed established Federal, State or Local Criteria for the water body, as listed in Table 2, "Guidance for Preparing Monitoring Plan as recommended for Phase I Municipal Separate Storm Sewer System (MS4) Permits," FDEP August 1, 2009.

3. Applicants seeking development orders in canal basins, or sub-basins that do not meet either the FPLOS or the WQLOS shall be required to conform to Best Management Practices (BMPs) as provided by Miami-Dade County Code. Owners of commercial or industrial properties where BMPs are required, shall, at a minimum, demonstrate that their on-site stormwater system is inspected two times per year and maintained and cleaned as required. Private residential developments in areas where BMPs are required shall demonstrate that their on-site stormwater systems are inspected two times per year and maintained and cleaned as required.

Policy CON-5B. Applicants seeking development orders approving any new use or site alteration outside the Urban Development Boundary where the elevation of any portion of the site will remain below County Flood Criteria shall be advised by the

permitting agency that those portions of the land that are not filled to Miami-Dade County Flood Criteria may be subject to periodic flooding.

Policy CON-5C. Miami-Dade County shall work with the South Florida Water Management District to better identify the developed urban areas within the County that do not have protection from a one in ten year storm. The County shall develop stormwater management criteria and plans for all unincorporated areas identified. Where such areas fall within municipal boundaries, the County will coordinate the stormwater management planning with the appropriate municipality(ies).

Policy CON-5D. Miami-Dade County shall seek funding for a comprehensive basin-by-basin drainage engineering study which will include: identification of public drainage facilities and private drainage facilities that impact the public facilities, and the entities having operational responsibility for them; establishment of geographic service areas for the drainage facilities; and, a facility capacity analysis by geographic service area for the planning periods 2015 and 2025.

Policy CON-5E. Miami-Dade County shall establish a priority listing of stormwater drainage and aquifer recharge improvements needed to correct existing system deficiencies and problems, and to provide for future drinking water needs. This shall include:

- Drainage/stormwater sewer system improvements in developed urban areas with persistent drainage problems;
- Canal and/or stormwater drainage improvements in developed urban areas that have less than one in ten year storm protection and where no roadway drainage improvements are planned or proposed, which would remedy the problems;
- Hydrologic modifications that are needed to deliver water to public waterwells or to protect those waterwells from prospective contamination.

This shall be based on such factors as:

- Miles of canals with out-of-bank flow;
- Miles of collector and local streets impassable during a 5 year storm;
- Miles of minor arterial streets impassable during a 10 year storm;
- Miles of principal arterials, including major evacuation routes, that are impassable during a 100 year storm; and
- Number or structures flooded by a 100-year storm.

Policy CON-5F. Miami-Dade County shall implement cut and fill criteria for land in the North Trail, Bird Drive, Basin B, and Western C-9 basins, as defined in Chapter 24 of the County Code, and other areas west of the easterly boundary of Area B identified in the Corps of Engineers Design Memorandum V Supplement 12 dated March 23, 1954, as necessary to protect natural hydrological characteristics of the basins, protect against flooding of developed land in the basins and downstream, and ensure continued proper recharge of groundwater supplies.

Policy CON-5G. Miami-Dade County shall encourage, based on analysis of water impoundment areas, the need for buffers between water impoundment areas and development in order to increase the level of flood protection provided to developed areas.

Policy CON-5H. Miami-Dade County shall periodically evaluate stormwater drainage criteria as outlined in the County Code to ensure proper flood protection is being provided to County residents.

Policy CON-5I. When building, expanding or planning for new facilities such as water treatment plants, Miami-Dade County shall consider areas that will be impacted by sea level rise.

Policy CON-7A. The degradation or destruction of wetlands shall be limited to activities that 1) are necessary to prevent or eliminate a threat to public health, safety or welfare; or 2) are water dependent, clearly in the public interest and no other reasonable alternative exists; or 3) are carried out in accordance with an approved basin management plan; or 4) are in areas that have been highly disturbed or degraded and where restoration of a wetland with an equal or greater value in accordance with federal, State and local regulations is feasible. Habitats critical to endangered or threatened species shall not be degraded or destroyed.

Policy CON-7C. Miami-Dade County shall continue to promote the restoration and maintenance of the natural, surface water flow regimes into, and through wetland systems such as the Shark River Slough, Everglades National Park and the saline wetlands of southeastern Miami-Dade County.

Policy CON-7D. Management plans shall be developed to govern all development activity within all natural communities on County-owned lands to protect natural and historic resources. The Division of Environmental Resources Management (DERM) and the Office of Historic and Archeological Resources shall assist the appropriate County agencies in the development of these plans, which shall be subject to public review and comment as they are prepared and implemented.

Policy CON-7E. All wetlands on the State Save Our Rivers, Florida Forever or Miami-Dade County Environmentally Endangered Lands acquisition lists shall be given very high priority for public acquisition as are all lands within the Environmental Protection category on the Land Use Plan (LUP) map.

Policy CON-7F. Wetland mitigation areas shall be preferentially located in biologically degraded wetlands and serve as corridors between Resources of Regional Significance.

Policy CON-7G. Miami-Dade County shall continue to work with the appropriate federal, State, regional and local agencies to develop wetland basin management plans for all the planned future wetlands areas in Miami-Dade County. Miami-Dade County shall continue to coordinate with all levels of government in their respective permitting functions in order to retain the long term, net wetland values of these areas. Priority for plan development shall be given to the wetlands in South Miami-Dade County that are slated for purchase under the Save Our Rivers, Florida Forever and Miami-Dade County Environmentally Endangered Lands programs.

Policy CON-7H. Miami-Dade County shall provide new dedicated funding sources that are in addition to current sources and expiring revenue streams for the long-term management and maintenance of Environmentally Endangered Lands and publicly owned Natural Forest Communities by 2020. This shall be funded from ad valorem tax revenues unless other revenue streams sufficient for this purpose are identified and implemented prior to 2020.

Policy CON-7I. Miami-Dade County shall coordinate with the South Florida Water Management District in order to implement strategies to streamline the wetland permitting process, which may include but not be limited to the delegation of additional permitting functions to the County.

Policy CON-7J. In evaluating applications that will result in alterations or adverse impacts to wetlands Miami-Dade County shall consider the applications' consistency with Comprehensive Everglades Restoration Program (CERP) objectives. Applications that are found to be inconsistent with CERP objectives, projects or features shall be denied.

Policy CON-8A. Specimen trees and Natural Forest Communities in Miami-Dade County shall be protected through the maintenance and enforcement of the County's Tree and Forest Protection and Landscape Code, as may be amended from time to time. The County's Natural Forest Inventory shall be revised periodically to reflect current Natural Forest Community conditions. A Natural Forest Community shall not

be removed from the inventory unless its quality and resource values have been degraded to the point where it cannot be restored.

Policy CON-8B. The environmentally sensitive hardwood hammocks and the pinelands on the Florida Forever and Miami-Dade County Environmentally Endangered Lands Acquisition lists shall be given very high priority for public acquisition as are lands within the Environmental Protection category on the Land Use Plan (LUP) map.

Policy CON-8C. Development in the forested portions of publicly owned Natural Forest Communities designated by the Board of County Commissioners pursuant to Resolution No. R-1764-84, as may be amended from time to time, shall be permitted only if it is clearly in the public interest, there is no feasible alternative, and such development does not adversely impact other remaining natural forest resources on-site.

Policy CON-8D. Where hammocks or pinelands are contained within prospective development sites, they shall be given priority for designation as landscape and open space areas and left intact. The extent of hammock and pineland area destroyed shall be minimized by the use of native plant buffers, clustering, large lot zoning, and/or reduced roadway widths. Care shall be exercised when developing adjacent land to minimize root damage and filling. Disturbance to the forest canopy and understory shall be minimized and confined to the least viable areas. Preservation areas shall be located and configured to protect rare, threatened and endangered species and to allow for prescribed burning, where applicable. In the protected forest areas, understory vegetation and associated geologic features shall be protected and maintained in perpetuity.

Policy CON-8E. The destruction of environmentally sensitive Natural Forest Communities shall be kept to a minimum; a long-term mitigation and management plan shall be developed to assure the continued maintenance of the remaining forest lands and the restoration or creation of at least an equal amount of forest lands to those destroyed.

Policy CON-8F. Miami-Dade County shall continue to seek natural areas land management funds to conduct prescribed burns, and other appropriate techniques to establish the appropriate fire regime for natural areas, while minimizing deleterious off-target effects to native plant and animal species and negative impacts to the public health, safety and welfare. The County shall also seek funds to control and remove exotic plant species from public rights-of-way and other County-owned land outside of parks and natural areas.

Policy CON-8G. The Natural Forest Communities that are owned by the Miami-Dade County School District shall be preserved and maintained and used as natural outdoor laboratories. Tracts of land that are to be developed as future school sites should be landscaped with appropriate xeriscape and/or native plant material. Wherever feasible, upland or wetland revegetation projects should be incorporated into the school's landscape design, and teaching curriculum.

Policy CON-8H. Miami-Dade County's tree preservation and landscape requirements shall be coordinated. Tree preservation programs should focus primarily on Natural Forest Communities and specimen tree protection, maintenance, and restoration. The County shall adopt and enforce a comprehensive landscape code and promote xeriscape principles and the planting and protection of trees with an emphasis upon the provision and preservation of canopy and understory for aesthetics, physical comfort, energy savings, economic benefits, and wildlife habitat.

Policy CON-8I. The exotic pest plant and nuisance species listed in Chapter 24-49.4 of the County Code, shall not be sold, propagated, or planted within Miami-Dade County. If existing on a development site, they shall be removed prior to development or redevelopment and developed parcels shall be maintained to prevent the growth or accumulation of prohibited species. The County shall update the list from time to time as new scientific information becomes available and the updates shall include category 1 and category 2 species listed by the Florida Exotic Pest Plant Council if the species have been documented to invade natural areas in south Florida. In addition, any category 1 or category 2 species that are added to the prohibited list shall also be made exempt from requirements to obtain a tree removal permit provided that the removal of such trees in upland areas within the UDB shall require the same amount of canopy mitigation as is currently required. Therefore the exemption shall be conditioned on meeting this requirement including through a donation to the tree trust fund if applicable.

The exotic plant species listed in the County's adopted Landscape Manual as amended may not be planted within 500 feet of native plant communities. These plant species have been documented by the Florida Exotic Pest Plant Council, the Miami-Dade County Parks, Recreation and Open Spaces Department's Natural Area's Management Program, and the Miami-Dade County Division of Environmental Resources Management to be invasive pests in natural areas of Miami-Dade County.

Policy CON-8J. Efforts should be made to propagate and reestablish where practical, endangered, threatened, and potentially endangered native plants and animals in Miami-Dade County. (See Appendix A). The current list of state and federally listed plants in Miami-Dade County should be reevaluated and additional species should

be proposed for listing and listed animal species should be included, if appropriate. Through its land acquisition and regulatory processes, Miami-Dade County shall continue to protect federally and State-listed plant and animal species to the maximum extent possible.

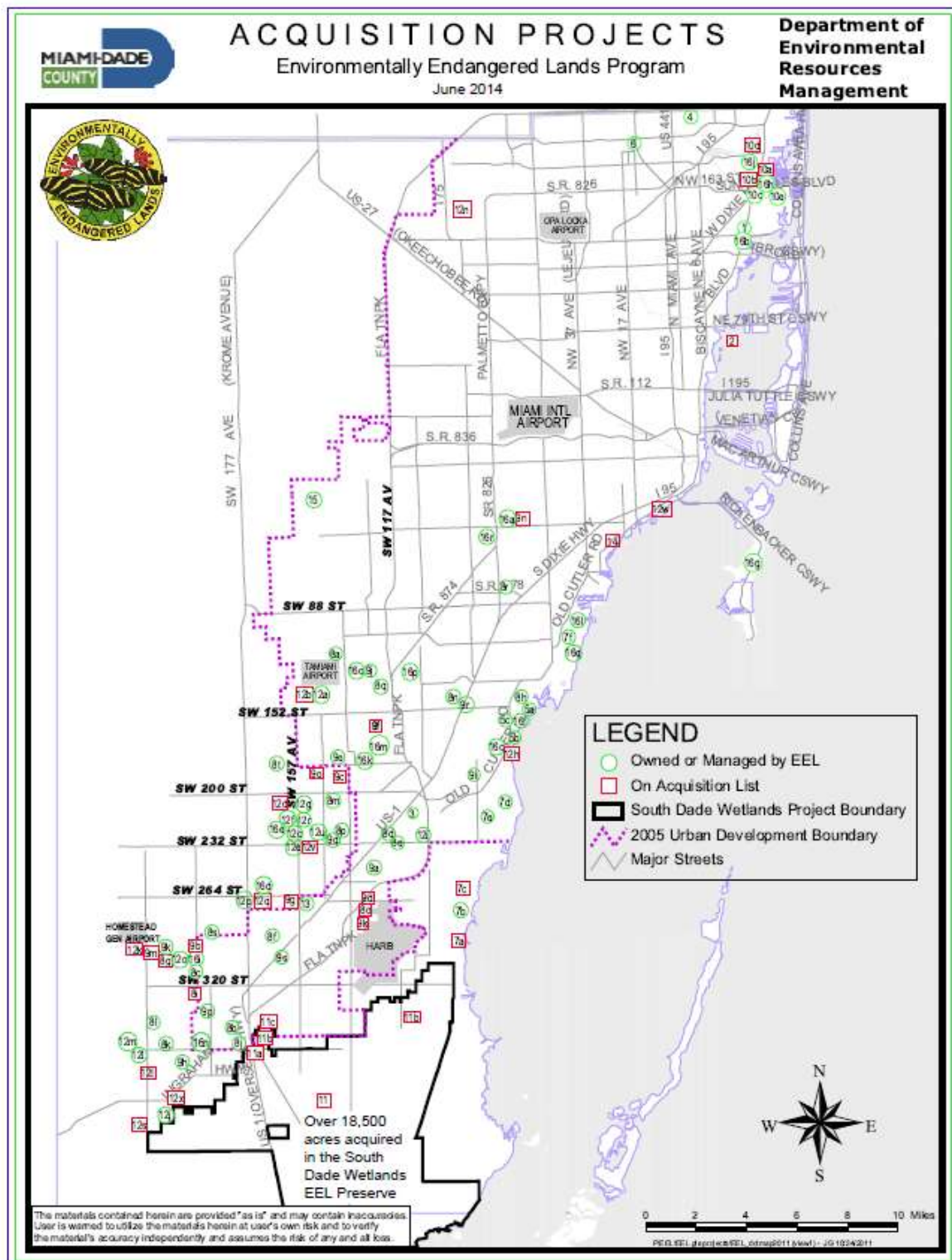
Policy CON-8K. All new plantings on lands owned and managed by Miami-Dade County shall include federally or State listed plants, if appropriate, and other native plant and/or xeriscape plant material, wherever feasible.

Policy CON-8L. The 24,560 acres of native habitat at the Training and Transition Airport outside of the security fence shall be managed by the same standards applied to the Big Cypress National Preserve.

Policy CON-8M. Miami-Dade County shall seek to increase the percentage of tree canopy from the present level of 10% to the national average of 30% by 2020 through the implementation and/or enforcement of: Adopt-A-Tree and other programs; landscape and tree protection ordinance changes to further increase canopy; and, other mechanisms as feasible and appropriate.

Policy CON-8N. Miami-Dade County shall evaluate the feasibility of creating new or enhanced programs to provide technical assistance to private Environmentally Endangered Lands and Natural Forest Communities covenant holders.

Map 14: Acquisition Projects - Environmentally Endangered Lands Program



ACQUISITION PROJECTS: Environmentally Endangered Lands Program

February 2013

MAP #	PRESERVE	EEL ACQUISITION, LIST STATUS OR MANAGEMENT	ACRES		LOCATION
			Acquired	Unacquired	
1	Arch Creek Addition	Acquired	1.5	0	NE 135 St. & US-1
2	Bird Key	A List	0	38	NW 79 St. & Biscayne Bay
3	Black Creek Forest	A List	7	45	SW 214 St. & 112 Ave.
4	County Line Scrub Site (FCT, ATT)	Acquired	15	0	NE 215 St. & 4 Ave.
5	Deering Estate Additions				
5a	Deering Coastal (North) Addition (FCT)	Acquired	41	0	SW 152 St. & 67 Ct.
5b	Deering South Addition (CARL)	Acquired	32	0	SW 188 St. & Old Cutler Rd.
5c	Deering Glade Parcel (P&R, SNP, SAMP)	Acquired	10	0	15850 Old Cutler Rd.
6	Dolphin Center Addition	Acquired	4	0	NW 196 St. & 17 Ave.
7	Coastal Wetlands:	A List-unless otherwise noted			
7a	Biscayne Wetland (FCT)		0	445	SW 280 St. & 107 Ave.
7b	Biscayne Wetlands North Addition (GSA)	Acquired	300	0	SW 270 St. & 107 Ave.
7c	Black Point Wetlands (FCT)		79	192	SW 248 St. & 97 Ave.
7d	Cutler Wetlands (FCT)		448	793	SW 216 St. & 85 Ave.
7e	Cutler Wetlands Addition (P&R)	Acquired	19	0	SW 210 St. & 85 Ave.
7f	R. Hardy Matheson Preserve Add'n		20	21	Old Cutler Rd. & SW 108 St.
8	Miami Rockridge Pinelands: (CARL)	A List-unless otherwise noted			
8a	Camp Matecumbe (CARL)	Acquired	77	0	SW 120 St. & 142 Ave.
8b	Florida City (CARL 15)	Acquired	24	0	SW 344 St. & 185 Ave.
8c	Fuchs Hammock Addition (CARL)	Acquired	14.8	0	SW 304 St. & 198 Ave.
8d	Goulds (CARL 6)	Acquired	33	0	SW 224 St. & 120 Ave.
8e	Goulds Addition (CARL)		7	28.8	SW 232 St. & 120 Ave.
8f	Ingram (CARL 12)	Acquired	10	0	SW 288 St. & 167 Ave.
8g	Kings Highway (CARL 14)		0	31.1	SW 304 St. & 202 Ave.
8h	Ludlam Pineland (CARL)	Acquired	10	0	SW 146 St. & 67 Ave.
8i	Navy Wells 2 (CARL)		0	20	SW 324 St. & 197 Ave.
8j	Navy Wells 23 (CARL)		20	9	SW 352 St. & 182 Ave.
8k	Navy Wells 39 (CARL)		16	4	SW 354 St. & 210 Ave.
8l	Palm Drive (CARL 16)	Acquired	20	0	SW 344 St. & 212 Ave.
8m	Quail Roost (CARL 7)	Acquired	48	0	SW 204 St. & 147 Ave.
8n	Rockdale (CARL 2)	Acquired	26	0	SW 144 St. & US-1
8o	School Board (CARL 10)		0	19	SW 268 St. & 129 Ave.
8p	Silver Palm Groves (CARL 8)	Acquired	20	0	SW 232 St. & 142 Ave.
8q	Tamiami Complex Addition (CARL)	Acquired	26	0	SW 136 St. & 122 Ave.
8r	Trinity (CARL 1)	Acquired	10	0	SW 76 St. & 73 Ave.
8s	West Biscayne (CARL 13)		17	2	SW 288 St. & 190 Ave.
8t	Wilkins-Pierson (CARL)		10	10	SW 184 St. & 164 Ave.
9	Other Rockridge Pinelands:	A List-unless otherwise noted			
9a	Andrew Dodge New Pines Preserve		4	1	SW 248 St. & 127 Ave.
9b	Bowers Pineland		0	10	SW 296 St. & 197 Ave.
9c	Calderon Pineland		0	17.5	SW 192 St. & 140 Ave.
9d	Dixie Heights Pineland	B List	0	27	SW 268 St. & 130 Ave.
9e	Eachus Pineland	Acquired	17	0	SW 184 St. & 142 Ave.
9f	Federal Richmond Pinelands (Martinez)		142	212	SW 152 St. & 130 Ave.
9g	Hattie Bauer Pineland		0	5	SW 266 St. & 157 Ave.
9h	Navy Wells 42 (Sunny Palms)	Acquired	40	0	SW 364 St. & 202 Ave.
9i	Ned Glenn Nature Preserve	Acquired	11	0	SW 188 St. & 87 Ave.
9j	Nixon Smiley Addition (Tamiami 8)	Acquired	63	0	SW 124 St. & 127 Ave.
9k	Northrop Pineland	Acquired	12	0	SW 296 St. & 205 Ave.
9l	Notre Dame Pineland	B List	0	32	SW 280 St. & 132 Ave.
9m	Pine Ridge Sanctuary		0	14	SW 300 St. & 211 Ave.
9n	Pino Pineland	B List	0	2	SW 39 St. & 69 Ave.
9o	Railroad Pineland	B List	0	18	SW 184 St. & 147 Ave.
9p	Rock Pit 39	Acquired	9	0	SW 336 St. & 192 Ave.
9q	Rock Pit 46	Acquired	5	0	SW 232 St. & 142 Ave.
9r	Rockdale Addition	Acquired	11	0	SW 144 St. & US-1
9s	Seminole Wayside Park Addition	Acquired	5.5	0	SW 300 St. & US-1.

ACQUISITION PROJECTS: Environmentally Endangered Lands Program					
10	Oleta River Corridor:	A List			
10a	Tract A		0	3	NE 171 St. & US-1
10b	Tract B (FCT)		0	8	NE 165 St. & US-1
10c	Tract C (FCT)	Acquired	2.5	0	NE 163 St. & US-1
10d	Tract D		0	8	NE 191 St. & 24 Ave.
10e	Terama Tract (DEP)	Acquired	30	0	IN OLETA PRESERVE
11	South Dade Wetlands (SAMP, SOR)	A List	18,447	12,370	SOUTH DADE COUNTY
11a	Keyhole Wetlands		31.5	167	US 1 & Cardsound Rd.
11b	South Dade Wetlands Addition		199	2,135	SW 344 St. & 137 Ave.
11c	Wink Eye Slough Addition		0	57	SW 344 St. & 167 Ave.
12	Tropical Hammocks:	A List-unless otherwise noted			
12a	Big & Little George (CARL 6)	Acquired	20	0	SW 141 St. & 149 Ave.
12b	Big George Addition		0	3	SW 141 St. & 149 Ave.
12c	Castellow 28 (CARL)	Acquired	18.7	0	SW 226 St. & 157 Ave.
12d	Castellow 31 (CARL)		0	10	SW 218 St. & 157 Ave.
12e	Castellow 33 (CARL)	Acquired	10	0	SW 226 St. & 157 Ave.
12f	Castellow Addition (CARL 7)	Acquired	7.8	0	SW 223 St. & 157 Ave.
12g	Chernoff Hammock	Acquired	4.5	0	SW 216 St. & 154 Ave.
12h	Cutler Wetlands North Addition Hammock	B List	0	37	SW 184 St. & Old Cutler Rd.
12i	Harden Hammock (CARL)	Acquired	12.4	0	SW 226 St. & 107 Ave.
12j	Holiday Hammock (CARL 5)		30	27	SW 400 St. & 209 Ave.
12k	Homestead General Aviation Hammock	B List	0	4	SW 296 St. & 217 Ave.
12l	Loveland Hammock (CARL 3)	Acquired	16	0	SW 360 St. & 222 Ave.
12m	Lucille Hammock (CARL 2)	Acquired	20	0	SW 352 St. & 222 Ave.
12n	Maddens (CARL 10)	B List	0	60	NW 154 St. & 87 Ave.
12o	Meissner Hammock (CARL 1)	Acquired	10	0	SW 302 St. & 200 Ave.
12p	Owaissa Bauer Addition #1 (CARL)	Acquired	9	0	SW 264 St. & 177 Ave.
12q	Owaissa Bauer Addition #2		0	10	SW 264 St. & 176 Ave.
12r	Ross (CARL 8)	Acquired	20	0	SW 223 St. & 157 Ave.
12s	Round Hammock (CARL)		0	32.6	SW 408 St. & 220 Ave.
12t	SW Island Hammock (CARL 4)		0	12.5	SW 392 St. & 207 Ave.
12u	Silver Palm Hammock (CARL)	Acquired	10	0	SW 228 St. & 149 Ave.
12v	Silver Palm Hammock Addition		0	19	SW 228 St. & 149 Ave.
12w	Vizcaya Hammock Addition	B List	0	2	3300 South Miami Ave.
12x	Hammock Island	B List	0	100	SW 360 St. & L-31 W.
13	Hattie Bauer Hammock (FCT, P&R)	Acquired	15	0	SW 267 St. & 157 Ave.
14	Barnacle Addition (CARL, City of Miami)	B List	0	6	Main Highway
15	Tree Island Park (FCT, P&R, SAMP, SNP)	Acquired	120	0	SW 10 St. & 147 Ave.
TOTAL EEL Acres			20,718	17,068	
16	Park Natural Areas				
16a	A. D. Barnes Park	Managed by EEL	24	0	3775 SW 74 Ave
16b	Arch Creek Park	Managed by EEL	8.5	0	NE 135 St. & US-1
16c	Bill Sadowski Park	Managed by EEL	23	0	17555 SW 79 Ave.
16d	Camp Owaissa Bauer	Managed by EEL	80	0	17001 SW 264 St.
16e	Castellow Hammock Park	Managed by EEL	55	0	22301 SW 162 Ave.
16f	Charles Deering Estate	Managed by EEL	332	0	16701 SW 72 Ave.
16g	Crandon Park	Managed by EEL	444	0	7200 Crandon Blvd.
16h	East, East East Greynolds Park	Managed by EEL	33	0	17530 W Dixie Hwy
16i	Fuchs Hammock	Managed by EEL	24	0	SW 304 St. & SW 198 Ave
16j	Greynolds Park	Managed by EEL	53	0	17530 W Dixie Hwy
16k	Larry & Penny Thompson	Managed by EEL	193	0	12451 SW 184 St.
16l	Matheson Hammock Park	Managed by EEL	381	0	9610 Old Cutler Rd.
16m	Metrozoo Pinelands	Managed by EEL	142.4	0	12400 SW 152nd Street
16n	Navy Wells Preserve	Managed by EEL	239	0	SW 360 St. & SW 192 Ave.
16o	Nixon Smiley Preserve	Managed by EEL	63	0	SW 124 St. & SW 135 Ave.
16p	Pineshore Park	Managed by EEL	7.8	0	SW 128 St. & SW 112 Ave.
16q	R. Hardy Matheson Preserve	Managed by EEL	692	0	SW 112 St. & Old Cutler Rd.
16r	Tropical Park	Managed by EEL	5	0	7900 Bird Rd.
TOTAL Park/EEL Acres			2,800		
NOTE: Acronyms in parentheses following the project name indicate the source of funds or matching funds for which the project has been approved. Funding sources are: CARL=Conservation And Recreation Lands; ATT = AT&T Corp.; DEP=Dept. of Environmental Protection; FCT =Florida Communities Trust; GSA = General Services Administration; P&R = Miami-Dade Park & Recreation; SAMP = Bird Drive Special Area Management Plan; SNP = Miami-Dade Safe Neighborhood Parks Bond Program; SOR = Save Our Rivers.					
TOTAL A List Acres			16,555		
TOTAL B List Acres			288		
TOTAL Acquired/Managed Acres			23,556		

Land Use Element:

Policy LU-3K. By 2017, Miami-Dade County shall determine the feasibility of designating areas in the unincorporated area of the County as Adaptation Action Areas as provided by Section 163.3177(6)(g)(10), Florida Statute, in order to determine those areas vulnerable to coastal storm surge and sea level rise impacts for the purpose of developing policies for adaptation and enhance the funding potential of infrastructure adaptation projects.

Policy LU-3L. Miami-Dade County shall work with its local municipalities to identify and designate Adaptation Action Areas as provided by Section 163.3164(1), Florida Statute, in order to develop policies for adaptation and enhance the funding potential for infrastructure projects.

NFIP Communities

This chart shows the status of our communities participating in the NFIP as of 10/06/2014 per the FEMA Community Status Book Report. The current effective FIRM maps for all communities in our county are dated 09/11/2009.

JURISDICTION	Initial FIRM	Entry Date	Additional Comments
AVENTURA	7/30/1972	10/22/1997	Adopted the Dade County (120635) RIM Dated 03/02/1994 Panels 52 and 84
BAL HARBOUR	09/29/1972	09/29/1972	
BAY HARBOR ISLANDS	09/29/1972	09/29/1972	
BISCAYNE PARK	09/29/1972	09/29/1972	
CORAL GABLES	09/29/1972	09/29/1972	
CUTLER BAY	03/02/1994	08/31/2006	
DORAL	09/30/1972	05/12/2004	Use Miami-Dade County (CID 120635) Panels 75,160 and 170
EL PORTAL	09/29/1972	09/29/1972	
FLORIDA CITY	09/29/1972	09/29/1972	
GOLDEN BEACH	09/29/1972	09/29/1972	
HIALEAH	09/29/1972	09/29/1972	
HIALEAH GARDENS	09/29/1972	09/29/1972	
HOMESTEAD	09/29/1972	09/29/1972	
INDIAN CREEK VILLAGE	09/29/1972	09/29/1972	
KEY BISCAYNE	09/29/1972	09/29/1972	
MEDLEY	09/29/1972	09/29/1972	
MIAMI	09/29/1972	09/29/1972	
MIAMI BEACH	09/29/1972	09/29/1972	
MIAMI GARDENS	09/30/1972	06/21/2004	
MIAMI LAKES	03/02/1994	07/17/2003	

MIAMI SHORES	09/29/1972	09/29/1972	
MIAMI SPRINGS	09/29/1972	09/29/1972	
NORTH BAY VILLAGE	09/29/1972	09/29/1972	
NORTH MIAMI	09/29/1972	09/29/1972	
NORTH MIAMI BEACH	09/29/1972	09/29/1972	
OPA-LOCKA	09/29/1972	09/29/1972	
PALMETTO BAY	03/02/1994	02/02/2005	
PINECREST	09/30/1972	10/13/1998	Adopted Miami Dade County (120635) Panels 260,276 and 278 with date of 10/29/1972
SOUTH MIAMI	09/29/1972	09/29/1972	
SUNNY ISLES BEACH	03/02/1994	09/29/1972	
SURFSIDE	09/29/1972	09/29/1972	
SWEETWATER	07/17/1995	09/29/1972	
UNINCORPORATED MIAMI-DADE	07/17/1995	09/29/1972	
VIRGINIA GARDENS	07/17/1995	09/29/1972	
WEST MIAMI	07/17/1995	09/29/1972	

Local communities continue to participate in the NFIP by adopting and enforcing floodplain management ordinances to reduce future flood damage which in turn allows homeowners, renters and business owners in our communities to purchase the federally back flood insurance.

To maintain compliance with the NFIP, the municipalities of the Miami-Dade County will do the following:

- Accept, review and maintain elevation records for all new construction and substantial improvements in Special Flood Hazard Areas.
- Require permits and review all new construction, including substantial improvements, for compliance with the minimum standards under the NFIP and local floodplain management code.
- Require that all development proposals greater than 50 lots or 5 acres, whichever is less, include in such proposals base flood elevation data.
- Provide that all new construction and substantial improvements in V and VE zones are elevated on pilings and columns so that the bottom of the lowest horizontal structural member of the lowest floor is elevated to at or above the Base Flood Elevation.
- Require that all manufactured homes placed in Special Flood Hazard Areas be installed using methods and practices that minimize flood damage,

including proper elevation and anchoring to resist flotation, collapse or lateral movement.

Below is a listing of some additional activities that local jurisdictions engage in to continue to promote flood education, preparedness and mitigation.

Key Biscayne

The Village of Key Biscayne has been a CRS Community since 1998 and is currently a Class 7. The Village has designated the Senior Executive Assistant to the Director of the Building, Zoning and Planning Department as the CRS Coordinator. CRS activities undertaken in the past 5 years include:

- Conduct and document drainage system maintenance throughout the community
- Conduct drainage system maintenance by inspecting/repair/maintain drainage system
- Continue to preserve and maintain our open space and parks system in floodplain
- Enforce Floodplain Development Permits
- Enforce Floodplain Management Regulations
- Enforce stormwater management ordinances
- Inform lenders, insurance agents, and real estate offices of our services
- Maintain and keep old and current FIRMs
- Maintain Elevation Certificates for all new/substantially improved buildings
- Continue to track building improvements and repairs through permits
- On-going training for staff relative to floodplain management
- Prepare/distribute Floodplain Management Plan (LMS) Annual Progress Report
- Produce and maintain a log and history of drainage system maintenance provided to residents
- Produce/distribute outreach projects to all residents/businesses within the floodplain and all of the Village
- Produce/distribute property protection information to Repetitive Loss Areas
- Produce/distribute property protection information to Repetitive Loss Properties
- Provide copies of Elevation Certificates to residents and/or businesses
- Provide flood protection assistance
- Provide information on “no dumping” signage throughout the Village.
- Provide letters of Flood Insurance Rate Map Determination

- Provide property protection assistance to homeowners and/or businesses
- Maintain and test flood threat recognition system
- Update and maintain the Flood Information on the Village's website

Village's Public Works, Code Enforcement and Building, Zoning and Planning staff members have attended several certification courses with success including the FDEP's Stormwater Management Inspectors, FSA's Level 1 and Level 2 Stormwater Certified Operators courses in compliance with annual training requirements. In total the Village has 2 certified SEC inspectors; 3 Level 1 SW Operators and 2 Level 2 SW Operators.

The Village's current Floodplain Management Ordinance reflects the latest FIRM maps. As of December 2011, the Village had 1,710 flood policies (in 2010, this count was 1,713). Initially the NFIP identified 28 RLPs in 2008 within the Village. A Repetitive Loss Area Analysis was conducted through 2009 to assess and mitigate the losses. The NFIP identified 5 repetitive loss properties (RLPs) within the Village as of December 2012. The last CAV visit was on September 26, 2011, at which time the State identified additional definitions were necessary in the Village's floodplain management ordinance. The Village Council revised the ordinance to reflect these new definitions in May 2012 and amended again in January 2014. The most recent 5-year Cycle Verification Visit by the FEMA ISO/CRS Specialist was on May 26, 2011 at which time deficiencies were found in the elevation certificates reviewed. This deficiency has since been remediated with assistance from ISO involving Quarterly submittals.

Miami Gardens, City of – (CRS Community)

Miami Gardens has been a participant in the National Flood Insurance Program since 2006, and joined the Community Rating System in 2008. The city is currently a six in the CRS. The City performs the following activities, but this list is not inclusive of all the NFIP/CRS activities the city conducts.

- Maintain Elevation Certificates for New/Substantially Improved Buildings
- Provide Flood Zone Information
- Inform Lenders, Insurance Agents, and Real Estate Offices of Our Services
- Keep Old and Current FIRMs
- Maintain Flood Protection Materials at Library
- Provide Flood Protection Assistance
- Preserve Open Space in Floodplain
- Enforce Floodplain Management Regulations
- Use/Update Flood Data GIS Information

- Produce/Distribute Property Protection Information to Repetitive Loss Areas and the entire community
- Prepare a Floodplain Management Plan (LMS) Annual Progress Report
- Inspect/Repair/Maintain Drainage Systems
- Conduct Drainage System Construction as part of the city CIP
- Enforces Dumping Regulations

Miami Shores – (CRS Community)

Miami Shores entered the NFIP September 29, 1972 and has been a CRS community since October 1, 2000 and is currently a class 8. The village has designated the Planning Director and Building Official as the CRS Coordinator and Floodplain Manager. CRS activities undertaken in the past 5 years include:

- Maintain Elevation Certificates for New/Substantially Improved Buildings
- Provide Flood Zone Information
- Inform Lenders, Insurance Agents, and Real Estate Offices of Our Services
- Keep Old and Current FIRMs
- Produce/Distribute Flood News Newsletter
- Maintain Flood Protection Materials at Library
- Provide Flood Protection Assistance
- Preserve Open Space in Floodplain
- Enforce Floodplain Management Regulations
- Use/Update Flood Data GIS Information
- Produce/Distribute Property Protection Information to Repetitive Loss Areas
- Prepare Floodplain Management Plan (LMS) Annual Progress Report
- Inspect/Repair/Maintain Drainage Systems
- Install and Improve Drainage System Portions of CIP
- Provide Information on Stream Dumping Regulations

North Miami – (CRS Community)

North Miami has been a CRS community since October 1, 1994 and is currently maintains a class 5 rating (October 2001). The City has designated the Capital Project Manager as the CRS Coordinator and Floodplain Manager. The City performs the following activities, but this list is not inclusive of all the NFIP/CRS activities the city conducts.

- Maintain Elevation Certificates for New/Substantially Improved Buildings
- Provide Flood Zone Information
- Inform Lenders, Insurance Agents, and Real Estate Offices of Our Services
- Keep Old and Current FIRMs
- Produce/Distribute an annual Flood Hazard Information Brochure

- Maintain Flood Protection Materials at Library
- Provide Flood Protection Assistance
- Preserve Open Space in Floodplain
- Enforce Floodplain Management Regulations
- Produce/Distribute Property Protection Information to Repetitive Loss Areas and the entire community
- Prepare Floodplain Management Plan (LMS) Annual Progress Report
- Inspect/Repair/Maintain Drainage Systems
- Perform Drainage System Construction as part of the city's CIP
- Provide Information on and enforce Stream Dumping Regulations

Community Rating System (CRS) Communities

The CRS is a voluntary program for communities that participate in the NFIP. Participation in the CRS provides residents of those communities with flood insurance discounts. The discounts are based upon the CRS rating of the community from a Class 9 to a Class 1 with a 5% discount for each class obtained. In Miami-Dade we have 19 communities that participate ranging from ratings of Class 5, a 25% discount, to Class 8, a 10% discount, as depicted in Table 5. The LMS support the CRS communities and others who wish to become CRS communities and strives to help identify areas where uniform credit can be obtained as per compliance with the CRS Coordinators Manual.

Table 9: Community Rating System Members (May 2014)

Community	Rating	Community	Rating
Unincorporated Miami-Dade	5	City of Miami	7
City of Aventura	7	City of Miami Beach	6
Village of Bal Harbour	7	City of Miami Gardens	6
Town of Bay Harbor Islands	7	City of Miami Lakes	5
City of Coral Gables	7	Miami Shores Village	8
Cutler Bay	6	City of North Miami	5
City of Doral	8	City of North Miami Beach	7
City of Hialeah	7	City of South Miami	7

City of Homestead	8	City of Sunny Isles	7
Village of Key Biscayne	7		

Palmetto Bay and the Village of Pinecrest have both applied to become CRS communities.

Mitigation Projects

A full listing of all mitigation projects can be found in *Part 2* of the LMS. The list contained here are the flooding projects with identified flood basins.

Agency	Project Title	Hazards	Project Type	Flood Basin
Aventura	NE 191st ST Improvements	Flood	Infra (Water/Sewer/Drain)	North Biscayne Bay
Aventura	NE 29 PL Phase II	Flood	Infra (Water/Sewer/Drain)	North Biscayne Bay
Aventura	NE 29 PL Phase I	Flood	Infra (Water/Sewer/Drain)	North Biscayne Bay
Aventura	Stormwater Drainage Projects	Flood	Infra (Water/Sewer/Drain)	
Aventura	Storm Surge/ Wind Protection	Flood/ Storm Surge, Health	Infrastructure (Building)	
Aventura	Development of Floodplain Management Plan	Flood	Other	
Coral Gables	Basin Inflow and Infiltration Upgrade	Flood/Storm Surge	Infra (Water/Sewer/Drain)	C3
Coral Gables	Storm Water Outfalls	Flood/Storm Surge	Infra (Water/Sewer/Drain)	DA-2
Coral Gables	Elevating Sanitary Sewer Lift Stations Generator at Station D	Sea Level Rise	Infra (Water/Sewer/Drain)	C3
Coral Gables	Elevating Sanitary Sewer Lift Stations Generator at Station F	Sea Level Rise	Infra (Water/Sewer/Drain)	C3
Coral Gables	Acquisition of City Hall Emergency Generator	Multiple	Equipment	
Coral Gables	Acquisition of Coral Gables Public Works, Public Service and Automotive Department Facility Emergency Generator	Multiple	Equipment	
Coral Gables	Acquisition of City Pump Station G Emergency Generator	Multiple	Equipment	C3
Coral Gables	Metal Freestanding Traffic Safety Signs & Trailer	Multiple	Equipment	
Coral Gables	Acquire Portable Pumps & Generators	Multiple	Equipment	
Cutler Bay	Caribbean Boulevard Bridge Project	Flood, Health ,Sea Level Rise, Storm Surge	Other	C100
Cutler Bay	Caribbean Boulevard JPA Project and Gap 1	Other ,Flood	Infrastructure (Roadway)	C1
Cutler Bay	SW 97th Ave Drainage Improvement	Flood	Infrastructure (Roadway)	C1
Cutler Bay	Old Cutler Road JPA	Flood	Infrastructure (Roadway)	C1
Cutler Bay	Drainage Improvements - Port Royale Section 5 Sub-Basin	Flood	Infra(Water/Sewer/Drain)	C1
Cutler Bay	Drainage Improvements - Bel Aire Section 1.1 Sub-Basin	Flood	Infra (Water/Sewer/Drain)	C1
Cutler Bay	Drainage Improvements - Saga Bay Section 1.8 Sub-Basin	Flood	Infra (Water/Sewer/Drain)	DA-4
Cutler Bay	Drainage Improvements - Saga Bay Section 1.6 Sub-Basin	Flood	Infra (Water/Sewer/Drain)	DA-4
Cutler Bay	Storm Water Outfalls	Flood/Storm Surge	Infra (Water/Sewer/Drain)	

Agency	Project Title	Hazards	Project Type	Flood Basin
Cutler Bay	Cutler Bay Waterway Conveyance Improvements	Flood	Infra (Water/Sewer/Drain)	
Cutler Bay	Flood Zone Data GIS System	Flood	Other	
Cutler Bay	Drainage Improvements - Saga Bay Section 1.2 Sub-Basin	Flood	Infra (Water/Sewer/Drain)	DA-4
Cutler Bay	Drainage Improvements - Cutler Ridge Section 5 Sub-Basin	Flood	Infra (Water/Sewer/Drain)	C1
Cutler Bay	Drainage Improvements - Pine Tree Manor Sub-Basin	Flood	Infra (Water/Sewer/Drain)	C1
Cutler Bay	Drainage Improvements - Saga Bay Section 1.7 Sub-Basin	Flood	Infra (Water/Sewer/Drain)	DA-4
Cutler Bay	Development of Floodplain Management Plan	Flood	Outreach	
Cutler Bay	Flood Insurance Research Project	Flood	Outreach	
Cutler Bay	Canal Bank Erosion Protection	Flood/Storm Surge	Infra (Water/Sewer/Drain)	
Cutler Bay	Drainage Improvements - Bel Aire Section 6 Sub-Basin	Flood	Infra (Water/Sewer/Drain)	C1
Cutler Bay	SW 212th Street	Flood	Infra (Water/Sewer/Drain)	DA-4
Cutler Bay	Drainage Improvements - Bel Aire Section 1.2 Sub-Basin	Flood	Infra (Water/Sewer/Drain)	C100
Cutler Bay	Reduction of Floating Debris	Flood	Infra (Water/Sewer/Drain)	
Cutler Bay	Canal Cleaning and Shaping Town wide	Flood	Infra (Water/Sewer/Drain)	
Cutler Bay	Drainage Improvements - Saga Bay Section 1.1 Sub-Basin	Flood	Infra (Water/Sewer/Drain)	DA-4
Cutler Bay	Drainage Improvements - SW 97th Avenue Sub-Basin	Flood	Infra (Water/Sewer/Drain)	C1
Cutler Bay	Drainage Improvements - SW 87th Avenue Sub-Basin	Flood	Infra (Water/Sewer/Drain)	C100
Doral	Point of Distribution	Multiple	Infrastructure (Building)	
Doral	Acquisition of Emergency Vehicles and Equipment	Multiple	Equipment	
Doral	5 Yr. Stormwater Improvements CIP	Flood	Infra (Water/Sewer/Drain)	C4
Doral	Pump Station to Address Repetitive Flooding Losses	Flood	Infra (Water/Sewer/Drain)	C4
El Portal	Little River Canal (Canal C-7) Seawall Remediation Project	Flood, ,Sea Level Rise, Storm Surge	Beach/Seawall	C7
El Portal	Village of El Portal Stormwater Improvements	Flood/Storm Surge	Infra (Water/Sewer/Drain)	C7
Fire Rescue	Miami-Dade Fire Rescue Drainage Improvements	Flood	Infra (Water/Sewer/Drain)	
Florida City	Sealing the Palm Drive Canal	Flood/Storm Surge, Other	Infra (Water/Sewer/Drain)	Florida City
Florida City	Drainage at the Depot and Pioneer Museum	Flood ,Health	Infra (Water/Sewer/Drain)	Florida City
Florida City	Scattered Site French Drain Project	Flood ,Storm Surge	Infra (Water/Sewer/Drain)	Florida City
Florida City	Rehabilitation of Friendland Manor Drainage System	Flood, Health	Infra (Water/Sewer/Drain)	Florida City
Florida City	Storm Water Culverts Under West Palm Drive	Flood/Storm Surge	Infra (Water/Sewer/Drain)	Florida City
Florida City	Sewer Hookups, Laterals, and Septic Tank Abandonment	Flood/Storm Surge ,Health	Infra (Water/Sewer/Drain)	Florida City
Florida City	Repair of Sewer Lines Based on the Evaluation Study	Health, Flood/Storm Surge	Infra (Water/Sewer/Drain)	Florida City
Florida City	Public Building Retrofit	Wind, Flood/Storm Surge	Infrastructure (Building)	Florida City
Florida City	Potable Water Gate Valve Project	Health, Flood	Infra (Water/Sewer/Drain)	Florida City
Florida City	Water Works Systems Improvement Project	Health ,Flood	Infra (Water/Sewer/Drain)	Florida City
Homestead	Drop-Off Site	Wind, Flood/Storm Surge	Equipment	
Homestead	Improvements to Existing Buildings	Flood	Infrastructure (Building)	
Homestead	Culvert removal at Keys Gate	Flood/Storm Surge	Infra (Water/Sewer/Drain)	
Homestead	Economic Incentives & Education Information Package	Flood/Storm Surge	Infrastructure (Building)	
Homestead	Acquisition of airboats and flat boats	Flood	Other	
Homestead	Vegetation work and maintenance equipment	Flood/Storm Surge	Infra (Water/Sewer/Drain)	
Homestead	Retrofitting the New City Hall/Divisional EOC to Withstand a Category 5 Hurricane through Structure Hardening and Impact Resistant Windows and Doors	All Hazards	Infrastructure (Building)	
Homestead	Krome Avenue Historic District	Flood/Storm Surge	Infra (Water/Sewer/Drain)	
Homestead	Landscaping and right-of-way enhancement	Flood/Storm Surge	Infra (Water/Sewer/Drain)	
Homestead	Construction of a Structure to store Emergency Vehicles and Equipment	Flood		

Agency	Project Title	Hazards	Project Type	Flood Basin
Homestead	Flood Insurance Research Project	Flood	Outreach	
Homestead	Storm water telemetry system	Flood/Storm Surge	Infra (Water/Sewer/Drain)	
Homestead	Wastewater Infiltration/Inflow	Flood	Equipment	
Homestead	Increase Wastewater Treatment Plant Capacity WWTP Expansion	Flood	Infra (Water/Sewer/Drain)	
Homestead	New Sewer Mains: To upgrade sewer main/lines to eliminate raw sewage from leaking into the water table.	Flood	Infra (Water/Sewer/Drain)	
Homestead	WWTP Inspection and Preventive Maintenance	Flood	Infra (Water/Sewer/Drain)	
Homestead	New Sewer Mains	Flood	Infra (Water/Sewer/Drain)	
Homestead	Acquisition of property for the expansion of Losner Park	Flood	Infrastructure (Building)	
Homestead	Sewer lines in the Northwest Neighborhood and the West Industrial Area	Flood	Infrastructure (Building)	
Homestead	Strategy for increasing the flood insurance discount for City of Homestead property owners by improving the CRS rating	Flood	Outreach	
Homestead	Storm Water System Upgrade	Flood/Storm Surge	Infra (Water/Sewer/Drain)	
Homestead	Portable mobile pumps	Flood/Storm Surge	Infra (Water/Sewer/Drain)	
Internal Services	Flood prevention for the Central Support Facility Building	Flood	Infra (Water/Sewer/Drain)	
Internal Services	Install flood barriers for the basement of the Richard E. Gerstein Justice Building	Flood	Infra (Water/Sewer/Drain)	
Internal Services	Flood barriers for the Miami-Dade Cultural Center basement	Flood	Infra (Water/Sewer/Drain)	
Internal Services	Flood prevention of the Elevator shaft in the Miami-Dade Cultural Center Historical Museum	Flood	Infra (Water/Sewer/Drain)	
Internal Services	Retrofit emergency generator technicians' vehicles to drive in flooded areas	Flood	Equipment	
Jackson	Jackson Health System Infrastructure Protection Measure-Switchgear Elevation and Upgrade	Power Failure, Flood/Storm Surge, Technological Disruption	Equipment	
Jackson	Sewage piping at JMH	Other ,Flood ,Health	Infra (Water/Sewer/Drain)	
Jackson	Electrical upgrade at Central and South Wing	Flood/Storm Surge, Power Failure	Equipment	
Key Biscayne	Coastal Dune Vegetation	Flood/Storm Surge, Wind, Other	Beach/Seawall	North Biscayne Bay
Key Biscayne	Village K-8 Center Stormwater Pump Station	Flood/Storm Surge, Sea Level Rise,	Infra (Water/Sewer/Drain)	North Biscayne Bay
Key Biscayne	Elevate Repetitive Loss Properties	Flood/Storm Surge,	Other	North Biscayne Bay
Key Biscayne	Village Hall Courtyard Improvement Demonstration Project	Flood	Infra (Water/Sewer/Drain)	North Biscayne Bay
Key Biscayne	CERT Readiness	All Hazards	Outreach	North Biscayne Bay
Key Biscayne	Purchase of Emergency Vehicles	Health ,Security Breach, Flood /Storm Surge	Equipment	North Biscayne Bay
Key Biscayne	Stormwater outfall Rehabilitation	Multiple	Infra (Water/Sewer/Drain)	North Biscayne Bay
Key Biscayne	Flap Gates at Outfalls	Flood	Infra (Water/Sewer/Drain)	North Biscayne Bay
Key Biscayne	Drainage Improvements on Fernwood Road & Hampton Road	Flood	Infra (Water/Sewer/Drain)	North Biscayne Bay

Agency	Project Title	Hazards	Project Type	Flood Basin
Key Biscayne	Drainage Improvements on East Heather Drive	Flood	Infra (Water/Sewer/Drain)	North Biscayne Bay
Key Biscayne	Erosion Control Web Q&A and Response System	Multiple	Outreach	North Biscayne Bay
Key Biscayne	Comprehensive Review of Local Laws and Regulations	Flood	Other	North Biscayne Bay
Key Biscayne	New Stormwater Outfall Construction	Multiple	Infra (Water/Sewer/Drain)	North Biscayne Bay
Medley	NW South River Drive Drainage Improvements	Flood, Wind	Infra (Water/Sewer/Drain)	
Medley	Drainage Improvements Phase IV	Flood Health ,Power Failure	Infra (Water/Sewer/Drain)	
Medley	Flood Mitigation Area South	Flood	Infra (Water/Sewer/Drain)	
Medley	Medley Public Services Facilities Strengthening	Wind ,Flood	Infrastructure (Building)	
Medley	Tobie Wilson Park Flood Proofing & Strengthening	Flood	Infrastructure (Building)	
Medley	Russian Colony Canal Bank Stabilization	Flood	Beach/Seawall	
Medley	Town Hall Building Strengthening	Flood	Infrastructure (Building)	
Medley	Drainage Improvements Phase III	Flood ,Health	Infra (Water/Sewer/Drain)	
Medley	Drainage Improvements Phase I	Flood ,Health	Infra (Water/Sewer/Drain)	
Medley	Drainage Improvements Phase II	Flood, Health, Power Failure	Infra (Water/Sewer/Drain)	
Medley	Paving & Drainage Improvements	Flood ,Health, Power Failure	Infra (Water/Sewer/Drain)	
Mercy	Protection of Crawl Spaces	Flood/Storm Surge	Infra (Water/Sewer/Drain)	
Mercy	Storm Surge Mitigation	Flood/Storm Surge	Beach/Seawall	
Miami	Radios for Solid Waste	All Hazards	Equipment	C6
Miami	Citywide Outfalls Cleaning	Flood	Infra (Water/Sewer/Drain)	North Biscayne Bay
Miami	Restoration of Native Species	Flood/Storm Surge	Other	South Biscayne Bay
Miami	Flood-Proof First Floor of Main Police Building	Flood/Storm Surge	Infra (Water/Sewer/Drain)	C6
Miami	Kennedy Park Shoreline Stabilization, Phase I	Flood/Storm Surge	Infra (Water/Sewer/Drain)	DA-1
Miami	Replace and Improve City-owned Seawalls	Flood/Storm Surge	Beach/Seawall	DA-1
Miami	Clean and Dredge Canals and Waterways	Flood/Storm Surge	Infra (Water/Sewer/Drain)	C6
Miami	Flood-Proofing Government Buildings GSA/Miami Riverside Center	Flood/Storm Surge	Infra (Water/Sewer/Drain)	C6
Miami	Loans to Private Owners to Improve Seawalls & Stabilize Shorelines	Sea Level Rise	Beach/Seawall	DA-1
Miami	Hadley Park Neighborhood Drainage Improvements	Flood/Storm Surge	Infra (Water/Sewer/Drain)	North Biscayne Bay
Miami	Little River Storm Sewers Retrofitting Project, Phase II	Flood/Storm Surge	Infra (Water/Sewer/Drain)	North Biscayne Bay
Miami	NE/NW 14th Street from NE 2nd Avenue to FEC Track; North Miami Avenue from NE/NW 15th Street to I-395 Right-of-way Line.	Flood	Infrastructure (Roadway)	C7
Miami	Citywide Auger Hole Replacement	Flood	Infra (Water/Sewer/Drain)	
Miami	Over town Greenway Phase I	Flood	Infrastructure (Roadway)	C6
Miami	Citywide North-South Storm Sewer Cleaning	Flood/Storm Surge	Infra (Water/Sewer/Drain)	
Miami	Mary Brickell Village Drainage Improvements	Flood	Infrastructure (Roadway)	C7
Miami	South Bayshore Drive Road Improvements	Flood/Storm Surge	Infrastructure (Roadway)	DA-1

Agency	Project Title	Hazards	Project Type	Flood Basin
Miami	N.W. 71st Street Main Trunk Storm Sewer Project	Flood/Storm Surge	Infra (Water/Sewer/Drain)	North Biscayne Bay
Miami	77: S. Miami Ave and Side Street Drainage Improvements	Flood/Storm Surge	Other	Conservation Area 3B
Miami	Auburn Storm Sewers Project - Phase III	Flood/Storm Surge	Infra (Water/Sewer/Drain)	DA-1
Miami	Auburn Storm Sewers Project - Phase I and Phase II	Flood/Storm Surge	Infra (Water/Sewer/Drain)	DA-1
Miami	Reid Acres Storm Sewers Project	Flood/Storm Surge	Infra (Water/Sewer/Drain)	C7
Miami	Avalon Storm Sewers Project - Phase III	Flood/Storm Surge	Infra (Water/Sewer/Drain)	DA-1
Miami	Lawnview Storm Sewers Project	Flood/Storm Surge	Infra (Water/Sewer/Drain)	DA-1
Miami	Watson Island Baywalk	Flood/Storm Surge	Beach/Seawall	North Biscayne Bay
Miami	NW 14th Street Streetscape Project	Flood	Infrastructure (Roadway)	C6
Miami	NW 2nd Avenue (11th to I-395)	Flood	Infrastructure (Roadway)	C7
Miami	Miami River Greenway NW 5th Street Bridge Approach	Flood	Infrastructure (Roadway)	C6
Miami	Kennedy Park Floating Dock, Phase I	Flood/Storm Surge	Other	DA-1
Miami	Belle Meade Storm Sewers Project, Phase I	Flood/Storm Surge	Infra (Water/Sewer/Drain)	North Biscayne Bay
Miami	Grove Park (formerly known as Glenroyal) Storm Sewers Project	Flood/Storm Surge	Infra (Water/Sewer/Drain)	DA-1
Miami	Liberty Storm Sewers Project	Flood/Storm Surge	Infra (Water/Sewer/Drain)	C7
Miami	Englewood Storm Sewers Project -Phase III	Flood/Storm Surge	Infra (Water/Sewer/Drain)	DA-1
Miami	SW 3rd Avenue Road Improvement Project	Flood	Infrastructure (Roadway)	C7
Miami	Citywide Deep Drainage Wells Cleaning	Flood	Infra (Water/Sewer/Drain)	
Miami	Citywide Non-Standard Drainage System Improvements	Flood	Infra (Water/Sewer/Drain)	
Miami	Silver Bluff Drainage Improvements	Flood/Storm Surge	Other	DA-1
Miami	Douglas Park Neighborhood Drainage Improvements	Flood/Storm Surge	Other	DA-1
Miami	Bayhomes Drive Neighborhood Drainage Improvements	Flood/Storm Surge	Other	DA-1
Miami	Miami River Greenway SE 5th Street Extension	Flood	Infrastructure (Roadway)	C6
Miami	Miami River Greenway (NW 10th Avenue to NW 12th Avenue)	Flood	Infrastructure (Roadway)	C6
Miami	Acquire Portable Pumps and Generators	Flood/Storm Surge	Infra (Water/Sewer/Drain)	
Miami	Garden Storm Sewers Project -Phase II	Flood/Storm Surge	Infra (Water/Sewer/Drain)	DA-1
Miami	Fairway Storm Sewers Project	Flood/Storm Surge	Infra (Water/Sewer/Drain)	C7
Miami Beach	Venetian Islands Drainage Improvements	Flood/Storm Surge	Infra (Water/Sewer/Drain)	
Miami Beach	Extensive Repairs to Seawalls	Flood/Storm Surge	Beach/Seawall	
Miami Beach	Lake Pancoast Area Drainage Improvements	Flood/Storm Surge	Infra (Water/Sewer/Drain)	
Miami Beach	Biscayne Point Drainage Improvements	Flood/Storm Surge	Infra (Water/Sewer/Drain)	
Miami Beach	Streetlight System Upgrade	Flood/Storm Surge	Traffic Control	
Miami Beach	Citywide Dune Enhancement Project	Flood/Storm Surge	Infra (Water/Sewer/Drain)	
Miami Beach	Acquisition of Emergency Generators	All Hazards	Other	
Miami Beach	Stormwater Outfall and Seawall Reconstruction	Flood/Storm Surge	Infra (Water/Sewer/Drain)	
Miami Beach	48" Outfall at Easement 4180-4200 Chase Avenue	Flood/Storm Surge	Infra (Water/Sewer/Drain)	
Miami Beach	Canal Cleaning and Shaping - Citywide	Flood/Storm Surge	Infra (Water/Sewer/Drain)	
Miami Beach	Flood Proofing Sewer and Pump Stations	Flood/Storm Surge	Infra (Water/Sewer/Drain)	
Miami Beach	South Pointe III - V Drainage Improvements	Flood/Storm Surge	Infra (Water/Sewer/Drain)	
Miami Beach	Oceanfront Drainage Improvements	Flood/Storm Surge	Infra (Water/Sewer/Drain)	
Miami Beach	Lakeview Drainage Improvements	Flood/Storm Surge	Infra (Water/Sewer/Drain)	
Miami Beach	Middle North Bay Road Drainage Improvements	Flood/Storm Surge	Infra (Water/Sewer/Drain)	
Miami Beach	West Avenue Drainage Improvements	Flood/Storm Surge	Infra (Water/Sewer/Drain)	
Miami Beach	Flamingo / Lummus Drainage Improvements	Flood/Storm Surge	Infrastructure (Building)	
Miami Beach	Citywide Stormwater Infrastructure Improvements	Flood/Storm Surge	Infra (Water/Sewer/Drain)	
Miami Beach	Sunset Harbor Pump Station Upgrades	Flood/Storm Surge	Infra (Water/Sewer/Drain)	
Miami Beach	Sunset Islands III & IV Drainage Improvements	Flood/Storm Surge	Infra (Water/Sewer/Drain)	
Miami Beach	Central Bayshore Drainage Improvements	Flood/Storm Surge	Infra (Water/Sewer/Drain)	
Miami Beach	Bayshore Drainage Improvements	Flood/Storm Surge	Infra (Water/Sewer/Drain)	

Agency	Project Title	Hazards	Project Type	Flood Basin
Miami Beach	Palm and Hibiscus Area Drainage Improvements	Flood/Storm Surge	Infra (Water/Sewer/Drain)	
Miami Beach	La Gorce Drainage Improvements	Flood/Storm Surge	Infra (Water/Sewer/Drain)	
Miami Dade College	Wolfson Campus, bldg 5000	Flood/Storm Surge	Infrastructure (Building)	
Miami Dade College	Wolfson Campus, bld 1000	Flood/Storm Surge	Infrastructure (Building)	
Miami Gardens	drainage improvement NW 25 Ave and 167 Streen North	Flood/Storm Surge	Infra (Water/Sewer/Drain)	C8
Miami Gardens	Vista Verde Remaining Phae from Snake Creak Canal to NW 41 Ave Rd	Flood/Storm Surge	Infra (Water/Sewer/Drain)	C9-E
Miami Gardens	Drainage Improvement NW 191- 195 Street, from NW 2nd Ave (441) to NW 7th Ave	Flood/Storm Surge	Infra (Water/Sewer/Drain)	C9-E
Miami Gardens	Bridge Replacement	Flood/Storm Surge	Infrastructure (Roadway)	C9-E
Miami Gardens	Flood proofing Police Department Building	Flood/Storm Surge	Infrastructure (Building)	C8
Miami Gardens	Drainage improvement NW 205-207 Street from NW 28-33 Ave	Flood/Storm Surge	Infra (Water/Sewer/Drain)	C9-E
Miami Gardens	20060 NW 29th Court, minor drainage improvement	Flood/Storm Surge	Infra (Water/Sewer/Drain)	C9-E
Miami Gardens	3857 NW 213 Street, still under investigation for scope of drainage improvements	Flood/Storm Surge	Infra (Water/Sewer/Drain)	C9-E
Miami Gardens	drainage improvement NW 191Street-196 Terrace, from NW Sunshine State Parkway East to NW 12 Avenue	Flood/Storm Surge	Infra (Water/Sewer/Drain)	C9-E
Miami Gardens	Drainage Improvements 1311 NW 195 Street	Flood/Storm Surge	Infra (Water/Sewer/Drain)	C9-E
Miami Gardens	NW 13 Avenue/Industrial Area Drainage Outfall Project	Flood	Infrastructure (Roadway)	C8
Miami Gardens	NW 27 Avenue Canal Stabilization	Flood ,Storm Surge	Other	C9-E
Miami Gardens	Kings Gardens #3	Flood, Other	Infrastructure (Roadway)	C9-E
Miami Gardens	Create GIS Layer for Storm Sewer Infrastructure	Flood/Storm Surge	Equipment	C9-E
Miami Gardens	Livable Neighborhoods Initiative	Flood/Storm Surge	Infra (Water/Sewer/Drain)	C9-E
Miami Gardens	Drainage Improvements NW 170 St west of 22 Ave	Flood/Storm Surge	Infra (Water/Sewer/Drain)	C8
Miami Gardens	NW 11 Avenue Stormwater Drainage Project	Flood	Infrastructure (Roadway)	C8
Miami Gardens	Vista Verde Phase 1b area along NW 39 Aven from 207-209 St	Flood/Storm Surge	Infra (Water/Sewer/Drain)	C9-E
Miami Gardens	Flood Mitigation	Flood	Infra (Water/Sewer/Drain)	C9-E
Miami Lakes	Localized Drainage Improvements	Flood/Storm Surge	Infra (Water/Sewer/Drain)	
Miami Lakes	NW 83rd Place	Flood/Storm Surge	Infra (Water/Sewer/Drain)	
Miami Lakes	Lake Martha Drainage Improvements	Flood	Infra (Water/Sewer/Drain)	
Miami Lakes	West Lakes Drainage Improvements	Flood	Infra (Water/Sewer/Drain)	
Miami Lakes	Royal Oaks Drainage Improvements	Flood	Infra (Water/Sewer/Drain)	
Miami Lakes	Lake Sarah Drainage Improvements	Flood	Infra (Water/Sewer/Drain)	
Miami Lakes	Optimist Park Improvements	Flood/Storm Surge	Infra (Water/Sewer/Drain)	
Miami Lakes	Purchase Barricades	Multiple	Traffic Control	
Miami Lakes	Local Radio Station	Multiple	Notification	
Miami Lakes	Purchase and Install Emergency Radio System	Multiple	Equipment	
Miami Springs	Purchase and Install a Radio Repeater System	Multiple	Equipment	
Miami Springs	Engineering Study to determine sites of canal bank restoration	Flood	Infra (Water/Sewer/Drain)	
Mount Sinai	Code Plus Construction Enhancements New Medical Office Tower	All Hazards	Infrastructure (Building)	
Mount Sinai	Protect Critical Services	Flood	Other	
Mount Sinai	Mitigate the Impact of Storm Surge	Flood/Storm Surge	Infra (Water/Sewer/Drain)	
Mount Sinai	Code Plus Construction Energy Center Facility Protect Redundant Power Supply	All Hazards	Infrastructure (Building)	
Mount Sinai	Elevate Seawall	Flood	Beach/Seawall	
Mount Sinai	Energy Center 1	Power Failure, Flood/Storm Surge, Health, Wind	Equipment	
Mount Sinai	Utility Bridge and Power Distribution	All Hazards	Equipment	
Mount Sinai	Energy Center 2	Wind Flood/Storm Surge, Health, Power Failure	Infrastructure (Building)	
Mount Sinai	Harden Research and Education Building	All Hazards	Infra (Water/Sewer/Drain)	

Agency	Project Title	Hazards	Project Type	Flood Basin
Mount Sinai	Mitigate Storm Drainage	Flood/Storm Surge	Infra (Water/Sewer/Drain)	
North Bay Village	Digital City Survey	Flood	Other	
North Bay Village	Hispaniola Sewage Pump Station	Flood	Infra (Water/Sewer/Drain)	
North Bay Village	North Bay Island Stormwater Pump Station Rehabilitation	Flood/Storm Surge	Infra (Water/Sewer/Drain)	
North Bay Village	Storm Drainage Outfall Protection	Flood/Storm Surge	Infra (Water/Sewer/Drain)	
North Bay Village	Existing Sewer Force Main	Flood	Infra (Water/Sewer/Drain)	
North Bay Village	Storm Drainage, Sewage, Bay Restoration	Flood/Storm Surge	Infra (Water/Sewer/Drain)	
North Miami	Non-critical Facilities Hazard Mitigation	Flood/Storm Surge, Other	Infrastructure (Building)	
North Miami	Utility Operation Center Surge Suppression System	Storm Surge, Power Failure	Infrastructure (Building)	
North Miami	Flood Prevention and Mitigation: Drainage Basin13	Flood	Infra (Water/Sewer/Drain)	C8
North Miami	Emergency Portable Stormwater Pumps	Flood/Storm Surge	Equipment	C8
North Miami	Correct Water Infiltration at City Hall (EOC) Basement	Flood, Storm Surge	Infrastructure (Building)	
North Miami Beach	NE 19th Avenue Business District Sewers	Flood	Infra (Water/Sewer/Drain)	
North Miami Beach	Dead End Eliminations	Flood	Infra (Water/Sewer/Drain)	
North Miami Beach	Storm Water Master Plan	Flood	Infra (Water/Sewer/Drain)	
North Miami Beach	Storm Water Pump Replacement Program	Flood	Infra (Water/Sewer/Drain)	
North Miami Beach	Pump Replacements	Flood	Infra (Water/Sewer/Drain)	
North Miami Beach	Trenchless Pipe Replacements	Flood	Infra (Water/Sewer/Drain)	
North Miami Beach	Storm Water Improvement City-Wide	Flood	Infra (Water/Sewer/Drain)	
North Miami Beach	Install Additional Storm Water Basins or Increase Existing Basins	Flood	Infra (Water/Sewer/Drain)	
North Miami Beach	Construct Storm Water System that may include Injection Wells in Areas Prone to Flooding	Flood	Infra (Water/Sewer/Drain)	
North Miami Beach	NE 161 Street Drainage Improvement	Flood	Infra (Water/Sewer/Drain)	
North Miami Beach	Clean and Improve Drainage Systems	Flood	Infra (Water/Sewer/Drain)	
North Miami Beach	Miami Industrial District Drainage and Roadway Improvement	Flood	Infra (Water/Sewer/Drain)	
North Miami Beach	Eastern Shores Drainage Repair/Replacement	Flood	Infra (Water/Sewer/Drain)	
North Miami Beach	Renovation of Eastern Shores Outfall Pipes	Flood	Infra (Water/Sewer/Drain)	
North Miami Beach	NE 172nd Street Drainage Improvement	Flood	Infra (Water/Sewer/Drain)	
North Miami Beach	Develop Evacuation Procedures & Contractual	All Hazard	notification/outreach/other	
North Miami Beach	Highland Village Drainage Improvements	flood	Infra (Water/Sewer/Drain)	
North Miami Beach	Miami Drive Roadway Improvements	flood	Infra (Water/Sewer/Drain)	
North Miami Beach	NE 19 Avenue Roadway Improvements	flood	Infra (Water/Sewer/Drain)	
North Miami Beach	NE 165 Street Roadway Improvements	flood	Infra (Water/Sewer/Drain)	
North Miami Beach	NE 162 Street Roadway Improvements	flood	Infra (Water/Sewer/Drain)	
North Miami Beach	NE 161 Street Drainage Improvements	flood	Infra (Water/Sewer/Drain)	

Agency	Project Title	Hazards	Project Type	Flood Basin
North Miami Beach	Renovation of Eastern Shores Outfall pipes	flood	Infra (Water/Sewer/Drain)	
North Miami Beach	Extend Sanitary Sewer System/Remove Septic Tank Systems	flood	Infra (Water/Sewer/Drain)	
North Miami Beach	Construct Injection Wells in Areas Prone to Flooding	flood	Infra (Water/Sewer/Drain)	
North Miami Beach	Install Additional Stormwater Catch Basins.	flood	Infra (Water/Sewer/Drain)	
North Miami Beach	NE 172 Street Drainage Improvement	flood	Infra (Water/Sewer/Drain)	
North Miami Beach	Provide Disaster Training for Public Works Employee	All Hazard	notification/outreach/other (training)	
North Miami Beach	Establish Additional Hurricane Shelters	All Hazard	infrastructure (building)	
Opa Locka	NW 147th Street Drainage	Flood, Health, Wind, Flood/Storm Surge	Infra (Water/Sewer/Drain)	
Opa Locka	141st Roadway & Drainage Improvements	Flood, Health	Infrastructure (Roadway)	
Palmetto Bay	Facility Hardening & Roof Replacement for Recreational Building at Coral Reef Park	Flood/Storm Surge, Wind	Infrastructure (Building)	C100
Palmetto Bay	Swale and Tree Trimming Program	Flood/Storm Surge, Other, Wind	Other	C100
Palmetto Bay	Downtown Redevelopment	Wind, Flood/Storm Surge	Infrastructure (Roadway)	C100
Palmetto Bay	Improvements to Public Works Facility	Flood/Storm Surge, Wind	Infrastructure (Building)	C100
Palmetto Bay	Clean and Improve Drainage System	Flood/Storm Surge	Infra (Water/Sewer/Drain)	C100
Palmetto Bay	Repetitive Loss Retrofit	Flood/Storm Surge, Wind, Sea Level Rise	Infrastructure (Building)	C100
Palmetto Bay	Acquire a High Water Vehicle	Flood/Storm Surge	Equipment	C100
Palmetto Bay	Hazardous Material Containment	Health, Flood/Storm Surge, Wind	Equipment	C100
Palmetto Bay	Purchase Hurricane Preparedness & Debris Clearance Equipment	Flood, Wind	Equipment	C100
Palmetto Bay	Remove Australian Pines within Village Limits along Roadways that Connect to Evacuation Routes	Flood/Storm Surge, Wind	Other	C100
Palmetto Bay	Street Sweeping Program	Flood/Storm Surge, Other	Other	C100
Palmetto Bay	Drainage Improvements for Sub-Basin # 6	Flood/Storm Surge	Infra (Water/Sewer/Drain)	C100
Palmetto Bay	Drainage Improvements for Sub-Basin # 11	Flood/Storm Surge	Infra (Water/Sewer/Drain)	C100
Palmetto Bay	Flood Zone Data Maintenance: GIS System	Flood/Storm Surge, Other		C100
Palmetto Bay	Emergency Warning Phone Call System (Reverse 911)	All Hazards	Equipment	C100
Palmetto Bay	Public Information and Educational Campaign	All Hazards	Outreach	C100
Palmetto Bay	Pre-Disaster Employee Response Plan and Training	Flood/Storm Surge, Other	Other	C100
Palmetto Bay	Canal and Waterway Maintenance	Flood/Storm Surge, Sea Level Rise	Other	C100
Palmetto Bay	Canal Bank Erosion Protection	Flood/Storm Surge, Other	Beach/Seawall	C100
Palmetto Bay	Emergency Portable Stormwater Pumps	Flood/Storm Surge, Sea Level Rise	Equipment	C100
Palmetto Bay	Localized Drainage Improvements	Flood/Storm Surge	Infra (Water/Sewer/Drain)	C100
Palmetto Bay	Drainage Improvements - SW 87 AVE (from SW 168 ST to SW 184 ST)	Flood/Storm Surge	Infra (Water/Sewer/Drain)	C100
Palmetto Bay	Drainage Improvements for Sub-Basin # 12	Flood/Storm Surge	Infra (Water/Sewer/Drain)	C100
Palmetto Bay	Drainage Improvements for Sub-Basin # 3	Flood/Storm Surge	Infra (Water/Sewer/Drain)	C100
Parks	Sea Wall Replacement and Repair - Haulover Marina	Sea Level Rise	Beach/Seawall	
Parks	Sea Wall Replacement and Repair - Matheson Hammock Marina	Sea Level Rise	Beach/Seawall	

Agency	Project Title	Hazards	Project Type	Flood Basin
Parks	Sea Wall Replacement and Repair - Pelican Harbor Marina	Sea Level Rise	Beach/Seawall	
Parks	Sea Wall Replacement and Repair - Crandon Marina	Sea Level Rise	Beach/Seawall	
Pinecrest	Canal Bank Erosion Protection	Flood/Storm Surge	Infra (Water/Sewer/Drain)	
Police	Miami-Dade Police Department - Installation of Offsite Disaster Recovery Equipment for MDPD Network	Flood, Power Failure, Security Breach, Technological Disruption, Wind	COOP	
Police	Miami-Dade Public Safety Institute - Replacement of existing office, classroom, and restroom trailers	Wind, Flood, Health	Infrastructure (Building)	
PWWM	Repetitive Loss Area - Arch Creek	Flood/Storm Surge, Sea Level Rise	Infrastructure (Building)	
PWWM	SW 157 AVE Canal Interconnect	Flood	Infra (Water/Sewer/Drain)	C2
PWWM	SW 157 AVE CANAL, from SW 8 ST to Bird RD	Flood	Infra (Water/Sewer/Drain)	C2
PWWM	Golden Glades Ditch Canal X-Section Improvements (NW 170 ST, from NW 117 TO 137 AVE)	Flood	Infra (Water/Sewer/Drain)	C8
PWWM	Golden Glades Ditch Canal X-Section Improvements (From NW 77 CT to NW 82 AVE)	Flood	Infra (Water/Sewer/Drain)	C8
PWWM	Golden Glades Ditch Canal X-Section Improvements (From NW 82 AVE to NW 87 AVE)	Flood	Infra (Water/Sewer/Drain)	C8
PWWM	Golden Glades Ditch Canal X-Section Improvements (From NW 67 AVE to NW 77 CT)	Flood	Infra (Water/Sewer/Drain)	C8
PWWM	C-103N Extension Canal, (From SW 240 ST to SW 268 ST)	Flood	Infra (Water/Sewer/Drain)	C103
PWWM	SW 204 ST, from SW 152 AVE to SW 162 AVE	Flood	Infra (Water/Sewer/Drain)	C102
PWWM	C111 Extension North , from SW 387 ST to SW 388 ST, following slough path	Flood	Infra (Water/Sewer/Drain)	C111
PWWM	SW 169 AVE, from SW 240 ST to SW 258 ST	Flood	Infra (Water/Sewer/Drain)	C103
PWWM	SW 167 AVE CANAL (167 AVE, from SW 10 ST to SW 42 ST)	Flood	Infra (Water/Sewer/Drain)	C2
PWWM	Culvert and Canal Improvements along SW 122 Avenue from SW 202 ST to the C-1W	Flood	Infra (Water/Sewer/Drain)	C1
PWWM	SW 63 ST CANAL, from SW 167 AVE, West for 0.2 miles)	Flood	Infra (Water/Sewer/Drain)	C2
PWWM	C-1N Canal Capacity Enhancement	Flood	Infra (Water/Sewer/Drain)	C1
PWWM	C-1 Extension, at SW 152 ST, from SW 177 AVE to SW 157 AVE	Flood	Infra (Water/Sewer/Drain)	C1
PWWM	C-113 Extension	Flood	Infra (Water/Sewer/Drain)	C111
PWWM	Highland Oaks Ditch Improvements	Flood	Infra (Water/Sewer/Drain)	N Bisc Bay - Oleta River
PWWM	NE 149 Street, from NE 10 Ave to NE 14 Ave	Flood	Infra (Water/Sewer/Drain)	N Bisc Bay - Arch Creek
PWWM	NE 163 St to NE 79 St east NE 6 Ave	Flood	Infra (Water/Sewer/Drain)	C9-E
PWWM	SW 122nd Ave Secondary Canal Enhancement Project SOW - Guaval Canal	Flood	Infra (Water/Sewer/Drain)	C1
PWWM	Larchmont Gardens Pump Station	Flood	Infra (Water/Sewer/Drain)	C7
PWWM	NE 6 AVE& NE 185 Street; NE Miami CT, from NE 196-198 ST; NW 22 AVE & NW 175 ST; North DR & NE 14 AVE	Flood	Infra (Water/Sewer/Drain)	C9-E
PWWM	Drainage Improvements to the Seaboard Acres Ditch	Flood	Infra (Water/Sewer/Drain)	C8
PWWM	Seaboard Acres Pump Station	Flood ,Sea Level Rise	Infra (Water/Sewer/Drain)	C8
PWWM	NW 19 Avenue and NW 84 Street	Flood	Infrastructure (Roadway)	C7
PWWM	NW 39 Street and NW 25 Avenue	Flood	Infra (Water/Sewer/Drain)	C6
PWWM	From SW 264 ST to SW 284 ST; from SW 167 AVE to SW 177 AVE	Flood	Infra (Water/Sewer/Drain)	
PWWM	From SW 280 ST to SW 288 ST; from SW 142 AVE to South Dixie HWY	Flood	Infra (Water/Sewer/Drain)	
PWWM	From SW 266 ST to SW 288 ST; from SW 127 AVE to SW 142 AVE	Flood	Infra (Water/Sewer/Drain)	

Agency	Project Title	Hazards	Project Type	Flood Basin
PWWM	SW 152 Terr and SW 160 St between SW 126 Ave and S Dixie Hwy	Flood	Infra (Water/Sewer/Drain)	
PWWM	From SW 92 AVE to SW 99 AVE (C100-E-5), and From SW 112 ST to SW 129 ST (C100-C-13, HOWARD-DR-1)	Flood	Infra (Water/Sewer/Drain)	
PWWM	From SW 104 ST to SW 120 ST	Flood	Infra (Water/Sewer/Drain)	
PWWM	From SW 95 CT to SW 117 AVE	Flood	Infra (Water/Sewer/Drain)	
PWWM	SW 152 At and SW 157 Ave between 144 Ct and 142 Ave (C1-C-12), SW 210 St and SW 192 St between SW 122 Ave and SW 130 Ct (C1-N-9), SW 184 St and SW 208 Terr between SW 127 Ave and Sw 113 St (C1N- W-3)	Flood	Infra (Water/Sewer/Drain)	
PWWM	From Bahama Drive to Grouper Drive From Holiday Road to Anchor Road	Flood	Infra (Water/Sewer/Drain)	
PWWM	From SW 102 AVE to SW 114 AVE between S Dixie Hwy and the FL Turnpike	Flood	Infra (Water/Sewer/Drain)	
PWWM	SW 72 St to SW 88 St between 107 Ave and 117 Ave	Flood	Infra (Water/Sewer/Drain)	
PWWM	From Davis DR to SW 88 ST, from SW 103 AVE to SW 107 AVE; From SW 88 TER to SW 90 ST, from SW 99 CT to SW 102 AVE; From SW 88 TER to SW 104 ST, from SW 77 AVE to SW 87 AVE; From SW 55 ST to SW 72 ST, from SW 114 AVE to SW 117 AVE.	Flood	Infra (Water/Sewer/Drain)	
PWWM	From SW 56 ST (Miller Drive) to SW 72 ST (Sunset Drive) between From SW 87 AVE to SW 97 AVE	Flood	Infra (Water/Sewer/Drain)	
PWWM	From SW 42 TER to SW 53 ST between From SW 127 AVE to SW 132 AVE	Flood	Infra (Water/Sewer/Drain)	
PWWM	From SW 81 ST to SW 83 ST between From SW 79 AVE to SW 87 AVE (Galloway Road)	Flood	Infra (Water/Sewer/Drain)	
PWWM	From SW 56 ST (Miller Drive) to SW 72 ST (Sunset Drive) between SW 97 AVE to SW 107 AVE	Flood	Infra (Water/Sewer/Drain)	
PWWM	From SW 73 TER to SW 88 ST between From Davis Drive to SW 107 AVE	Flood	Infra (Water/Sewer/Drain)	
PWWM	From SW 24 ST to Bird Road between From SW 107 AVE to SW 117 AVE	Flood	Infra (Water/Sewer/Drain)	
PWWM	SW 24 ST to ST 12 ST from SW 82 AVE to Palmetto Expressway	Flood	Infra (Water/Sewer/Drain)	
PWWM	SW 24 ST to SW 40 ST from SW 82 AVE to Palmetto Expressway	Flood	Infra (Water/Sewer/Drain)	
PWWM	SW 72 ST to SW 80 ST from SW 57 AVE to SW 49 AVE	Flood	Infra (Water/Sewer/Drain)	
PWWM	SW 8 ST to SW 15 ST from SW 42 AVE to Santiago ST	Flood	Infra (Water/Sewer/Drain)	
PWWM	SW 67th AVE just north of SW 36th ST	Flood	Infra (Water/Sewer/Drain)	
PWWM	Flager St to NW 7 St between Palmetto Exp and NW 72 Ave (CNW-W-1), NW 6 St to SW 8 St between SW 127 Ave and FI Turnpike (CC4-N-10)	Flood	Infra (Water/Sewer/Drain)	
PWWM	Flagler St to SW 8 St between SW 87 Ave and SW 92 Ave	Flood	Infra (Water/Sewer/Drain)	
PWWM	SW 24 ST from SW 99 AVE to SW 107 AVE	Flood	Infra (Water/Sewer/Drain)	
PWWM	From W Flagler ST to SW 5 ST;from SW 77 AVE to C-4 Canal	Flood	Infra (Water/Sewer/Drain)	
PWWM	NW 74 St to NW 58 St between NW 87 Ave and NW 77 Ct	Flood	Infra (Water/Sewer/Drain)	
PWWM	NW 79 ST to NW 72 ST between E 11 AVE to NW 21 AVE	Flood	Infra (Water/Sewer/Drain)	
PWWM	NW 85 St to NW 80 St between Miami Ave and NW 6 Ave	Flood	Infra (Water/Sewer/Drain)	
PWWM	NE 164 St to Spur #4 Canal between N Biscayne Dr and NE 5 Ave (C8-N-17), Biscayne Canal to NW 135 St between Expwy and Biscayne Canal (C8-W-1), NE 4 Ave to Griffing Blvd between Ne 2 Ave and Biscayne Canal (C8-W-6), Biscayne Canal Rd to NE 92 St between NE 6 Ave and NE 1 Ave (C8-W-8)	Flood	Infra (Water/Sewer/Drain)	
PWWM	NW 22 Ave between NW 135 St and NW 151 St	Flood	Infra (Water/Sewer/Drain)	
PWWM	NE 4th Ave and NE 139 St	Flood	Infra (Water/Sewer/Drain)	
PWWM	NE 2nd Ave from NEW 191 St to C-9	Flood	Infra (Water/Sewer/Drain)	

Agency	Project Title	Hazards	Project Type	Flood Basin
PWWM	NE 171 St and NE 213 St between NE 15 Ave and NE 34 Ave	Flood	Infra (Water/Sewer/Drain)	
PWWM	NW 175 St between NW 37 Ave and NW 42 Ave	Flood	Infra (Water/Sewer/Drain)	
PWWM	NW 37 Ave between NW 183 St and NW 180 ST	Flood	Infra (Water/Sewer/Drain)	
PWWM	NW 191 St between NW 32 Ave and NW 47 Avenue	Flood	Infra (Water/Sewer/Drain)	
PWWM	NW 169 Terr to NW 170 St between NW 87 Ave and I-75 Ext	Flood	Infra (Water/Sewer/Drain)	
PWWM	From C-9 CANAL to NW 203 TERR. From NW 47 AVE to NW 52 AV	Flood	Infra (Water/Sewer/Drain)	
PWWM	NW 186 St, from NW 177 Ave to (approx.) NW 67 Ave	Flood	Infra (Water/Sewer/Drain)	
PWWM	Replacement of Culverts in C1-N Canal	Flood	Infra (Water/Sewer/Drain)	
PWWM	Addition of Conveyance Pipe to French Drains in C1-S-5 Sub-Basin	Flood	Infra (Water/Sewer/Drain)	
PWWM	Flap Gates on Existing Overflow Structures in C-1 Canal	Flood	Infra (Water/Sewer/Drain)	
PWWM	Conveyance Pipe to Connect Two French Drain Systems	Flood	Infra (Water/Sewer/Drain)	
PWWM	Box Culvert, along SW 152 ST, from SW 147-157 AVE	Flood	Infra (Water/Sewer/Drain)	
PWWM	Flood Control Measure for Sub-Basin C1N-E-3	Flood	Infra (Water/Sewer/Drain)	
PWWM	French Drains to connect to existing FEMA Drains	Flood	Infra (Water/Sewer/Drain)	
PWWM	Remleys Drainage Improvement Project	Flood	Infra (Water/Sewer/Drain)	
PWWM	Drainage Improvements of the Ojus and J H GLISSONS Subdivisions	Flood	Infra (Water/Sewer/Drain)	
PWWM	Mitigation of Tree Related Damage to Infrastructure	Flood	Infra (Water/Sewer/Drain)	
PWWM	55th Street Erosion Control Breakwater	Flood	Beach/Seawall	
PWWM	Severe Repetitive Loss Projects	Flood	Infra (Water/Sewer/Drain)	
PWWM	Construction of New Breakwater Structure in the Vicinity of FDEP R-Monument 60	Flood	Beach/Seawall	
PWWM	32nd Street Breakwater Rehabilitation and Stabilization	Flood	Beach/Seawall	
Seaport	Storm Bollards	Other, Storm Surge	Other	
Seaport	Concrete Panels	Storm Surge	Other	
Seaport	North Bulkheads	Flood/Storm Surge	Beach/Seawall	
Seaport	Drainage Mitigation Plan	Flood	Infra (Water/Sewer/Drain)	
Seaport	Strengthening of Bulkheads & New Berths	Other, Storm Surge	Other	
Seaport	Construction of New Seawall - Area 2	Flood/Storm Surge	Beach/Seawall	
Seaport	Upgrade of Master Pump Station	Flood/Storm Surge	Infra (Water/Sewer/Drain)	
South Miami	Citywide Drainage Phases 7- 10	Flood/Storm Surge	Infra (Water/Sewer/Drain)	
South Miami	Weatherband Radio & 30 Hand-held Radios	Flood/Storm Surge, Wind, Other	Equipment	
South Miami	Flood Mitigation Study	Flood/Storm Surge	Infra (Water/Sewer/Drain)	
South Miami	City-Wide Storm Drainage Clean-out	Flood/Storm Surge	Infra (Water/Sewer/Drain)	
South Miami	Dorn Avenue Drainage Improvements	Flood/Storm Surge	Infra (Water/Sewer/Drain)	
South Miami	Citywide Drainage Improvements, Phase 6	Flood/Storm Surge	Infra (Water/Sewer/Drain)	
South Miami	Acquisition of Vacuum Truck for Drainage System Cleaning	Flood	Equipment	
South Miami	Improvement of the Stormwater Drainage System	Flood/Storm Surge	Infra (Water/Sewer/Drain)	
St. Thomas University	Upgrade of Lift Station Pump	Flood	Infra (Water/Sewer/Drain)	
Sunny Isles Beach	Heritage Park Rainwater Catchment Systems	Flood		
Sunny Isles Beach	Relocation and Purchase of Generator at the Government Center	Flood	Equipment	
Sunny Isles Beach	Central Island Drainage Project Pump Station/Rainwater Catchment System used as an Alternative to Assist with Flooding and Irrigating	Flood	Infra (Water/Sewer/Drain)	
Surfside	Generator Relocation	Flood	Infrastructure (Building)	
Surfside	Conduct a Study of Storm Surge Mitigation Measures	Flood/Storm Surge	Beach/Seawall	
Surfside	Stormwater Management System Improvements	Flood	Infra (Water/Sewer/Drain)	
University of Miami	U of Miami McArthur Annex	Multiple	Infrastructure (Building)	
University of Miami	U of Miami Ferre Building	Multiple	Infrastructure (Building)	

Agency	Project Title	Hazards	Project Type	Flood Basin
University of Miami	U of Miami Panhellenic Building	Multiple	Infrastructure (Building)	
University of Miami	U of Miami Law C and E Buildings	Multiple	Infrastructure (Building)	
University of Miami	U of Miami Fillmore Building	Multiple	Infrastructure (Building)	
University of Miami	U of Miami Volpe Building	Multiple	Infrastructure (Building)	
University of Miami	U of Miami Weeks Building	Multiple	Infrastructure (Building)	
University of Miami	U of Miami Architecture 48 and 49	Multiple	Infrastructure (Building)	
University of Miami	U of Miami Stanford Towers	Multiple	Infrastructure (Building)	
University of Miami	U of Miami Mahoney-Pearson	Multiple	Infrastructure (Building)	
University of Miami	U of Miami Eaton Hall	Multiple	Infrastructure (Building)	
Virginia Gardens	VG - NW 40 street Stormwater Improvement Project	Flood	Infra (Water/Sewer/Drain)	
Vizcaya Museum	Emergency Structural Repairs	Multiple	Infrastructure (Building)	
Water and Sewer	Replace LeJeune Road Office Building HVAC	Flood	Infrastructure (Building)	
Water and Sewer	Replacement of Canal and Bridge Crossing Pipes	Flood	Equipment	
Water and Sewer	Increased Wastewater Transmission and Treatment Capacity	Flood	Infra (Water/Sewer/Drain)	
West Miami	Reconstruction/Raising of the Recreational Center Building	Flood/Storm Surge	Infrastructure (Building)	
West Miami	Reconstruction /Raising of Public Works Motor Pool Building	Flood/Storm Surge	Infrastructure (Building)	
West Miami	Citywide Drainage Improvements	Flood/Storm Surge	Infra (Water/Sewer/Drain)	

Public Information Activities

Miami-Dade County maintains information for county residents to help them understand flooding risks. <http://www.miamidade.gov/publicworks/flooding-protection.asp>

The site also provides information on elevation certificates, flood insurance, flood zone maps, property sale disclosure, how to protect your property and stormwater utility information.

Flood Protection

[Elevation Certificates](#)

[Flood Insurance](#)

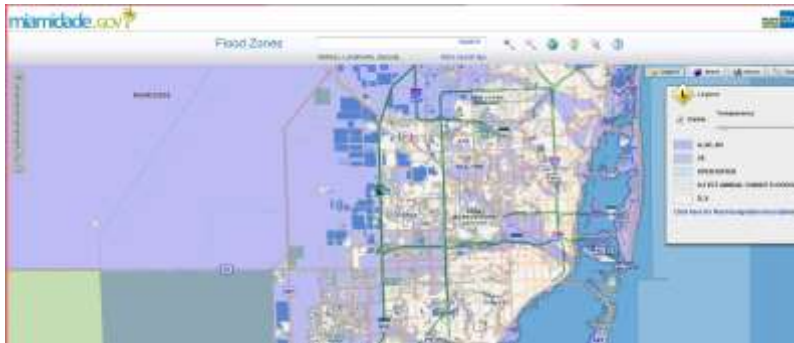
[Flood Zone Maps](#)

[Property Sale Disclosure](#)

[Protect Your Property](#)

[Stormwater Utility](#)

Information on the current flood zone a property is in can be obtained on line through the county website. <http://gisweb.miamidade.gov/floodzone/>



Once an address is entered it will zoom to the location on the map and display an information panel.



Contact information for the municipalities is also provided.



A description of the applicable zone can also be found in the legend.

Emergency Planning Information

Residents can determine if they are in one of these planning zones and also gather information about the closest evacuation center or bus pick up point to their location by going to <http://gisweb.miamidade.gov/CommunityServices/> and clicking on the Emergency Management tab



Social Media

OEM maintains a Facebook page, a website called Ready South Florida that provides access to the regional emergency management partners, and a Twitter account.



In 2015, The LMS Coordinator will be working with the LMSWG to create a mitigation page within the Ready South Florida website. This will allow our regional partners (Broward, Monroe and Palm Beach Counties) to post information in relation to their mitigation measures and create a library of resources for public education and outreach.

Outreach Activities

This section outlines the activities that are performed on an annual basis by the communities within Miami-Dade County. More detailed information and samples may be found in Appendix A of Part 7.

Activity	Frequency	Topics	Audience	Materials
Mailout by PWWM	Annual	Flood protection, flood insurance, permit requirement and water resources protection	380,000 households	Do You Know your Flood Zone (English and Spanish)
Website PWWM	Continuous	Flood information · http://www.miamidade.gov/publicworks/flooding-protection.asp	Insurance Agents	
	Continuous	Flood prevention		Save our Swales
Feel the Force OEM	Annual (June)	Hurricane Storm Surge Flood	Open to public @ 1,500 people	Miami-Dade Hurricane Brochure Storm Surge Planning Zone Map Do You Know your Flood Zone Save Our Swales
Mailout PWWM	Annual (May)	Hurricane Preparedness	380,000 households	Miami-Dade Hurricane Preparedness Guide
Mailout by PWWM		Notification to residents of their home being in area that floods		Letter to inform resident of meeting and resources
Bring Your Kids to Work	Annual	Fire Prevention Hurricane Preparedness	MDFR Employee Children	Ready South Florida brochures
Child Preparedness Day Target, OEM, Miami-Dade Public Schools	Annual (September)	Hurricane Preparedness Storm Surge Evacuation Shelter-In-Place	60 MDPS School Children	Ready South Florida brochures
Mayors Hurricane Preparedness	Annual (May)	Hurricane Preparedness	Community 2.5 million	Press Release Live media broadcast

Activity	Frequency	Topics	Audience	Materials
Press Conference				
Youth Fair	Annual	Hurricane Preparedness for children, seniors, marine manuals	1000	Ready South Florida brochures / Miami-Dade Hurricane Brochure
Emergency Evacuation Assistance Call Down	Semi-Annually	Notification to people who have registered for the Emergency Evacuation & Assistance Program to update records and provide information on hurricane preparedness.	2200	Speak to each registrant/family member to verify their participation in program. Follow-up letter informing registrant of the procedure if they have to evacuate and the supplies they need.
Public Safety Expo	Annual	Hurricane Nuclear Power Plant	Open to the Public @5000	Miami-Dade Hurricane Brochure Storm Surge Planning Zone
MDCPS Turkey Point information	Annual	Nuclear Power Plant	109,500 households	Turkey Point Brochure
AmeriCorps Volunteer Disaster Preparedness Orientation	Bi-Annually	Hurricane Preparedness Storm Surge Supply Kit Poison Control	20	Miami-Dade Hurricane Brochure Ready South Florida Brochures Poison Control MDFR Venomous Snakes brochure
Hotel Hurricane Preparedness	Annual (May)	Hurricane Preparedness	250	Miami-Dade Hurricane Brochure
Hurricane Preparedness Events	8 Annually	Hurricane Preparedness Storm Surge Supply Kit	400 total	Miami-Dade Hurricane Brochure Shelter-In-Place Brochure Ready South Florida Brochures Storm Surge Planning Zone map Severe Weather Awareness Brochure MDFR Venomous Snakes brochure
Citizen Corps Outreach Events	Quarterly	Disaster/Emergency Preparedness Storm Surge	200 per event	Miami-Dade Hurricane Brochure Ready South Florida brochures

Activity	Frequency	Topics	Audience	Materials
Healthcare Facility Emergency Plan Training	Monthly	Hurricane Preparedness Nuclear Power Plan Storm Surge Planning Zones	@ 12 people per month	Miami-Dade Hurricane Brochure
Healthcare Facility Plan Review	Annual	Hazard Zones (FEMA Flood Zone, Storm Surge Planning Zone, Nuclear Power Plant)	1262 Residential Health Care Facilities	Letter and guidance for plan development, including personalized information on the hazard zones the facility is in.
Southeast Florida Climate Leadership Summit	Annual	Climate Change Sea Level Rise	2014 @ 600 people	National and International Speakers Information booths

2014 Feel the Force event



2014 Target Child Preparedness Day



2014 Severe Weather Awareness Week



Miami-Dade Mayor's Annual Press Conference



Property Sale Disclosure

It is a requirement of the Miami-Dade County Code that any purchase of improved real estate in a Special Flood Hazard or Coastal High Hazard Area (also known as Flood Zones) include a full disclosure to the buyer that the property lies in either of those zones. If the structure is substantially damaged or improved, it may, among other things, be required to be raised to the current required flood elevation.

In any contract for the sale of improved real estate located in unincorporated Miami-Dade County, which is in a Special Flood Hazard Area, the seller shall include in the contract or a rider to the contract the following disclosure in not less than ten-point bold face type:

"THIS HOME OR STRUCTURE IS LOCATED IN A SPECIAL FLOOD HAZARD AREA. IF THIS HOME OR STRUCTURE IS BELOW THE APPLICABLE FLOOD ELEVATION LEVEL AND IS SUBSTANTIALLY DAMAGED OR SUBSTANTIALLY IMPROVED, AS DEFINED IN CHAPTER 11C OF THE METROPOLITAN MIAMI-DADE COUNTY CODE, IT MAY, AMONG OTHER THINGS, BE REQUIRED TO BE RAISED TO THE APPLICABLE FLOOD ELEVATION LEVEL."
(Ref: Chapter 11-C of the Code of Miami-Dade County)

Flood Protection Information

The Miami-Dade Public Library System maintains numerous FEMA documents on hazards at its various branch locations. Residents can do an online search for document, find a local branch that has the documents.

http://catalog.mdpls.org/search/searchresults.aspx?ctx=1.1033.0.0.7&type=Default&term=FEMA&by=KW&sort=RELEVANCE&limit=TOM=*&query=&page=0&searchid=2

Materials are identified by subject, the assigned branch and type of material. A number of resources are linked on line and could be accessible to residents through a computer search and some materials may be available for check out or may be able to be requested to be delivered to their local library branch. Map 16 shows all of the locations of Miami-Dade Library branches.

▼ Subjects

- United States. Federal Emergency Management Agency (121)
- Emergency management (105)
- Disaster relief (100)
- Emergency housing (32)
- Natural disasters (18)
- Grants-in-aid (17)
- National Flood Insurance Program (U.S.) (16)
- Flood damage prevention (14)
- Flood insurance (14)
- Individuals & Households Program (U.S.) (13)
- Dwellings (12)
- Buildings (11)
- Fire prevention (11)
- Hazard mitigation (11)
- Hurricane Katrina, 2005 (9)
- House construction (8)
- Interagency coordination (7)
- Earthquake resistant design (6)
- Hurricanes (6)
- Incident command systems (6)
- Insurance, Flood (6)
- First responders (5)
- Terrorism (5)
- United States (5)
- Orlando Utilities Commission (4)

▼ Assigned Branch

- ☐ Main Library (106)
- ☐ Coral Gables (11)
- ☐ North Dade Reg (10)
- ☐ Kendall (7)
- ☐ West Dade Reg (7)
- ☐ South Dade Reg (5)
- ☐ West Kendall Reg (5)
- ☐ North Central (4)
- ☐ Doral (3)
- ☐ Miami Beach Reg (3)
- ☐ South Miami (3)
- ☐ South Shore (3)
- ☐ Edison (2)
- ☐ Allapattah (1)
- ☐ Arcola Lakes (1)
- ☐ Civic Center (1)
- ☐ Coral Reef (1)
- ☐ Hispanic (1)
- ☐ Kendale Lakes (1)
- ☐ Key Biscayne (1)
- ☐ Lemon City (1)
- ☐ Miami Springs (1)
- ☐ North Shore (1)
- ☐ Sunny Isles Beach (1)
- ☐ West Flagler (1)

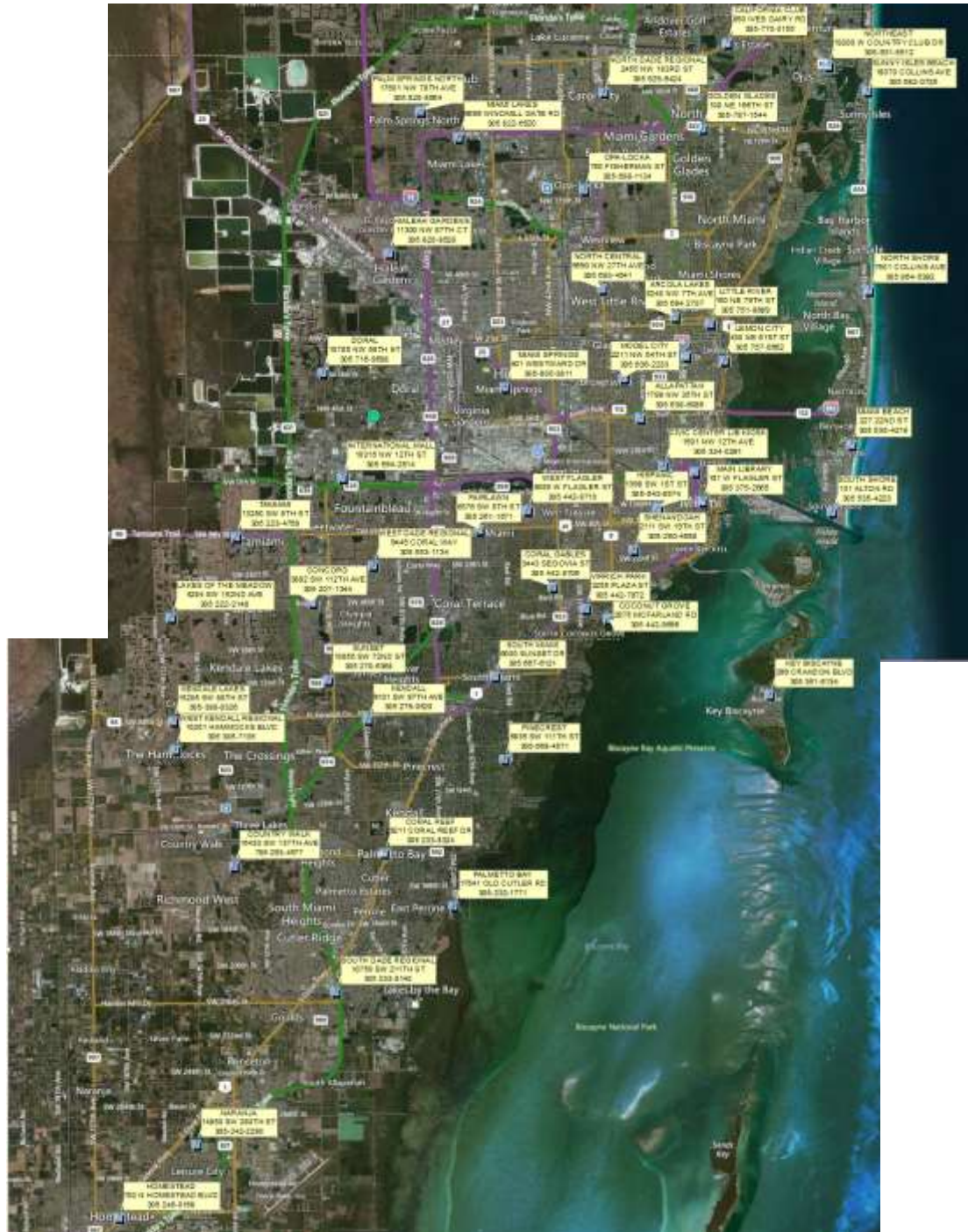
Less<<

▼ Type of Material

- ☐ Book (266)
- ☐ Electronic Resources (179)
- ☐ Ebook (99)
- ☐ Microform (14)
- ☐ Serial (14)
- ☐ Cartographic Material (1)
- ☐ DVD (1)
- ☐ Printed Cartographic Material (1)
- ☐ Projected Medium (1)
- ☐ Videorecording (1)
- ☐ Visual Materials (1)

Less<<

Map 15: Miami-Dade County Library Locations



Storm Ready Community

Miami-Dade County has been a Storm Ready Community since 2008 and was re-designated again in 2014.



Weather Ready Nation

In October 2014, the LMS was named a Weather Ready Nation Ambassador and pledged to continue to build community resilience in the face of increasing vulnerability to extreme weather and water events. The LMSWG members help unify our efforts to improve our readiness, responsiveness and resilience.



Alert and Notification

As documented in the Comprehensive Emergency Management Plan (CEMP) OEM provides notifications of an event as early as is practical in an effort to provide as much advance warning as possible. For tropical storms or hurricanes notification begins three to five days prior to the anticipated arrival of the storm. Activation of the Emergency Operations Center is done to centralize response and recovery decisions, plans and operational activities. Emergency Support Function (ESF) 14 is responsible for public information and is activated with the EOC to assist with the dissemination to the all media outlets and the public.

A copy of the CEMP may be found on line at <http://www.miamidade.gov/fire/about-comprehensive-plan.asp>. Additional support plans may be available upon request by calling 305-468-5400 or emailing eoc@miamidade.gov.

OEM maintains the Emergency Evacuation & Assistance Program which is designed to provide evacuation assistance to persons who may need transportation or a higher level of assistance due to functional or medical needs. As of 2014, there are over 2,200 people on the registry. OEM performs a semi-annual call down to keep database current and determine levels of need for the registrants. OEM also notifies the registrants of an event where evacuation may be needed to coordinate assistance.

Residents of Miami-Dade can sign up for emergency alerts at

www.miamidade.gov/alerts

Alerts include notifications for transit riders in the event of changes to transit operations, alerts for boaters for hazardous weather and emergency alerts for public safety notifications including weather advisories and evacuation decisions.



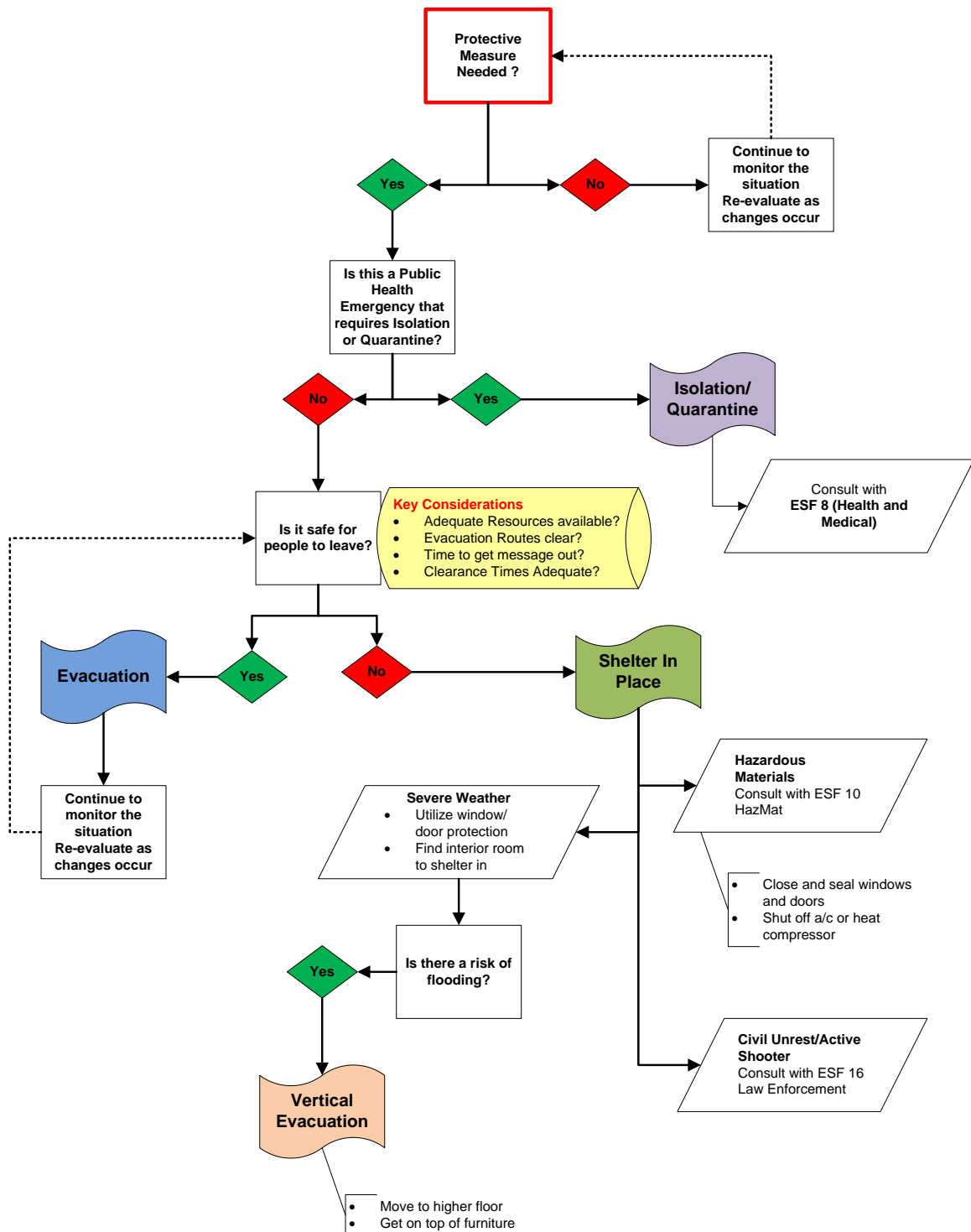
Response Operations

When an incident threatens or has occurred the OEM may notify stakeholders via an email notification system. OEM staff members update and maintain emergency contact information for over 100 local, state and regional agencies through a notification system called Itrezzo. Additional contact lists are maintained by the Section Chiefs and Bureau Directors of the EOC that are utilized to convey planning, response and recovery information to provide for a coordinated response. When the EOC activates over 70 agencies are present and many more work offsite for coordinated efforts.

OEM created an All-Hazards Protective Measures Plan to address potential actions that could be implemented upon determination of time and resources. This plan can be found in Volume III of the CEMP. Below are two decision matrices utilized in the plan for protective measures and restricted entry/repopulation considerations. This plan also include information on the evacuation routes, bus pick up points, host schools for Turkey Point evacuations and mobile home parks.

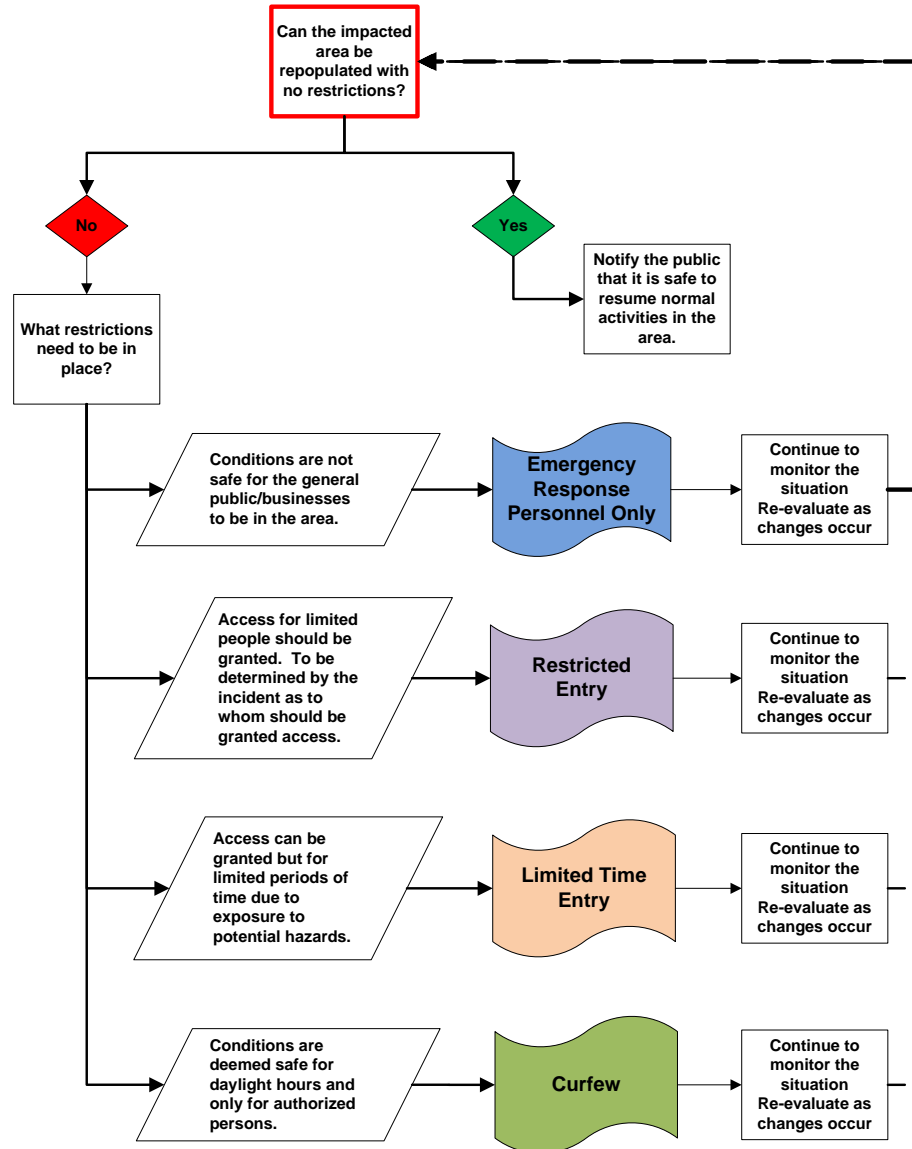
OEM is responsible for planning for storm surge related flooding and designating areas for evacuation as a tropical cyclone is approaching. In 2013, OEM utilized the updated Storm Lake Overland Surge from Hurricanes (SLOSH) data to map out the areas of the county at greatest risk from storm surge, as illustrated in Map 7. OEM also has pre-designated planning zones for the nuclear power plant (Turkey Point). Population estimates and clearance times are designated for the storm surge and Turkey Point planning zones in the All-Hazards Protective Measures Plan.

**Figure 1: Protective Measure Decision Making Matrix
(Evacuation, Shelter In Place, Isolation/Quarantine)**



05.31.2013

Figure 2: Protective Measure Decision Making Matrix
(Repopulation/Restricted Entry)



01.16.2014

Community Information and Reporting

Miami-Dade County operates a County 3-1-1 information system that can be used to provide information to residents and a conduit for reporting community problems such as flooding <http://miamidade.gov/wps/portal/Main/reportproblems>

County residents can report concerns with flooding, clogged drains and canal issues and request information on any hazard event that may be impending or occurring.

Select a Type of Service

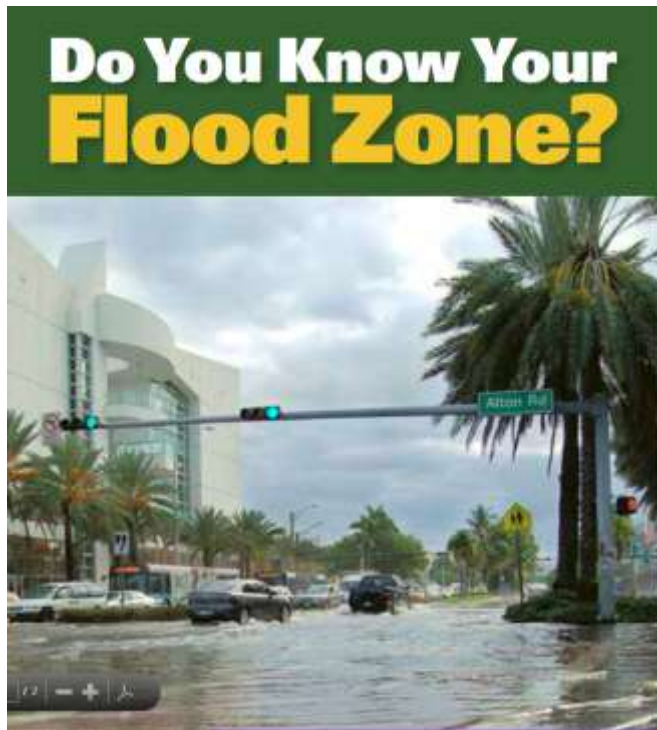
- Illegal Dumping
- Bank Trees on Canal Need Cutting
- Beehives on the Public Right-of-Way
- Blocked Canal
- Canal Culvert Blocked
- Canal bank needs mowing
- Canal needs cleaning
- Damage to Curb
- Damage to Private Property by the County
- Hurricane Guide Request
- Pothole
- Report Sidewalk Obstruction on ADA accessible sidewalk
- Report a Lost or Found Pet
- Report mosquitoes causing a biting nuisance
- Report water restrictions violations
- Request Repair of ADA Accessible Sidewalk
- Request for New ADA Accessible Sidewalk
- Requests for Signs or Signals to help residents with disabilities
- Sidewalk Broken / Raised
- Storm Drain Clogged
- Street Name Sign - Down, Damaged, or Missing
- Traffic Sign - Down, Damaged, Faded, or Missing (other than control signs)

Appendix A: Public Information

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Brochure 1: Do You Know Your Flood Zone

Online: <http://www.miamidade.gov/publicworks/library/brochures/flood-zones.pdf>



Brochure 2: Save Our Swales

Online: <http://www.miamidade.gov/publicworks/library/brochures/save-our-swales-english.pdf>

Available in English, Spanish and Haitian Creole



Brochure 3 : 2014 Hurricane Guide

Online: <http://www.miamidade.gov/hurricane/library/hurricane-guide.PDF>

Contents

- Mayor's Message.....2
- County Commissioners' Contact Information.....2
- About Evacuation.....4
- Hurricane Evacuation Center Accessibility.....4
- Cleanup Before a Storm.....5
- Before a Hurricane Approaches.....6
- During a Hurricane.....6
- About Storm Surge Planning Zones.....7
- 3-1-1 Answers to You.....8
- Storm Surge Planning Zone Map.....10
- Frequently Asked Questions.....12
- After a Hurricane.....14
- Enfoque en Inglés.....15
- Información en Español.....16
- Phone Numbers & Websites.....16

Watches + Warnings

Terms You Need to Know...

Tropical Storm Watch
Tropical storm conditions are possible, usually within 48 hours.

Tropical Storm Warning
Tropical storm conditions are expected, usually within 36 hours.

Hurricane Watch
Hurricane conditions are possible, usually within 48 hours.

Hurricane Warning
Hurricane conditions are expected, usually within 36 hours.

Evacuation Order
A mandatory order to evacuate of appropriate areas of Miami-Dade County deemed to be in danger.
*Evacuation orders depend on a hurricane's track and projected storm surge.

About Storm Surge Planning Zones

Emergency Management officials have recently completed a study utilizing new technology to determine with more accuracy the potential impact of storm surge. The result of this study showed more areas of Miami-Dade County at risk for storm surge. For this reason, we have redrafted areas in the County that should zone for evacuation and property protection, and we have produced a new Storm Surge Planning Zone Map that corresponds to this updated information. It is included in this guide.

Storm surge is the primary reason why Miami-Dade County residents are asked to evacuate prior to a hurricane event. However, there are other factors involved in a hurricane evacuation order so always follow the protective actions issued by emergency officials.

A Storm Surge Planning Zone is an area that could potentially be affected by a storm surge of 1.5 feet or higher during a hurricane. The Storm Surge Planning Zones indicated on the enclosed map identify those areas whose residents may have to evacuate or "buckle in place." In these residents are advised to develop contingency plans for other scenarios. A caveat, if not all of the defined Storm Surge Planning Zones could be included in an Evacuation Area. This means that residents within those areas will be required to move under an evacuation order for an impending storm.

It is very important to note that the exact areas to be evacuated for an approaching hurricane will depend on the strength of the storm and where it is coming from, as well as the forward speed. Each storm is different and the consequences under an evacuation order may be adjusted. There is no single storm that would threaten entire areas, but each area in the surge corridor is at risk from at least one possible storm scenario.

If and when Storm Surge Planning Zones need to be evacuated, Miami-Dade County will use the full spectrum of media and notification means at our disposal to inform residents. For example, radio and TV stations will broadcast emergency information. In addition, you can register for emergency notifications to the device of your choice via the County's emergency notification system, Miami-Dade County at www.miamidade.gov/alerts.

Frequently Asked Questions

How do I find out my Storm Surge Planning Zone?

- Go to www.miamidade.gov and click on Services Near You, Storm Surge Planning Zones.
- Call 3-1-1.
- Review the Storm Surge Planning Zone map on this hurricane guide.
- Call Miami-Dade Emergency Management at 305-368-6420.

My property is fairly elevated and shouldn't possibly be touched by storm surge. Why do I have to evacuate?
Emergency Management officials work to prevent putting residents in situations where they could become isolated by water—creating an island and preventing post-storm evacuation or access by first responders.

I have lived in Miami-Dade County my whole life and I have never had to evacuate before. Why now?
Using current technology, we have been able to identify the potential impact of storm surge for thousands of storm scenarios. As a result, we have found that more areas of Miami-Dade County may be at risk for storm surge than previously thought. So we have redrafted areas in the County that should plan for evacuation and property protection.

With this in mind, know that we evacuate certain areas to get people away from places where storm surge flooding will occur. There also may be a need to evacuate low-lying areas vulnerable to tropical flooding from rain.

I live in a mobile home, but we're in a non-evacuation area. Do we have to evacuate?
Yes, all mobile home residents are required to evacuate when an evacuation order is issued, regardless of their storm surge planning zone. This has not changed from past years. Mobile homes are considered unable to withstand even during high level tropical storms.

What should I do to prepare for a hurricane?
Finalize your family's hurricane preparedness plan now. Know your planning zone and be prepared to leave if an evacuation is required.

Who will order an evacuation?
The Miami-Dade County Mayor will order an evacuation based on expected conditions and recommendations from public safety personnel.

I have a disability and do not drive. How will I evacuate if I am told to evacuate? Will the County provide transportation for me?
Yes, the Miami-Dade County Emergency & Evacuation Assistance Program (EECAP) provides evacuation assistance to those residents who live in a storm surge planning zone and that may require specialized transportation established or whose medical needs prevent them from evacuating on their own. You can find out more about this program on page 4 of this guide or online at www.miamidade.gov/em/evacuation-program.asp.

Will the County provide me with transportation to evacuate?
Yes, Miami-Dade Transit will provide evacuation assistance using designated bus stops. Evacuation pick-up points can be identified on the posted evacuation signs. A list of all evacuation pick-up points can be found at www.miamidade.gov/em/evacuation.asp.

If an evacuation is ordered, what do I do with my pet?
You may evacuate with your pet to one of the designated Pet-Friendly Hurricane Evacuation Centers within the County. The opening of Pet-Friendly

Brochure 4: Turkey Point Mail out (Excerpt)

Also Online: <http://www.miamidade.gov/fire/safety-radiological.asp>



SAFETY PLANNING INFORMATION	
Contents	Turkey Point Nuclear Power Plant: Safe and Secure
Turkey Point Nuclear Plant: Safe and Secure	2
Effective Emergency Planning	3
Classification of nuclear power plant events	3
Emergency Planning Zones	4
Emergency Notification	4
If you hear an outdoor warning siren	4
Telephone numbers	5
For your protection	6
If you are told to stay indoors (sheltering)	6
How to shelter in place	7
If you are told to evacuate	7
If you require assistance	8
If you have family in a nursing home or hospital	8
If you are directed to emergency reception center	8
Distribution of potassium iodide tablets	8
If you require transportation assistance	8
If your children are in school	8
If you have livestock	9
If you grow food products	9
Emergency bus pick-up locations	9
How Turkey Point Nuclear Power Plant works	11
Radiation facts	12
Emergency planning areas	13
Area 1 and 2	13
Area 3	14
Area 4	15
Area 5 and 6	16
Area 7	17
Area 8	18
Area 9 and 10	19
Evacuation route map	20
Emergency information at a glance	back flap
Please discard the previous booklet and review content for changes annually.	

Exhibit 1: Feel the Force Event



**WARNING
DANGEROUS
SCIENCE
AHEAD!**

FEEL THE FORCE
HURRICANES AND OTHER HAZARDS

Kick off the start of hurricane season with engaging science activities and safety tips from the experts.

Saturday, May 31, 2014
10 AM – 6 PM
FREE ADMISSION

-  Catch the world premiere of the new theater show, "A Hurricane Carol"
-  Interact with Tsunami Tim for a wave of entertainment
-  Meet & greet with real Hurricane Hunters
-  Be a meteorologist at the Hurricane Broadcast Studio
-  Interactive storytime, weather games, Radio Disney and more!

Join the conversation! #FeeltheForce
 @PPFMoS  @FrostScience  FrostScience

**PATRICIA AND PHILLIP FROST
MUSEUM OF SCIENCE**

THE FUTURE BEGINS HERE.

3280 South Miami Avenue, Miami, FL 33129, 305.646.4200, www.miamisci.org





With the support of the Miami-Dade County Department of Cultural Affairs and the Cultural Affairs Council, the Miami-Dade County Mayor and Board of County Commissioners.



Sponsored in part by the State of Florida, Department of State, Division of Cultural Affairs, the Florida Council on Arts and Culture.



Exhibit 2: News Releases

<http://www.miamidade.gov/mayor/advisories/2014-05-26-hurricane-season-press-conference.asp>



For Immediate Release:
May 26, 2014

Media Contact:
Michael Hernandez
michael.hernandez@miamidade.gov
305-375-1545

Miami-Dade County reminds residents to plan and prepare for hurricane season

Mayor Carlos A. Gimenez, Commission Chairwoman Rebeca Sosa and Emergency Personnel to host May 27th News Conference

(MIAMI, May 26, 2014) – Miami-Dade County Mayor Carlos A. Gimenez, along with Commission Chairwoman Rebeca Sosa, members of Board of County Commissioners and the American Red Cross South Florida Region, Regional Disaster Program Officer, Carlos Castillo, will hold a hurricane preparedness news conference on Tuesday, May 27th, 2014, at 10:00 a.m., at the County's Emergency Operations Center, 9300 NW 41st Street, Doral.

Who:

Miami-Dade County Mayor Carlos A. Gimenez
Miami-Dade County Commission Chairwoman Rebeca Sosa
Members, Board of County Commissioners
Carlos Castillo, Regional Disaster Program Officer, American Red Cross South Florida Region

What: Hurricane Preparedness News Conference

When: May 27, 2014, 10:00 a.m.

Where: Miami-Dade Emergency Operations Center
9300 NW 41st Street
Doral, FL 33178

###

Office of the Mayor

111 NW 1st Street
Miami, FL 33128

<http://www.miamidade.gov/fire/releases/2014-06-01-hurricane-season.asp>



For Immediate Release:
June 01, 2014

Media Contact:
Griselle Marino
786-473-9029

The Office of Emergency Management (OEM) prepares for the 2014 Hurricane Season

(Miami, FL) - The Office of Emergency Management (OEM), a division of Miami-Dade Fire Rescue (MDFR), is encouraging residents of Miami-Dade County to get ready for hurricane season, which starts on Sunday, June 1.

OEM wants the public to take four simple steps to be prepared for the 2014 hurricane season.

1. **Be Informed-** Before a disaster, get information about local emergency plans for shelter and evacuation. If you feel you will need emergency evacuation assistance during a storm, call 3-1-1 for an application to be mailed to your residence. Have a list of local emergency contacts handy. Sign up for Miami-Dade Alerts, at www.miamidade.gov/fire. This free service will send you text messages about any significant emergency event.
2. **Make a Plan-** Create a family emergency plan and make sure to go over it with every member of your family. This plan should cover evacuation routes, contact information, and important phone numbers. You may download a family emergency plan at www.ready.gov.
3. **Get a Kit-** This kit should have enough items to survive for the first 72 hours after a storm. It should include non-perishable foods, one gallon of water per person per day, battery operated radio, and flashlights. Other items that should be included are medication, diapers and formula if you have a small child, and please don't forget the food for your pets.
4. **Get Involved-** Miami-Dade County offers free training in basic disaster response skills for members of the Community Emergency Response Team (CERT). Volunteers will learn fire safety, light search and rescue skills, team organization, and disaster medical operations. To learn more about becoming a CERT member, e-mail cert@miamidade.gov.

For more information on what you should do to prepare for the 2014 Hurricane Season, download the 2014 Miami-Dade County Hurricane Guide at www.miamidade.gov/fire.

For additional information, please contact MDFR's Public Affairs Bureau at 786-331-5200.

###

FIRE RESCUE

Exhibit 3: Emergency and Evacuation Assistance Program

Online: <http://www.miamidade.gov/fire/eeap-program-page.asp>



Miami Dade Emergency Management
9300 NW 41 St
Miami, FL 33178
Email: eeap@miamidade.gov
Phone: 305-468-5400
Fax: 305-468-5401

VOLUNTEERS WANTED

We Need Your Assistance!

Miami-Dade County residents can all breathe a sigh of relief that we were not impacted by a severe storm within the last few years. The Miami Dade Emergency Management (MDEM) works year-round in order to be prepared for any type of disaster or emergency.

As we prepare for 2014, we would like to invite you to participate in an important upcoming event:

On Saturday – June 07, 2014, MDEM will be conducting a call down of the Emergency and Evacuation Assistance Program (E&EAP) Registry. In the past, many of you have graciously volunteered your time and assisted us in making calls to the Registry clients. We are once again asking for your support in being part of the solution and helping the community!

Location: Miami Dade Emergency Management
9300 NW 41 Street
Miami, Florida 33178

Date: June 07, 2014

Time: 8:00 a.m. to 5:00 p.m. *(or anytime in-between these hours)*

We need **English, Spanish and Creole speaking volunteers** to help us place phone calls to the Emergency and Evacuation Assistance Program (E&EAP) Registry. Please contact Roberto Cepeda at (305) 468-5419 or send an email to roberto.Cepeda@miamidade.gov

Your participation is greatly appreciated!



Thank you for your support!

Exhibit 4: Southeast Florida Climate Leadership Summit

<http://www.miamidade.gov/mayor/climate-change-and-sea-level-rise.asp>



The Sixth Annual Southeast Florida Climate Leadership Summit Program
October 1 - 2, 2014
Miami Beach Convention Center
Miami Beach, Florida

Regions Connect • Global Effect

Day 1
Wednesday, October 1, 2014

9:00 a.m. - 10:00 a.m. ... **Registration / Networking / View Exhibits / Continental Breakfast** Hall B

10:00 a.m. - 10:20 a.m. ... **Sixth Annual Summit Opening Remarks and Welcome** Hall B

The Honorable Carlos A. Gimenez, Mayor, Miami-Dade County
The Honorable Philip Levine, Mayor, City of Miami Beach

10:20 a.m. - 10:35 a.m. ... **The Compact Year in Review** Hall B

Steve Adams, Senior Program Director, US Climate Adaptation Program, Institute for Sustainable Communities

Compact Staff Steering Committee Coordinator Steve Adams will provide an overview of Compact activities and accomplishments during the past year, as well as what is planned for the year ahead.

10:35 a.m. - 12:00 p.m. ... **Southeast Florida Resilient Redesign Overview** Hall B

Regional and international partners will provide an overview of the interactive and hands-on process used to identify challenges and envision design opportunities to build resilience to climate change into a few archetypal communities in South Florida.

Moderator - Dr. Jennifer Jarado, Director, Environmental Planning and Community Resilience Division, Broward County

Steven Slabbers, Director, Bosch Slabbers Landscape and Urban Planning

Tammy Strowd, Director of Operations and Maintenance, Lake Worth Drainage District

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Dr. Samantha Daurink, P.E., Assistant Director, Environmental Planning and Community Resilience Division, Broward County

Mark B. Womwer, AICP, Assistant Director for Planning, Miami-Dade County Department of Regulatory and Economic Resources

Elizabeth Wheaton, AICP, LEED AP, Assistant Building Director, Miami Beach Building Department, City of Miami Beach

12:00 p.m. - 12:40 p.m. ... **Applying Resilient Redesigns to the Region** Hall B

Tim panel will further explore the ideas offered in the three Resilient Redesign study areas presented earlier, and discuss how these design strategies might be applied across the Compact region and elsewhere.

Moderator - Suzanne M. Torrens, Assistant City Manager, City of Fort Lauderdale

Anthony Albate, AIA, NCARB, Associate Provost, Florida Atlantic University

Bryan Myers, Climate Change Coordinator, US Environmental Protection Agency Region IV

Elizabeth Foster-Zyherk, Founder & Partner, Dancy Foster-Zyherk & Company

Steven Slabbers, Director, Bosch Slabbers Landscape and Urban Planning

12:40 p.m. - 2:00 p.m. ... **Lunch / Networking / View Exhibits** Hall B

2:00 p.m. - 2:30 p.m. ... **Keynote Speaker** Hall B

Dr. John Holdren - Assistant to the President for Science and Technology and Director, White House Office of Science and Technology Policy

Dr. John Holdren will provide an overview of the National Climate Assessment findings and impacts, especially as it relates to the Southeastern United States. He will also touch upon policy and planning issues, cross-sectoral considerations and the relevance of the SE Florida Regional Climate Change Compact.

2:30 p.m. - 3:00 p.m. ... **Keynote Speaker** Hall B

Mike Rootes, Acting Chair, White House Council on Environmental Quality

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Acting Chair Boots will provide an introduction and overview of the President's State, Local and Tribal Leaders Task Force on Climate Preparedness and Resilience, as well as the President's climate policy initiatives.

3:00 p.m. - 3:30 p.m. Break/Networking/View Exhibits Hall B

3:30 p.m. - 4:30 p.m. Update from the President's State, Local and Tribal Leaders Task Force on Climate Preparedness and Resilience Hall B
Members of President Obama's State, Local, and Tribal Leaders Task Force on Climate Preparedness and Resilience provide an update on the progress made to identify priorities and advise the Administration on how the federal government can support communities across the country that are dealing with the impacts of climate change.

Moderator - Shannon Estenez, Director, Office of Everglades Restoration, United States Department of the Interior

Louise Bedsworth, Deputy Director, Governor's Office of Planning and Research, State of California, and Member of the Human Health and Community Development Work Group of the Presidential Task Force on Climate Preparedness and Resilience

The Honorable Karen Diver, Chairwoman, Fond du Lac Band of Lake Superior Chippewa, Minnesota, and Co-Chair of the Natural Resources and Agriculture Work Group of the Presidential Task Force on Climate Preparedness and Resilience

The Honorable Kristin Jacobs, Commissioner, Broward Board of County Commissioners, and Co-Chair of the Built Systems Work Group of the Presidential Task Force on Climate Preparedness and Resilience

Sue Minter, Deputy Secretary of Transportation, State of Vermont, and Member of the Disaster Recovery and Resilience Work Group of the Presidential Task Force on Climate Preparedness and Resilience

4:30 p.m. - 5:30 p.m. Applying the Latest Climate Science & Policy at the Federal, State, and Local Levels Hall B
Panelists will discuss the practical application of the latest climate science and policy in their respective roles and how this information is being utilized to strategically plan and prepare for current and future impacts.

Moderator - Michael Roberts, Senior Administrator, Environmental Resources, Monroe County Planning & Environmental Resources

Shannon Estenez, Director, Office of Everglades Restoration, United States Department of the Interior

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Rhonda Haag, Sustainability Program Manager, Monroe County, Florida

Jeff Kivett, P.E., Director, Operations, Engineering and Construction Division, South Florida Water Management District

John Morgan, Sustainability Officer, City of Delray Beach

6:00 p.m. - 7:30 p.m. Cocktail Reception / Networking Miami Beach Botanical Garden

8:00 p.m. - 10:00 Movie Wallcast at New World Symphony - (Optional) "Captain America: The Winter Soldier"

8:00 p.m. - ? Dinner on your own / Explore South Beach!



**The Sixth Annual Southeast Florida Climate Leadership Summit Program
Day 2**

Thursday, October 2, 2014

8:00 a.m. - 9:00 a.m.	Registration /Networking/View Exhibits/Continental Breakfast	Hall B
9:00 a.m. - 9:15 p.m.	Good Morning Remarks	Hall B
	The Honorable Sally Heyman, Commissioner, Miami-Dade Board of County Commissioners	
	The Honorable Michael Grieco, Commissioner, City of Miami Beach	
9:15 a.m. - 9:30 a.m.	Keynote Speaker: Mr. Antonio L. Argiz, Chairman and CEO of Morrison, Brown, Argiz, & Farra, LLC (MBAF) and Chairman, Greater Miami Chamber of Commerce	Hall B
	The Greater Miami Chamber of Commerce is the voice of the South Florida business community in the global marketplace. Representing more than 400,000 employees, the Chamber is known for its ability to drive business-to-business connections and the agenda on the most important issues that contribute to our region's success. Mr. Argiz will discuss the importance of transportation and sea level rise as two critical issues that the Chamber and the business community must focus on looking forward.	
9:30 a.m. - 10:45 a.m.	A New Perspective on Managing and Planning for Risk through the Lens of Climate Change	Hall B
	Climate change and sea level rise provide new business opportunities while also posing various challenges in the way we manage risk and plan investments. This panel will discuss these opportunities and challenges, and how they are being approached in new and innovative ways.	
	Moderator - Jimmy Morales, Manager, City of Miami Beach	
	Chris Bergh, South Florida Conservation Director, The Nature Conservancy, The Florida Keys Office	
	Job Bruggeman, Managing Partner, The Next Practice Ltd.	

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	Alex Kaplan, Vice President of Global Partnerships, Swiss Re America Holding Company	
	Brendan McInerney, Director, Urban Resilience, Urban Land Institute	
10:45 a.m. - 11:00 a.m.	The Miami-Dade Sea Level Rise Task Force Report	
	Formed by the Board of County Commissioners, the Miami-Dade Sea Level Rise Task Force spent a year hearing from experts, analyzing information, and writing a report which was presented to the Board of County Commissioners on July 1 st 2014. Task Force Chairman Ruvo will discuss the recommendations and longer term implications of this Report.	
	The Honorable Harvey Ruvo, Miami-Dade Clerk of Courts, and Chairperson, Miami-Dade Sea Level Rise Task Force	Hall B
11:00 a.m. - 11:30 a.m.	Break/Networking/View Exhibits	Hall B
11:30 a.m. - 12:45 p.m.	Working Across Sectors: Understanding and Communicating Effective Strategies for Building Resilience	Hall B
	Both the public and private sector must understand the economic and strategic planning implications of climate change and sea level rise. This panel will discuss how they are taking these factors into consideration and preparing for the new normal of climate change.	
	Moderator - Josh Gelfman, Deputy Director, Economic Development, Miami-Dade Department of Regulatory and Economic Resources	
	Bill Golden, Executive Director, National Institute for Coastal and Harbor Infrastructure	
	Scott Robins, Founder and CEO, Scott Robins Companies and SRC Properties, and Chairman of the Miami Beach Mayor's Blue Ribbon Panel on Flooding and Sea Level Rise	
	Dr. Nancy Leiman Scudon, CHE, Associate Professor, Chaplin School of Hospitality and Tourism Management, Florida International University	
	Graig Stuart, Executive Director, Broward Metropolitan Planning Organization	
12:45 p.m. - 1:45 p.m.	Lunch Buffet / Networking / View Exhibits	Hall B
1:45 p.m. - 3:45 p.m.	Our International Partners - Great Progress and Collaborative Opportunities, Session I	Hall B

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MIAMI BEACH

While Southeast Florida is seen as a leading example of groundbreaking cooperation and innovation, the Compact partners continue to learn and collaborate with other international programs and communities around the world. Speakers in this session will introduce you to other excellent examples of innovative collaboration and leadership.

Moderator - Steve Adams, Senior Program Director - US Climate Adaptation Program, Institute for Sustainable Communities

Jessica Cho, Program Manager, International City/County Management Association (ICMA)

Peter Wijnman, Program Manager, ARCADIS U.S., Inc.

Nick Xenos, Director of Climate Change Impacts & Adaptation Division, Department of Natural Resources Canada

2:45 p.m. - 4:00 p.m. **Our International Partners - Great Progress and Collaborative Opportunities, Session II** Hall B
In this session, **Council Generals** from around the world will discuss key climate change related challenges and initiatives in their countries and discuss opportunities for further collaboration and leadership.

Moderator - Jim Murley, Executive Director, South Florida Regional Planning Council

Council General Loosie Leger, Consulate General of Canada in Miami

Council General Philippe Letrillart, Consulate General of France in Miami

Council General Nathalie Oüplager-Jaarsma, Consulate General of the Netherlands in Miami

Council General Dave Prodder, Consulate General of the United Kingdom in Miami

4:00 p.m. - 4:15 p.m. **Closing Remarks and Announcement of 2015 Summit**



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Exhibit 5: Residential Healthcare Facility Requirements

Online: <http://www.miamidade.gov/fire/healthcare-requirements.asp>

Last Visited » [Emergency Management](#) » [Training](#) » [Emergency Management](#) » Healthcare Facility Requirements

Healthcare Facility Requirements

The Residential Health Care Facility (RHCF) Comprehensive Emergency Management Plan Review Program was introduced as a result of state legislation requiring certain health care facilities to prepare and annually update a comprehensive emergency management plan (CEMP). These facilities include:

- » Hospitals
- » Nursing Homes
- » Assisted Living Facilities (ALF)
- » Intermediate Care Facilities for the Developmentally Disabled (ICFDD)
- » Ambulatory Surgical Centers (ASC)
- » Adult Day Care (ADC)

State law requires that the Agency for Health Care Administration (AHCA) develop and adopt minimum criteria for the CEMP. The law also requires that the CEMPs be reviewed and approved by the local Office of Emergency Management (OEM). For specific information on state requirements, review the Florida statutes [online](#).

The dates for the new RHCF orientations are the following:

- » Monday, October 06, 2014 10 a.m. to noon
- » Monday, October 20, 2014, from 10 a.m. to noon
- » Monday, November 03, 2014 from 10 a.m. to noon
- » Monday, November 17, 2014 from 10 a.m. to noon
- » Monday, December 8, 2014 from 10 a.m. to noon
- » Monday, January 5, 2015 from 10 a.m. to noon
- » Tuesday, January 20, 2015 from 10 a.m. to noon
- » Monday, February 02, 2015 from 10 a.m. to noon
- » Tuesday, February 17, 2015 from 10 a.m. to noon
- » Monday, March 02, 2015 from 10 a.m. to noon
- » Monday, March 16, 2015 from 10 a.m. to noon
- » Monday, March 30, 2015 from 10 a.m. to noon
- » Monday, April 13, 2015 from 10 a.m. to noon
- » Monday, April 27, 2015 from 10 a.m. to noon
- » Monday, May 11, 2015 from 10 a.m. to noon
- » Tuesday, May 26, 2015 from 10 a.m. to noon
- » Monday, June 8, 2015 from 10 a.m. to noon
- » Monday, June 22, 2015 from 10 a.m. to noon
- » Monday, July 06, 2015 from 10 a.m. to noon
- » Monday, July 20, 2015 from 10 a.m. to noon
- » Monday, August 3, 2015 from 10 a.m. to noon
- » Monday, August 17, 2015 from 10 a.m. to noon
- » Monday, August 31, 2015 from 10 a.m. to noon
- » Tuesday, September 14, 2015 from 10 a.m. to noon

Exhibit 6: Residential Healthcare Facility Annual Mailout

MDEM-Residential Health Care Facility Management-Miami-Dade County

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Plan Detail

Facility Information

Facility ID: 18021
Type: ADC
Name: Long Life Adult Day Care
No. Of Beds: 30

NAICS: 64120
Address: 5995 SW 8TH St 33114
Phone:
Fax:

Contacts

Admin

First Name:
Last Name:
Address:
Phone:

Owner

First Name:
Last Name:
Address:
Phone:

Alternate

First Name:
Last Name:
Address:
Phone:

Hazards

Turkey Pt Distance: 0
Water Agreement: Y

Has Generator: N
Fema Flood Zone: NA

Hurricane Evacuation Zone: Y
Distance From Nearest Railroad: 0
Distance From Nearest Major Road: 0 - Miles NA
Other Major Roads Within 1 Mile: 0 - Miles NA
0 - Miles NA
0 - Miles NA

Mutual Aid Agreement

Facility One

Facility ID: 0
Name: Long Life Adult Day Care II
Phone:
Address:
Admin Name:

Facility Two

Facility ID: 0
Name: Mi Segunda Casa Adult Day Care Inc.
Address: NW
Phone:
Admin Name:

Documents

Admin: NA
Fire Plan: NA
Org Chart: NA
SOP: NA
Vendor: NA

Items: NA
Mutual Aid: NA
Roster: NA
Trans: NA
Water Agrmt: NA

Approval

Active: Y
Initial Submit Date: 06/17/2014
Groups No: 1

Date Paid: 6/17/2014 6:49:57 PM
Approval Status: Approved

<https://gisweb.miamidade.gov/rhcf/admin/FacilityPlanDetail.aspx?FacilityNumber=18021> 10/30/2014

Appendix B: Activity 510 Reports

This section will contain any Activity 510 Reports as they are received by the LMS Chair. *Part 7* of the LMS will be updated on the LMS website (<http://www.miamidade.gov/fire/mitigation.asp>) to accommodate any new Activity 510 reports that have been submitted for inclusion. The table below reflects the date of inclusion in the plan.

Jurisdiction	Date of Inclusion
Miami-Dade County	September 15, 2014
Town of Cutler Bay	November 7, 2014

PART 7

MIAMI-DADE COUNTY 2014 ANNUAL PROGRESS REPORT
LOCAL MITIGATION STRATEGY

ACTIVITY 510

September 2014

MIAMI-DADE COUNTY 2014 ANNUAL PROGRESS REPORT LOCAL MITIGATION STRATEGY
ACTIVITY 510

Background

The Community Rating System (CRS) requires a yearly progress report on the County's Floodplain management Plan.

Miami-Dade County uses the Local Mitigation Strategy (LMS) working group as the floodplain management plan.

Miami-Dade County is made up of thirty-five municipalities plus a large unincorporated area referred to as the "Unincorporated Municipal Services Area" (UMSA). While referred to as cities throughout this document, officially, some are cities, others are towns and still others are villages. These municipalities consist of both coastal and inland communities; urban, suburban and rural communities; communities that are heavily industrialized, some with an agricultural base and those that are almost completely residential. The county has two of the five largest cities in the state of Florida (Miami and Hialeah).

In the spring of 1998, the state of Florida contracted with and provided funding to each of the counties within the state to develop a Local Mitigation Strategy (LMS). Miami-Dade County is a highly diverse community yet because of a hurricane named Andrew we all have a profound appreciation for hazard mitigation and a willingness to make the "Strategy" work. Consequently, all of the municipalities in Miami-Dade County have participated in the Local Mitigation Strategy (LMS) at one time or another and have formed, with many other organizations, what we refer to as the LMS Working Group.

The LMS Working Group

This group has the goal to create a comprehensive list of mitigation projects, providing updates the list twice a year, in June and December.

This year the Comprehensive Emergency Management Plan (CEMP), which includes the LMS, was presented to the Board of County Commissioners on April 18, 2013. The Board passed the Resolution R-418-13, authorizing the County Mayor or the County Mayor's Designee to execute agreements with local municipalities, and to file and execute any necessary modifications and revisions to the Plan.

The CEMP can be downloaded from <http://www.miamidade.gov/fire/about-comprehensive-plan.asp>.

At all times, the latest published version of the Local Mitigation Strategy is posted on the Miami-Dade County Internet website – www.miamidade.gov/oem/lms.asp – for public scrutiny and commentary. An email address, mdlms@miamidade.gov, has been established for such commentary.

Members of the media are participants to the LMS meetings. The Board of County Commissioner's (BCC) meetings are televised and posted at <http://www.miamidade.gov/information/miami-dade-tv.asp>. The BCC meetings are public meetings, advertised and attended by media and public, transmitted via webcast and public TV channels.

During the development of the LMS each municipality designated a representative to the Working Group. Additionally, each of the major departments within the county government assigned a representative to the Working Group to address the issues of the unincorporated portions of the county and the county owned and operated facilities that lie within the boundaries of the municipalities. In order to streamline planning, the Working Group was divided into seven subgroups, which, for convenience sake, used the groupings that were already in place within the county as “divisional emergency operations centers” (DEOC) and are loosely based upon geographical proximity. The subgroups are as follows (with new cities added where appropriate):

- Group 1: Aventura, Bal Harbour, Golden Beach, Miami Gardens, North Miami Beach and Sunny Isles Beach.
- Group 2: Bay Harbor Islands, Biscayne Park, Indian Creek Village, North Miami and Surfside.
- Group 3: Doral, Hialeah, Hialeah Gardens, Medley, Miami Lakes, Miami Springs, Opa-Locka and Virginia Gardens.
- Group 4: El Portal, Key Biscayne, Miami, Miami Beach, Miami Shores and North Bay Village.
- Group 5: Coral Gables, Palmetto Bay, Pinecrest, South Miami, Sweetwater, and West Miami.
- Group 6: Cutler Bay, Florida City, Homestead, Islandia and the Miccosukee Tribe of Indians of Florida.
- Group 7: Miami-Dade County departments, divisions and offices – offices and divisions that operate fairly independently of their parent department act on their own in the LMS Working Group.

Other active participants in the Working Group include state and federal agencies, colleges, universities and schools (including the Miami-Dade County Public Schools), hospitals, not-for-profit organizations and private sector companies.

The makeup of the Working Group is not limited to the any particular organization or jurisdiction. Numerous others have expressed the desire to participate in the Local Mitigation Strategy and are welcome to do so. It has been asked why federal and state agencies and private sector companies should participate in the LMS. Well, the answer is easy: They live here and work here, too; our disasters are their disasters.

Each organization, (municipality, county department or other participating organization) appoints an official representative to the Working Group who will vote on behalf of the organization and will be the “voice” of the organization. Each organization is encouraged to solicit participation and commentary from its citizens, employees and members.

It must be noted, however, that to be considered a participant of the Local Mitigation Strategy and receive the benefits thereof, a municipality, county department or any other organization must attend

at least two of the four quarterly meetings held each year. The Working Group endorsed this policy unanimously on September 20, 2001. However, any organization may substitute regular participation and attendance on an active LMS committee or subcommittee in lieu of attendance at the quarterly meetings.

Although the state of Florida's LMS development contract with Miami-Dade County and its municipalities officially terminated in August of 1999 there was a presumption in both the contract and in the publication *The Local Mitigation Strategy: A Guidebook for Florida Cities and Counties* that the Working Group or other successor entity would continue in some form far beyond that date. The requirement for the development of evaluation criteria and review and revision policies implies continuity, as does a long-term conflict resolution policy utilizing the Working Group as part of the process. In any event, the continuation of the Working Group has been addressed as part of the Local Mitigation Strategy even though not required by the contract.

LMS Committees

In order to streamline the Working Group's activities, various committees may be formed, each addressing an area of concern. Initially, committees were formed to deal with flooding, evacuations, funding, community education, external policy, agriculture and wildfires. Other committees may be formed as needed. To act as a "board-of-directors" and to guide policy between meetings of the Working Group, a Steering Committee has been formed with members representing the organizations found within the Working Group (i.e. municipal, county, educational, not-for-profit and private sectors). The Steering Committee will also act as a review committee for the establishment of this Local Mitigation Strategy and the prioritization of the projects therein. Membership on any committee shall be voluntary and subject to the review and approval of the Working Group. A committee member who fails to attend a reasonable number of committee meetings may be dropped from participation in the committee by a majority vote of the other members of that committee. As stated above, serving on a committee may act in lieu of attendance at the quarterly LMS meetings.

Program Continuity and Meetings

In September 1999, The Miami-Dade County Local Mitigation Working Group voted to continue the LMS program with or without state funding. The Steering Committee will meet as needed and the full Working Group will meet once each calendar quarter. Working Group meetings will be noticed by e-mail to the official representative of each jurisdiction and to other interested parties. The representatives are encouraged to post meeting notifications prominently, on community bulletin boards or in some other way, to notify the public or other interested parties at least thirty days prior to each meeting. Meeting times, dates and locations will also be posted on the LMS website: <http://www.miamidade.gov/fire/mitigation.asp>.

The Local Mitigation Strategy Working Group has created the Local Mitigation Strategy (LMS), which is updated semi-annually on June 30th and December 31st. The LMS Working Group is made up of representatives from Miami-Dade municipalities, county departments, state and federal agencies, schools, colleges and universities, hospitals, and private for profit and not-for-profit organizations. The latest published version of the Local Mitigation Strategy is available for public scrutiny and commentary at: <http://www.miamidade.gov/fire/mitigation.asp>. Comments can be provided via e-mail to via e-mail

to: mdlms@miamidade.gov. Additional information and questions can be directed to Cathie Perkins, at cathie.perkins@miamidade.gov or by phone at (305) 468-5400

The LMS Coordinator working through the Miami-Dade Department of Emergency Management and Homeland Security and (EMHS) and with the assistance of the LMS Steering Committee, will undertake to organize the updates. All additions, deletions and amendments must be received at EMHS at least thirty days prior to each agreed upon publication date or risk not being included in the final publication for that time period.

On June 6, 2000 the Miami-Dade Board of County Commissioners passed Resolution R-572-00 formally adopting the Local Mitigation Strategy as official county policy thus further promoting program continuity. Because Miami-Dade County has a metropolitan form of government, this means that each of the municipalities within the county has also automatically adopted the LMS unless they choose not to and to date, none have opted out.

Additionally, on June 7, 2005, the Miami-Dade Board of County Commissioners passed Resolution R-710-05, which states that grant applications filed under the auspices of the Miami-Dade Local Mitigation Strategy no longer have to go to the Commission for approval, but instead authorizes the county manager to “Apply for, receive, expend and amend applications for grant funds for projects listed in the Miami-Dade County Local Mitigation Strategy.

The updates are performed twice a year, on June 30th and December 31st, with the inclusion of new projects and removal of the projects already completed. Please refer to the attached list of projects completed and on-going for all federal funding sources, associated to Miami-Dade County unincorporated areas.

Miami-Dade County LMS Project Updates

New projects are recommended by different Miami-Dade County departments and organizations twice a year. Additionally, the Stormwater Management Masterplan performs area floodplain analyses based on hydrology and hydraulics modeling, inspection reports, and repetitive loss information received from FEMA.

Stormwater Management Masterplan area analysis reports are conducted in two cycles: an overall re-evaluation of each of the primary canal basins every 5-years; an evaluation of the repetitive loss areas is performed every year.

The severity of flooding is identified by the Stormwater Management Masterplan through an established Flood Problem Severity Score (FPSS) to rank each individual sub-basin or drainage area by the severity of the flood problem.

The summary of the latest 5-year flood plain analyses and sub-basin prioritization is available upon request. The repetitive loss areas or sub-basins are identified and ranked according to the number of losses in each sub-basin; a cost estimate for the recommended drainage system is prepared.

All proposed projects are forwarded to the Department of Public Works for design and construction, pending availability of funds. The schedule of implementation is established based on severity of flooding (priority rank) and availability of funds.

- In the FY 2013-14 Adopted Budget shows over \$ 52 million dollars to be used in stormwater improvement projects, scheduled for the next five years.
- Please refer to the 2013-2014 Current Capital Budget and Proposed Capital Budget (2014-15) for a complete list of funded and unfunded, projects posted at:

<http://www.miamidade.gov/budget/home.asp>

MIAMI-DADE COUNTY ANNUAL REPORT

LMS Flood Mitigation Project Status List as of September 2014

Miami-Dade County

Part II of the Miami-Dade Local Mitigation Strategy – The Projects – is a compilation of countywide initiatives and projects. Each initiative or project is included herein as one or more descriptive paragraphs, with a cost estimate where available and status of implementation. Each submitting jurisdiction or organization will also maintain a full, detailed project description as well as a detailed project budget, which may be required for a grant application. Additionally, the Miami-Dade County Domestic Preparedness Strategy (DPS), which includes homeland security mitigation measures, is, by reference, included in the Local Mitigation Strategy. Projects included in the DPS will be considered to be LMS projects.

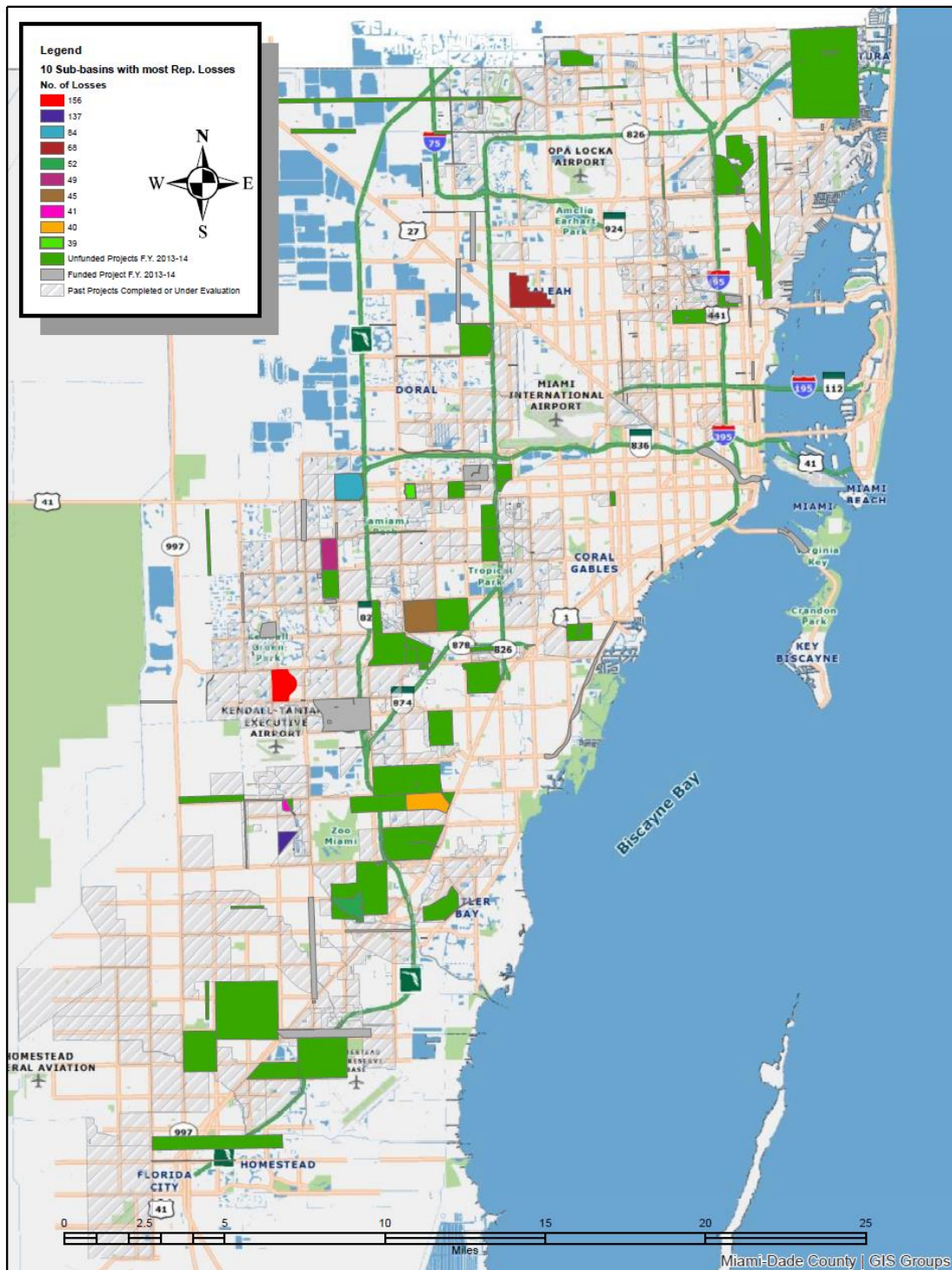
The Part II of the Miami-Dade Local Mitigation Strategy – The Projects, is posted at:

<http://www.miamidade.gov/fire/library/OEM/LMS-master-2012-12-part-2-the-projects.pdf>

RECOMMENDATIONS FOR PROJECTS OR REVISED RECOMMENDATIONS

The following map shows a snapshot of all projects funded and unfunded for Fiscal year 2013-14, highlighting the priority Repetitive Loss Areas.

PUBLIC WORKS AND WASTE MANAGEMENT DRAINAGE IMPROVEMENT PROJECTS - 2013



The table below shows the list of stormwater management projects included in the current Approved Budget, for Fiscal Year 2013-14. The project selection of project areas is based on based on the Flood Problem Severity Score (FPSS) score and the number of historical flood losses and repetitive losses in the drainage area or sub-basin. The 10 sub-basins with the largest FPLOSS and largest number of Repetitive Loss Numbers are prioritized, and scheduled for design and construction based on the availability of funds.

PROJECT #	PROJECT	District Located	District(s) Served:	DESCRIPTION	FUNDING SOURCE	LOCATION	SCHEDULED COMPLETION	TOTAL COST, in \$ 1,000
9920	SEABOARD ACRES/LARCHMONT PUMP STATION RETROFIT	2	2, 3	Construct drainage improvement Pump Station Retrofit	Stormwater Utility	Memorial Hwy and NE 131 St; NW 5 Ave and NW 85 St	2014-15	3,280
551100	DRAINAGE IMPROVEMENTS WITHIN COMMISSION DISTRICT 01	1	1	Construct drainage improvements	BBC GOB Financing	Commission District 1	2018-19	5,129
551430	MASTER PLAN BASINWIDE DRAINAGE IMPROVEMENTS - COMMISSION DISTRICT 04	4	4	Construct drainage improvements	BBC GOB Financing	Commission District 4	2018-19	1,600
551500	DRAINAGE IMPROVEMENTS WITHIN COMMISSION DISTRICT 03	3	3	Construct drainage improvements	BBC GOB Financing	Commission District 3	2013-14	135
551710	MASTER PLAN BASINWIDE DRAINAGE IMPROVEMENTS - COMMISSION DISTRICT 10	10	10	Construct drainage improvements	BBC GOB Financing BBC GOB Series 2005A	Commission District 10	2018-19	5,555
551790	DRAINAGE IMPROVEMENTS WITHIN COMMISSION DISTRICT 11	11	11	Construct drainage improvements	BBC GOB Financing BBC GOB Series 2005A BBC GOB Series 2008B BBC GOB Series 2008B-1	Commission District 11	2015-16	1,857
552540	MASTER PLAN BASINWIDE DRAINAGE IMPROVEMENTS - COMMISSION DISTRICT 11	11	11	Construct drainage improvements	BBC GOB Financing	Commission District 11	2018-19	4,875
552990	DRAINAGE IMPROVEMENTS NW 77 AVENUE TO NW 78 COURT FROM NW 179 STREET TO NW 186 STREET	13	13	Construct drainage improvements	BBC GOB Financing BBC GOB Series 2008B BBC GOB Series 2008B-1	Commission District 13	2013-14	518

PROJECT #	PROJECT	District Located	District(s) Served:	DESCRIPTION	FUNDING SOURCE	LOCATION	SCHEDULED COMPLETION	TOTAL COST, in \$ 1,000
553020	DRAINAGE IMPROVEMENTS WITHIN COMMISSION DISTRICT 10	10	10	Construct drainage improvements	BBC GOB Financing	Commission District 10	2014-15	1,273
					BBC GOB Series 2008B			
					BBC GOB Series 2008B-1			
553070	DRAINAGE IMPROVEMENTS CORAL WAY TO SW 21 STREET FROM SW 67 AVENUE TO SW 72 AVENUE	6	6	Construct drainage improvements	BBC GOB Financing	Commission District 6	2017-18	750
554180	MASTER PLAN BASINWIDE DRAINAGE IMPROVEMENTS - COMMISSION DISTRICT 01	1	1	Construct drainage improvements	BBC GOB Financing	Commission District 1	2017-18	1,500
554450	DRAINAGE IMPROVEMENTS NW 95 STREET TO NW 100 STREET FROM NW 34 AVENUE TO NW 36 AVE	2	2	Construct drainage improvements	BBC GOB Financing	Commission District 2	2017-18	500
554720	DRAINAGE IMPROVEMENTS SW 127 AVENUE TO SW 128 AVENUE FROM SW 58 STREET TO SW 65 STREET	10	10	Construct drainage improvements	BBC GOB Financing	Commission District 10	2015-16	750
554910	MASTER PLAN BASINWIDE DRAINAGE IMPROVEMENTS - COMMISSION DISTRICT 02	2	2	Construct drainage improvements	BBC GOB Financing	Commission District 2	2016-17	2,000
555150	DRAINAGE IMPROVEMENTS WITHIN COMMISSION DISTRICT 06	6	6	Construct drainage improvements	BBC GOB Financing	Commission District 6	2017-18	4,894
555900	DRAINAGE IMPROVEMENTS WITHIN COMMISSION DISTRICT 02	2	2	Construct drainage improvements	BBC GOB Financing	Commission District 2	2015-16	1,598
556130	DRAINAGE IMPROVEMENTS WITHIN COMMISSION DISTRICT 05	5	5	Construct drainage improvements	BBC GOB Financing	Commission District 5	2017-18	1,000
556540	DRAINAGE IMPROVEMENTS WITHIN COMMISSION DISTRICT 04	4	4	Construct drainage improvements	BBC GOB Financing	Commission District 4	2016-17	960

PROJECT #	PROJECT	District Located	District(s) Served:	DESCRIPTION	FUNDING SOURCE	LOCATION	SCHEDULED COMPLETION	TOTAL COST, in \$ 1,000
557510	MASTER PLAN BASINWIDE DRAINAGE IMPROVEMENTS - COMMISSION DISTRICT 13	13	13	Construct drainage improvements	BBC GOB Financing	Commission District 13	2017-18	1,638
558090	DRAINAGE IMPROVEMENTS WITHIN COMMISSION DISTRICT 07	7	7	Construct drainage improvements	BBC GOB Financing	Commission District 7	2016-17	1,270
558620	DRAINAGE IMPROVEMENTS WITHIN COMMISSION DISTRICT 13	13	13	Construct drainage improvements	BBC GOB Financing	Commission District 13	2014-15	874
558690	DRAINAGE IMPROVEMENTS SW 92 AVENUE FROM WEST FLAGLER STREET TO SW 8 STREET	6, 10	6, 10	Construct drainage improvements	BBC GOB Financing	SW 92 Ave from West Flagler St to SW 8 St	2017-18	1,250
558940	DRAINAGE IMPROVEMENTS WITHIN COMMISSION DISTRICT 08	8	8	Construct drainage improvements	BBC GOB Financing	Commission District 8	2014-15	529
559150	MASTER PLAN BASINWIDE DRAINAGE IMPROVEMENTS - COMMISSION DISTRICT 12	12	12	Construct drainage improvements	BBC GOB Financing	Commission District 12	2018-19	4,633
559270	MASTER PLAN BASINWIDE DRAINAGE IMPROVEMENTS - COMMISSION DISTRICT 07	7	7	Construct drainage improvements	BBC GOB Financing	Commission District 7	2016-17	1,370
559780	DRAINAGE IMPROVEMENTS SW 157 AVENUE FROM SW 42 STREET TO SW 64 STREET (SW 157 AVENUE CANAL)	11	11	Construct drainage improvements	BBC GOB Financing	SW 157 Ave from SW 42 St to SW 64 St	2014-15	1,500
					BBC GOB Series 2005A			
					BBC GOB Series 2008B			
					BBC GOB Series 2008B-1			
602900	DRAINAGE IMPROVEMENTS CARIBBEAN BOULEVARD AT THE C-1N CANAL CROSSING	8, 9	8, 9	Construct drainage improvements	Stormwater Utility	Caribbean Blvd between HEFT and Anchor Rd	2014-15	3,025
607800	DRAINAGE RETROFIT OF ARTERIAL ROADWAYS	Countywide	Countywide	Construct drainage improvements throughout Miami-Dade County	Stormwater Utility	Countywide	2018-19	7,000

PROJECT #	PROJECT	District Located	District(s) Served:	DESCRIPTION	FUNDING SOURCE	LOCATION	SCHEDULED COMPLETION	TOTAL COST, in \$ 1,000
602880	LOCAL DRAINAGE IMPROVEMENTS	UMSA	UMSA	Construct stormwater drainage improvements in various locations across the County	BBC GOB Financing	Various Sites Throughout Miami-Dade County	2016-17	11,542
					BBC GOB Series 2005A			
					BBC GOB Series 2008B			
					BBC GOB Series 2008B-1			
					BBC GOB Series 2011A			
608020	STORMWATER PUMP STATION / CONTROL STRUCTURES UPGRADE	Countywide	Countywide	Upgrade / retrofit existing stormwater pump stations and structures	Stormwater Utility	Various Sites Throughout Miami-Dade County	2013-14	700
608820	DRAINAGE IMPROVEMENTS SW 72 STREET TO SW 80 STREET FROM SW 52 AVENUE TO SW 57 AVENUE	7	7	Construct drainage improvements	BBC GOB Financing	SW 72 St to SW 80 St from SW 52 Ave to SW 57 Ave	2017-18	1,000
609010	SAN SEBASTIAN DRAINAGE IMPROVEMENT PROJECT	10	10, 11	Construct drainage improvements	BBC GOB Financing	SW 42 St to SW 47 St between SW 132 Ave to SW 133 Ave	2013-14	772
					BBC GOB Series 2008B-1			
5510070	DRAINAGE IMPROVEMENTS NORTH MIAMI BEACH BOULEVARD	4	4	Construct drainage improvements	BBC GOB Financing	North Miami Beach Blvd from NE 17 Ave to US-1	2016-17	1,500
5510660	MASTER PLAN BASINWIDE DRAINAGE IMPROVEMENTS - COMMISSION DISTRICT 08	8	8	Construct drainage improvements	BBC GOB Financing	Commission District 8	2017-18	4,227
5553041	RESERVE FOR HIGH PRIORITY DRAINAGE PROJECTS	UMSA	UMSA	Reserve funds for additional projects and existing projects requiring an increased allocation	Stormwater Utility	Various Sites in Unincorporated Miami-Dade County	2018-19	3,500
5555631	LOCAL DRAINAGE IMPROVEMENTS FOR COMMUNITY RATING SYSTEM PROGRAM	UMSA	UMSA	Construct drainage improvements in accordance with the Federal Emergency Management Agency Community Rating System Program	Stormwater Utility	Various Sites in Unincorporated Miami-Dade County	2018-19	7,000

PROJECT #	PROJECT	District Located	District(s) Served:	DESCRIPTION	FUNDING SOURCE	LOCATION	SCHEDULED COMPLETION	TOTAL COST, in \$ 1,000
6031811	ROADWAY DRAINAGE IMPROVEMENTS IN UNINCORPORATED MIAMI-DADE COUNTY	UMSA	UMSA	Construct roadway drainage improvements	Stormwater Utility	Various Sites in Unincorporated Miami-Dade County	2018-19	10,375
6032431	DRAINAGE IMPROVEMENT MATERIALS	UMSA	UMSA	Purchase pipes and inlets for drainage improvements	Stormwater Utility	Various Sites in Unincorporated Miami-Dade County	2018-19	1,400
TOTAL								103,279

COMPLETED AND NEAR COMPLETION PROJECTS

(From May 2013, through May 2014)

PROJECT #	BUDGET #	DESCRIPTION	NTP Date	COC Date	STATUS
20120161	609630	Drainage Improvements on Multiple Sites: SW 154 AVE from SW 80 ST - 81 Circle LN; W 108 ST, from NW 2 CT - NW 5 AVE; NE 110 ST, from NE 2 - NE 3 Ave; NE 214 Street and NE 20 CT	23-SEP-2013	06-APR-2014	COMPLETED
	6031811				
	5553041				
20130154	552990	Drainage Improvements for Palm Spring - Phase V - NW 77 AVE to NW 78 CT; from NW 179 ST to NW 186 ST	21-JAN-2014		COMPLETED
20130002	607800	Drainage Improvement Project Multiple Sites: NE 2 AVE, from NE 116 ST - NE 117 ST; NW 95 TER, from NW 13 AVE to NW 14 AVE; NE 146 ST, from NE 12 AVE and NE 14 AVE	01-JUL-2013	05-FEB-2014	COMPLETED
	6031811				
	6031811				
20130013	607800	Drainage Improvement Project for Multiple Sites: NE Miami CT, from NE 135 ST to NW 139 ST; NW 67 ST, from NW 32 AVE to NW 33 AVE; SW 73 AVE & SW 12 ST	20-MAY-2013	27-OCT-2013	COMPLETED
	6031811				
	6031811				
20130156	602880	Drainage Improvement Project: NE 91 Street from NE 10 CT to N Bayshore DR	02-DEC-2013	30-MAY-2014	COMPLETED
20120135	6031811	Drainage Improvements Projects on Multiple Sites: NW 101 ST, from NW 23 AVE to NW 22 AVE; High Pines Add: SW 52 CT, from SW 80th ST to SW 72 ST; SW 53 CT, from SW 80 ST to SW 72 CT; SW 128 ST from SW 127 Ave and SW 125 AVE;	03-JUN-2013	01-DEC-2013	COMPLETED
	5555631				
	5555631				
20130159-R	551100	Drainage Improvements for Multiple Sites: NW 53 TER, from NW 72 AVE to NW 69 AVE; SW 60 ST & SW 70 AVE;	07-APR-2014		UNDER CONSTRUCTION
	6031811				
20130213	559780	Drainage Improvement SW 157 Avenue Canal Interconnect (W 157 Avenue from SW 42 Street to SW 64 Street)	24-MAR-2014		UNDER CONSTRUCTION
20130152	6031811	Drainage Improvement - Multiple Sites - NW 117 St From NW 12 Ave to NW 14 Ave Drainage Improvements; NE 171 Street and NE 11 Court Drainage Improvement Project;	12-NOV-2013	12-MAR-2014	COMPLETED
20130050	5555631	Drainage Improvement - Multiple Sites CRS RL-6 Drainage Improvements, SW 81 ST & SW 81 TER from SW 67 AVE to SW 69 AVE SW 128 ST FROM SW 122 AVE TO CUL-DE-SAC	07-OCT-2013	14-APR-2014	COMPLETED
	5553041				
	6031811				
20130157	609010	Drainage Improvement Project - SW 43 ST to SW 44 LN, from SW 132 AVE to SW 133 AVE; NW 46 ST, from N Miami AVE to NW 2 AVE	04-APR-2014		UNDER CONSTRUCTION
	602880				
20130158	602880	Drainage Improvement Project - SW 99 AVE & SW 101 ST; SW 129 AVE & SW 116 ST	31-MAR-2014		UNDER CONSTRUCTION
20130163	6031811	Drainage Improvement in Multiple Sites: NW 69 ST & NW 16 AVE; SW 116 AVE & SW 185 ST, SW 115 AVE & SW 185 ST; SW 116 AVE & SW 185 ST SW 100 AVE & SW 30 ST (10010 SW 30 ST)	31-MAR-2014		UNDER CONSTRUCTION
	6031811				
	5555631				
	6031811				
	6031811				

The table below shows the list of stormwater management projects included in the current Proposed Budget, for Fiscal Year 2014-15. The project selection of project areas is based on based on the Flood Problem Severity Score (FPSS) score and the number of historical flood losses and repetitive losses in the drainage area or sub-basin. The 10 sub-basins with the largest FPLOSS and largest number of Repetitive Loss Numbers are prioritized, and scheduled for design and construction based on the availability of funds.

PROJECT #	PROJECT	District Located	District(s) Served:	DESCRIPTION	FUNDING SOURCE	LOCATION	SCHEDULED COMPLETION	TOTAL COST, in \$ 1,000
9920	SEABOARD ACRES/LARCHMONT PUMP STATION RETROFIT	2	2, 3	Construct drainage improvement Pump Station Retrofit	Stormwater Utility	Memorial Hwy and NE 131 St; NW 5 Ave and NW 85 St	2014-15	3,280
551100	DRAINAGE IMPROVEMENTS WITHIN COMMISSION DISTRICT 01	1	1	Construct drainage improvements	BBC GOB Financing BBC GOB Series 2014A	Commission District 1	2017-18	5,136
551430	MASTER PLAN BASINWIDE DRAINAGE IMPROVEMENTS - COMMISSION DISTRICT 04	4	4	Construct drainage improvements	BBC GOB Financing	Commission District 4	2018-19	1,600
551500	DRAINAGE IMPROVEMENTS WITHIN COMMISSION DISTRICT 03	3	3	Construct drainage improvements	BBC GOB Financing BBC GOB Series 2014A	Commission District 3	2014-15	135
551710	MASTER PLAN BASINWIDE DRAINAGE IMPROVEMENTS - COMMISSION DISTRICT 10	10	10	Construct drainage improvements	BBC GOB Financing BBC GOB Series 2005A	Commission District 10	2018-19	5,555
551790	DRAINAGE IMPROVEMENTS WITHIN COMMISSION DISTRICT 11	11	11	Construct drainage improvements	BBC GOB Financing BBC GOB Series 2005A BBC GOB Series 2008B BBC GOB Series 2008B-1 BBC GOB Series 2014A	Commission District 11	2015-16	2,658
552540	MASTER PLAN BASINWIDE DRAINAGE IMPROVEMENTS - COMMISSION DISTRICT 11	11	11	Construct drainage improvements	BBC GOB Financing	Commission District 11	2018-19	4,875
552880	DRAINAGE IMPROVEMENTS WITHIN COMMISSION DISTRICT 12	12	12	Construct drainage improvements	BBC GOB Financing BBC GOB Series 2014A	Commission District 12	2018-19	3,385

PROJECT #	PROJECT	District Located	District(s) Served:	DESCRIPTION	FUNDING SOURCE	LOCATION	SCHEDULED COMPLETION	TOTAL COST, in \$ 1,000
553020	DRAINAGE IMPROVEMENTS WITHIN COMMISSION DISTRICT 10	10	10	Construct drainage improvements	BBC GOB Financing	Commission District 10	2014-15	1,273
					BBC GOB Series 2008B			
					BBC GOB Series 2008B-1			
553070	DRAINAGE IMPROVEMENTS CORAL WAY TO SW 21 STREET FROM SW 67 AVENUE TO SW 72 AVENUE	6	6	Construct drainage improvements	BBC GOB Financing	Commission District 6	2017-18	750
554180	MASTER PLAN BASINWIDE DRAINAGE IMPROVEMENTS - COMMISSION DISTRICT 01	1	1	Construct drainage improvements	BBC GOB Financing	Commission District 1	2017-18	1,500
554450	DRAINAGE IMPROVEMENTS NW 95 STREET TO NW 100 STREET FROM NW 34 AVENUE TO NW 36 AVE	2	2	Construct drainage improvements	BBC GOB Financing	Commission District 2	2017-18	500
554720	DRAINAGE IMPROVEMENTS SW 127 AVENUE TO SW 128 AVENUE FROM SW 58 STREET TO SW 65 STREET	10	10	Construct drainage improvements	BBC GOB Financing	Commission District 10	2015-16	750
554910	MASTER PLAN BASINWIDE DRAINAGE IMPROVEMENTS - COMMISSION DISTRICT 02	2	2	Construct drainage improvements	BBC GOB Financing	Commission District 2	2017-18	1,670
555150	DRAINAGE IMPROVEMENTS WITHIN COMMISSION DISTRICT 06	6	6	Construct drainage improvements	BBC GOB Financing	Commission District 6	2017-18	4,905
					BBC GOB Series 2014A			
555900	DRAINAGE IMPROVEMENTS WITHIN COMMISSION DISTRICT 02	2	2	Construct drainage improvements	BBC GOB Financing	Commission District 2	2015-16	1,319
					BBC GOB Series 2014A			
556130	DRAINAGE IMPROVEMENTS WITHIN COMMISSION DISTRICT 05	5	5	Construct drainage improvements	BBC GOB Financing	Commission District 5	2017-18	1,000
556540	DRAINAGE IMPROVEMENTS WITHIN COMMISSION DISTRICT 04	4	4	Construct drainage improvements	BBC GOB Financing	Commission District 4	2016-17	960
					BBC GOB Series 2014A			

PROJECT #	PROJECT	District Located	District(s) Served:	DESCRIPTION	FUNDING SOURCE	LOCATION	SCHEDULED COMPLETION	TOTAL COST, in \$ 1,000
557510	MASTER PLAN BASINWIDE DRAINAGE IMPROVEMENTS - COMMISSION DISTRICT 13	13	13	Construct drainage improvements	BBC GOB Financing	Commission District 13	2017-18	1,638
558090	DRAINAGE IMPROVEMENTS WITHIN COMMISSION DISTRICT 07	7	7	Construct drainage improvements	BBC GOB Financing BBC GOB Series 2014A	Commission District 7	2016-17	1,270
558620	DRAINAGE IMPROVEMENTS WITHIN COMMISSION DISTRICT 13	13	13	Construct drainage improvements	BBC GOB Financing BBC GOB Series 2014A	Commission District 13	2016-17	480
558690	DRAINAGE IMPROVEMENTS SW 92 AVENUE FROM WEST FLAGLER STREET TO SW 8 STREET	6, 10	6, 10	Construct drainage improvements	BBC GOB Financing	SW 92 Ave from West Flagler St to SW 8 St	2017-18	1,250
558940	DRAINAGE IMPROVEMENTS WITHIN COMMISSION DISTRICT 08	8	8	Construct drainage improvements	BBC GOB Financing BBC GOB Series 2014A	Commission District 8	2014-15	529
559150	MASTER PLAN BASINWIDE DRAINAGE IMPROVEMENTS - COMMISSION DISTRICT 12	12	12	Construct drainage improvements	BBC GOB Financing	Commission District 12	2018-19	4,633
559270	MASTER PLAN BASINWIDE DRAINAGE IMPROVEMENTS - COMMISSION DISTRICT 07	7	7	Construct drainage improvements	BBC GOB Financing	Commission District 7	2016-17	1,370
559780	DRAINAGE IMPROVEMENTS SW 157 AVENUE FROM SW 42 STREET TO SW 64 STREET (SW 157 AVENUE CANAL)	11	11	Construct drainage improvements	BBC GOB Financing BBC GOB Series 2005A BBC GOB Series 2008B BBC GOB Series 2008B-1 BBC GOB Series 2014A	SW 157 Ave from SW 42 St to SW 64 St	2014-15	1,600
602880	LOCAL DRAINAGE IMPROVEMENTS	UMSA	UMSA	Construct stormwater drainage improvements in various locations across the County	BBC GOB Financing BBC GOB Series 2005A BBC GOB Series 2008B BBC GOB Series 2008B-1 BBC GOB Series 2011A BBC GOB Series 2013A BBC GOB Series 2014A	Various Sites Throughout Miami-Dade County	2016-17	12,056

PROJECT #	PROJECT	District Located	District(s) Served:	DESCRIPTION	FUNDING SOURCE	LOCATION	SCHEDULED COMPLETION	TOTAL COST, in \$ 1,000
602900	DRAINAGE IMPROVEMENTS CARIBBEAN BOULEVARD AT THE C-1N CANAL CROSSING	8, 9	8, 9	Construct drainage improvements	Stormwater Utility	Caribbean Blvd between HEFT and Anchor Rd	2015-16	3,025
608020	STORMWATER PUMP STATION / CONTROL STRUCTURES UPGRADE	Countywide	Countywide	Upgrade / retrofit existing stormwater pump stations and structures	Stormwater Utility	Countywide	2014-15	700
607600	NW 106 STREET AND NW SOUTH RIVER DRIVE CULVERT	12	12	Install a culvert at NW 106 St and NW S River Dr.	Road Impact Fees	NW 106 St and NW South River Dr.	2014-15	833
608820	DRAINAGE IMPROVEMENTS SW 72 STREET TO SW 80 STREET FROM SW 52 AVENUE TO SW 57 AVENUE	7	7	Construct drainage improvements	BBC GOB Financing	SW 72 St to SW 80 St from SW 52 Ave to SW 57 Ave	2017-18	1,000
5510070	DRAINAGE IMPROVEMENTS NORTH MIAMI BEACH BOULEVARD	4	4	Construct drainage improvements	BBC GOB Financing	North Miami Beach Blvd from NE 17 Ave to US-1	2016-17	1,500
5510660	MASTER PLAN BASINWIDE DRAINAGE IMPROVEMENTS - COMMISSION DISTRICT 08	8	8	Construct drainage improvements	BBC GOB Financing	Commission District 8	2017-18	4,227
5553041	RESERVE FOR HIGH PRIORITY DRAINAGE PROJECTS	UMSA	UMSA	Reserve funds for additional projects and existing projects requiring an increased allocation	Stormwater Utility	Various Sites in Unincorporated Miami-Dade County	2019-20	3,500
5555631	LOCAL DRAINAGE IMPROVEMENTS FOR COMMUNITY RATING SYSTEM PROGRAM	UMSA	UMSA	Construct drainage improvements in accordance with the Federal Emergency Management Agency Community Rating System Program	Stormwater Utility	Various Sites in Unincorporated Miami-Dade County	2019-20	7,000

PROJECT #	PROJECT	District Located	District(s) Served:	DESCRIPTION	FUNDING SOURCE	LOCATION	SCHEDULED COMPLETION	TOTAL COST, in \$ 1,000
6031811	ROADWAY DRAINAGE IMPROVEMENTS IN UNINCORPORATED MIAMI-DADE COUNTY	UMSA	UMSA	Construct roadway drainage improvements	Stormwater Utility	Various Sites in Unincorporated Miami-Dade County	2019-20	11,375
6032431	DRAINAGE IMPROVEMENT MATERIALS	UMSA	UMSA	Purchase pipes and inlets for drainage improvements	Stormwater Utility	Various Sites in Unincorporated Miami-Dade County	2019-20	1,400
607800	DRAINAGE RETROFIT OF ARTERIAL ROADWAYS	Countywide	Countywide	Construct drainage improvements throughout Miami-Dade County	Stormwater Utility	Countywide	2019-20	7,000
TOTAL								107,637

AREAS UNDER INVESTIGATION

The table below shows the list of the significant flood events, with maximum 24-h rainfall over 3 inches, for the year 2013. The Stormwater Utility received a total of 138 flood complaints, associated to rainfall events in different areas. The complaints were geo-referenced and mapped and the resulting map is shown on page 21.

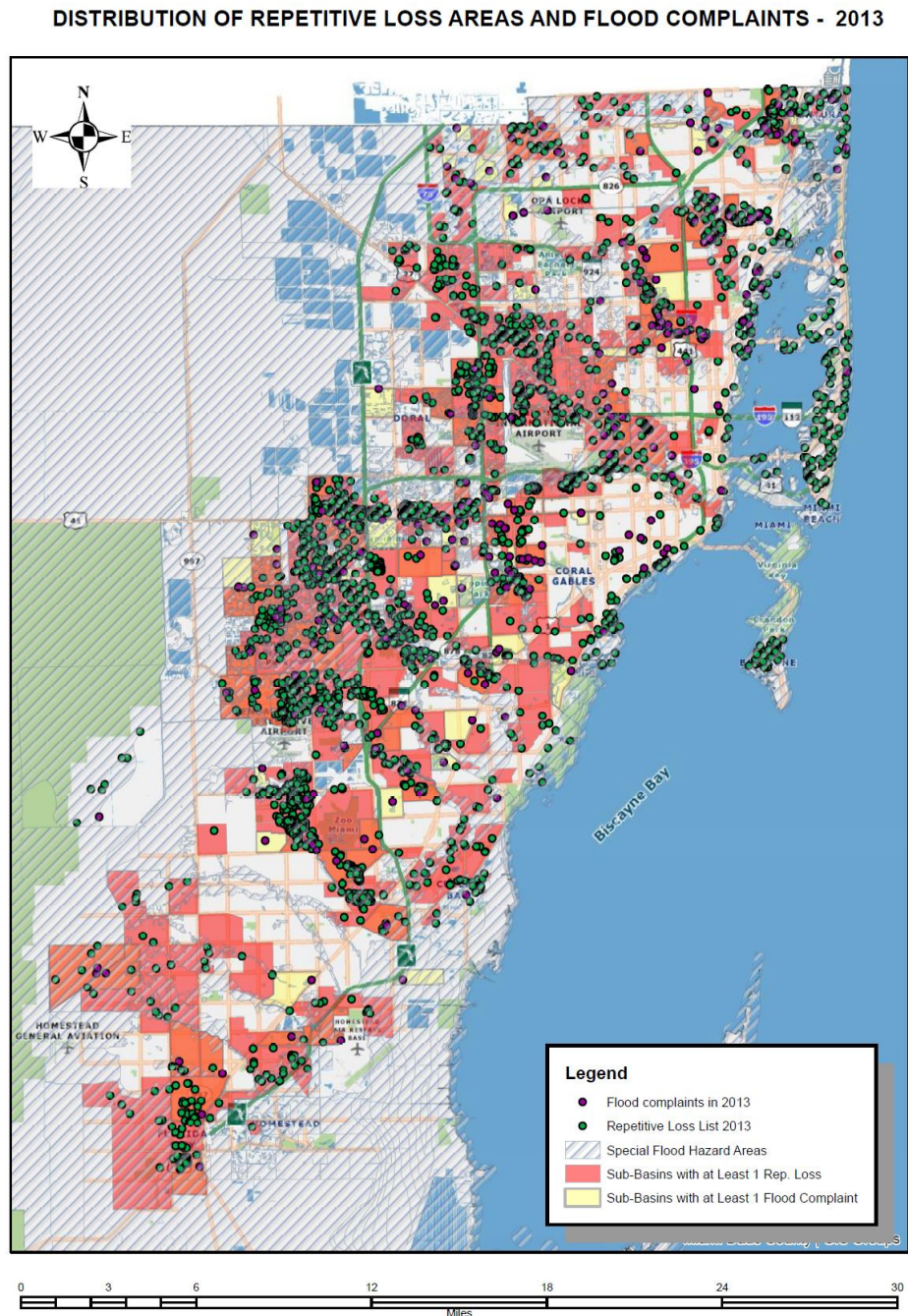
RAINFALL EVENTS, in INCHES – YEAR 2013 (FROM 01/01/2013-12/31/2013)

DATE	SUB-BASIN	BASIN	MAX. 24-H RAINFALL, INCHES	TOTAL 72-H RAINFALL, INCHES	RETURN PERIOD, Years
6/7/2013	North Biscayne Bay	North Biscayne Bay	13.99	15.28	50
10/3/2013	MC-E-1	C2	5.53	5.64	2
10/4/2013	C2C-E-2	C2	5.53	5.64	2
10/2/2013	CC6-N-5	C6	5.53	5.64	2
10/2/2013	CC100A-W-1	C100	4.97	5.13	2
5/21/2013	LG-N-1	C2	4.36	5.06	2
5/21/2013	CWB-S-3	C4	4.36	4.91	1
5/21/2013	CC4-S-3	C4	4.36	4.91	Less than 1
5/21/2013	CC4-N-26	C4	4.36	4.91	Less than 1
5/21/2013	C4-S-17	C4	4.36	4.91	Less than 1
5/21/2013	C7-N-11	C7	4.36	4.91	Less than 1
5/20/2013	C3-S10-1	C3	4.36	4.36	Less than 1
5/20/2013	C3-N9-2	C3	4.36	4.36	Less than 1
7/17/2013	BD-S-3	C2	3.99	4.69	Less than 1
7/18/2013	64ST-S-5	C2	3.99	4.69	Less than 1
7/18/2013	CC4-N-25	C4	3.69	5.09	Less than 1

Source: DBHYDRO Rain Gauges (SFWMMD): http://www.sfwmd.gov/dbhydroplsql/show_dbkey_info.main_menu

The Federal Emergency Management Agency (FEMA) provides a list of Repetitive Losses, to the Counties and Municipalities participating in the Community Rating System Program (CRS). The information received in 2013 was used to prepare the map below, showing the countywide distribution of repetitive losses and flood complaints reported for 2013.

The map shows that the sub-basin areas with flood complaints are generally repetitive loss areas.

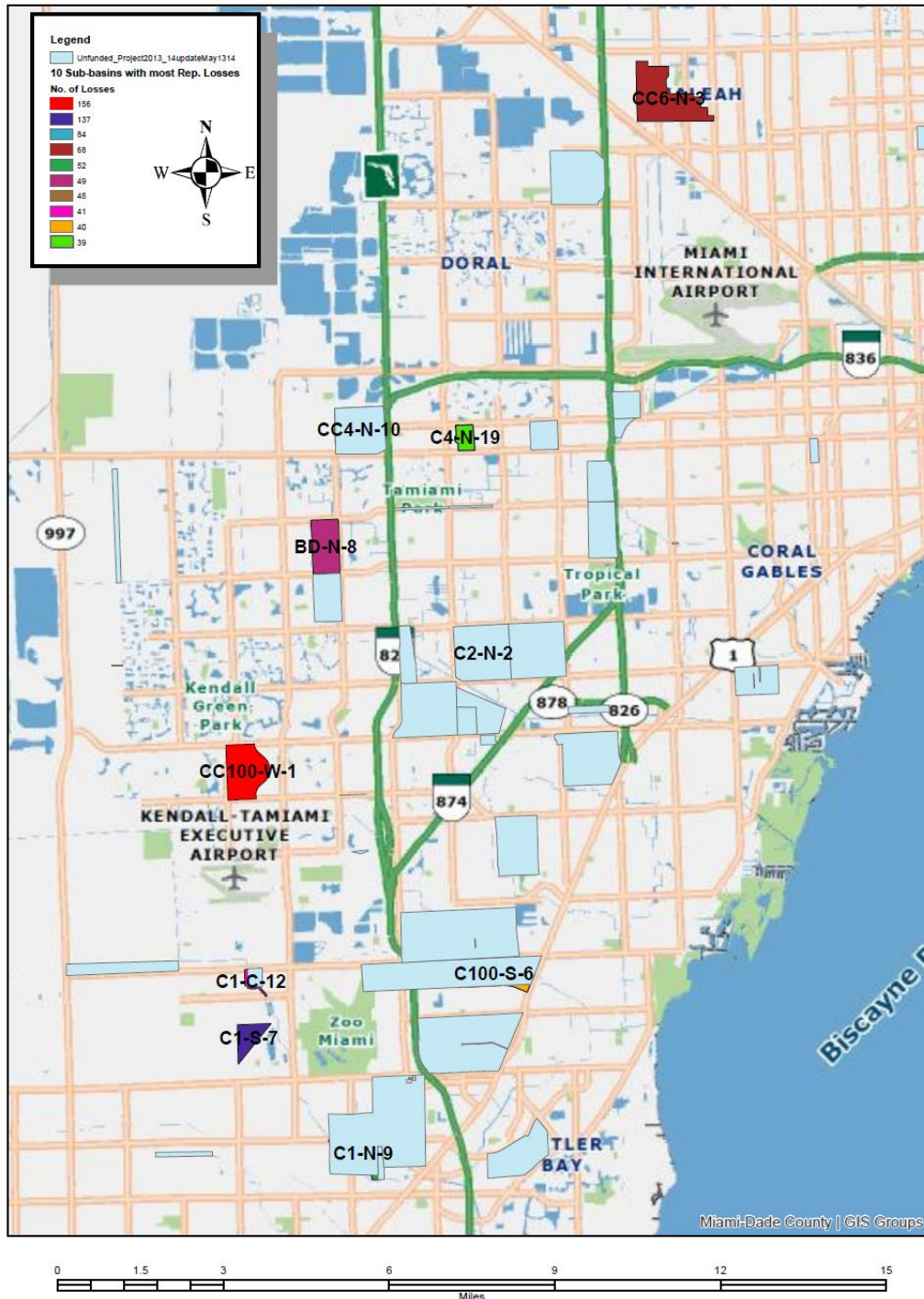


Based on the number of losses, and Stormwater Masterplan sub-basin and drainage information, the following map was prepared, showing the 10 sub-basins or drainage areas with most repetitive losses reported in the year 2013, by FEMA (Federal Emergency Management Agency).

The number of reported repetitive losses is used to prioritize investigations during flash flood events, in association to investigations on the flood complaints received by the Stormwater Utility during 2013.

This information is also used to verify the flood protection levels of service (impassable roadways, flooding of structures above lowest floor, ponding over 24-h, secondary canal above stage), identifying of the cause of flooding (canal overflow, insufficient drainage, and maintenance issues). If the flood inspections investigations confirm that minimum flood protection levels of service were not accomplished, the drainage area or sub-basin is included in the list of future drainage improvements projects.

10 SUB-BASINS WITH MOST REPETITIVE LOSSES - 2013



Some of the areas shown on the map had been prioritized in previous years, and drainage improvement projects had been constructed; others are located in incorporated areas and had been forwarded to the municipalities for investigation:

- The sub-basins CC4-N-10 (Belen Phases I and II), CC100-N-1 (Munne and Lormar sub-divisions) and BD-N-8 (J.G Head Farms) have been mitigated and are now under observation.
- The sub-basin CC6-N-3 is located within the City of Hialeah and outside the Unincorporated Miami-Dade County's jurisdiction (Community 120635).
- The sub-basin C4-N-19 is located within the City of Sweetwater and outside the Unincorporated Miami-Dade County's jurisdiction (Community 120635).
- The sub-basin C100-S-6 located within the City of Sweetwater and outside the Unincorporated Miami-Dade County's jurisdiction (Community 120635).

The remaining priority repetitive loss area projects were included in our future unfunded needs.



Local Mitigation Strategy

2014 ANNUAL REPORT

for the Town of Cutler Bay



prepared by:

Kimley»Horn

Background

On August 20, 2008 via Resolution 08-52, the Town of Cutler Bay initially adopted the 2007 Miami-Dade County Local mitigation Strategy. On August 20, 2014 via Resolution 14-55, the Town of Cutler Bay re-adopted the 2010 Miami-Dade County Local Mitigation Strategy. This document is a progress report on the status of the Miami-Dade County Local Mitigation Strategy, as required to maintain Floodplain Management Plan credit under the Community Rating System. In accordance with the requirements for Community Rating System credit, this memo is also being distributed to the local media and posted on the Town's website. Copies of the Miami-Dade County Local Mitigation Strategy are available on the Miami-Dade County website at the following address: <http://www.miamidade.gov/oem/LMS.asp>.

The original Local Mitigation Strategy (LMS) was created in 1998 with funding from the State of Florida. During the development of the LMS, each municipality within the County designated a representative to the LMS Working Group. Other active participants in the working group include Miami-Dade County, State and Federal agencies, colleges, universities and schools (including Miami-Dade County Public Schools), hospitals, not-for-profit organizations, and private sector companies. In 1999, the LMS Working Group voted to continue the LMS program with or without state funding. The LMS Working Group currently meets quarterly, and a representative of the Town of Cutler Bay staff attends these meetings.



In December 2000, the LMS Working Group agreed that the LMS master document would be updated and published each year on June 30th and December 31st. The LMS Coordinator, who is a Miami-Dade County employee, works with the Miami-Dade Office of Emergency Management and Homeland Security and the LMS Steering Committee, to organize the updates by incorporating additions, deletions, and updates submitted by members of the LMS Working Group at least 30 days prior to each publication date. The latest version of the LMS was published in December 2013. It is organized into four (4) Parts.

Part 1 of the Local Mitigation Strategy is entitled "The Strategy" and includes sections on the following:

- ♦ Guiding principles
- ♦ Mitigation goals and objectives
- ♦ Policies, ordinances, and programs affecting mitigation
- ♦ Effectiveness evaluation
- ♦ Analysis of existing policies, ordinances, and programs

- ◆ Conflict resolution procedures
- ◆ Hazard identification and vulnerability assessment
- ◆ Windstorm
- ◆ Flooding
- ◆ Other hazards
- ◆ Data sources
- ◆ Private sector interests
- ◆ Prioritizing mitigation initiatives
- ◆ Evaluation criteria and procedures to review and revise the LMS
- ◆ Miami-Dade County critical facilities inventory



Part 2 of the Local Mitigation Strategy entitled “The Projects” is a compilation of countywide disaster mitigation initiatives and projects.

Each participating member of the LMS Working Group provided a one or two paragraph description of each of their projects and initiatives along with a reasonable cost estimate. The Countywide Initiatives and Town of Cutler Bay sections are the two sections in Part 2 of the LMS that are most relevant to the Town. Part 3 of the LMS describes potential funding sources for LMS projects and initiatives, and Part 4 consists of Appendices referenced in the first three Parts. Council members, staff and residents of the Town are encouraged to review the entire document located at the web address disclosed in the opening paragraph of this document.

The following is a summary of the projects listed in the Town of Cutler Bay section of Part 2 of the LMS and an assessment of the status of each initiative or project.

The Town of Cutler Bay

Project 1: Drainage Improvements

The purpose of the Town of Cutler Bay Stormwater Master Plan was to identify opportunities to protect surface water quality and reduce flooding within the limits of the Town of Cutler Bay, Florida. The following nineteen (19) priority drainage sub-basins were identified and studied as part of the Stormwater Master Plan along with 2 Joint Participation Agreement (JPA) Projects and 3 County owned road projects.

Town-owned Roads:

- ◆ *Cutler Ridge Elementary area* -
Estimated cost: \$700,000 – Completed
- ◆ *Saga Bay Section 1.3 Sub-Basin* -
Estimated cost: \$330,000 – Completed
- ◆ *Saga Bay Section 1.4 Sub-Basin* -
Estimated cost: \$90,000 – Completed
- ◆ *Saga Bay Section 1.5 Sub-Basin* -
Estimated cost: \$1,030,000 – Completed



- ◆ *Bel Aire Section 5.2 Sub-Basin* - Estimated cost: \$450,000 – Completed
- ◆ *SW 212th Street Drainage Improvement* - Estimated cost: \$569,730 – Permitting Phase
- ◆ *SW 87th Avenue Sub-Basin* - Estimated cost: \$1,000,000
- ◆ *SW 97th Avenue Sub-Basin* - Estimated cost: \$1,200,000
- ◆ *Bel Aire Section 1.2 Sub-Basin* - Estimated cost: \$660,000
- ◆ *Saga Bay Section 1.1 Sub-Basin* - Estimated cost: \$800,000
- ◆ *Saga Bay Section 1.7 Sub-Basin* - Estimated cost: \$670,000
- ◆ *Pine Tree Manor Sub-Basin* - Estimated cost: \$390,000
- ◆ *Cutler Ridge Section 5 Sub-Basin* - Estimated cost: \$1,580,000
- ◆ *Port Royale Section 5 Sub-Basin* - Estimated cost: \$360,000
- ◆ *Bel Aire Section 1.1 Sub-Basin* - Estimated cost: \$820,000
- ◆ *Saga Bay Section 1.8 Sub-Basin* - Estimated cost: \$240,000
- ◆ *Saga Bay Section 1.6 Sub-Basin* - Estimated cost: \$170,000
- ◆ *Saga Bay Section 1.2 Sub-Basin* - Estimated cost: \$300,000
- ◆ *Bel Aire Section 6 Sub-Basin* - Estimated cost: \$310,000



Joint Participation Agreement and County-owned Roads Projects:

- ◆ *SW 97 Avenue Drainage Improvement Project* - Estimated cost: \$291,494 – Completed
- ◆ *SW 216 Street & SW 97 Avenue Traffic Circle* - Estimated cost: \$204,486 – Completed
- ◆ *Old Cutler Road JPA Project* - Estimated cost: \$7,524,319 – Completed (SW 87 Ave. to SW 97 Ave.)
- ◆ *Caribbean Boulevard JPA Project & GAP1* - Estimated cost: \$11,173,054 – In Progress (C-100 Canal Bridge to SW 87 Ave.)
- ◆ *Caribbean Boulevard Bridge Project* - Estimated cost: TBD – Designed (C-100B canal)

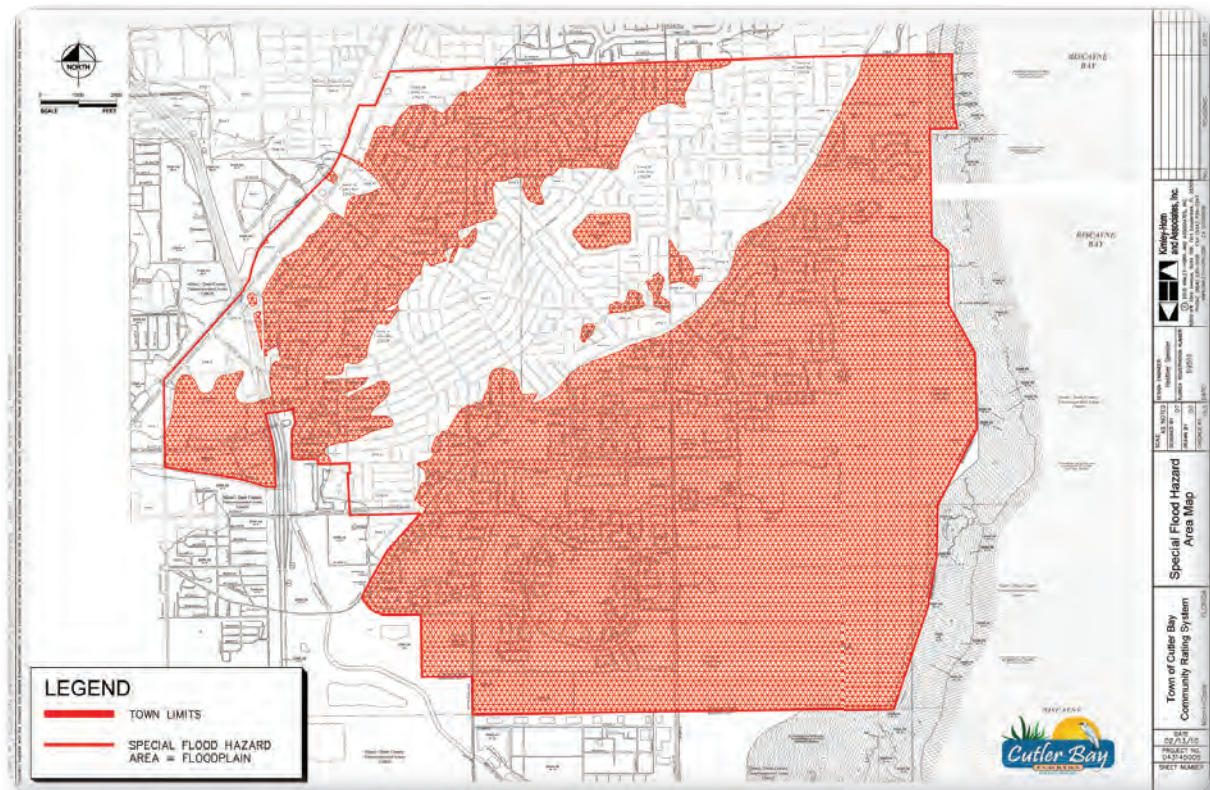
Status: The Town continues to implement Stormwater Master Plan's recommended Capital Improvement Projects. To date, projects have been completed in the Cutler Ridge Elementary area, Saga Bay Section 1.3, Saga Bay Section 1.4, Saga Bay Section 1.5, Bel-Aire Section 5.2, Old Cutler Road Drainage and Roadway Improvement JPA Project, SW 97 Avenue Drainage Improvement Project, and SW 216 Street & SW 97 Avenue Traffic Circle (included Curb & Gutter & Swale restoration). Additionally, Town staff is working with its lobbyists and grant writers to pursue possible State and/or Federal funding for the projects listed above.

Project 2: Canal Bank Erosion Protection

Design and construct erosion protection structures and bank stabilization projects along Town maintained canals which are vulnerable to bank erosion due to storm surge or inland flooding. This project includes the removal of undesirable debris, trees, predominantly Australian pines and ficus, located in close proximity to the canal bank. These trees are prone to falling during a severe windstorm or hurricane causing flow obstructions as well as damage to the canal bank resulting in increased erosion. We must also schedule regular maintenance of town canals to restore flow. Estimated cost: \$350,000.



Status: Town staff has coordinated with the South Florida Water Management District, to construct a canal stabilization project, south of the Caribbean Boulevard Bridge. The Project is located along the C-100B canal and the work will be performed by SFWMD crews.



Project 3: Flood Zone Data GIS System

This project will fund the creation of a GIS system to support several activities of the town's National Flood Insurance Community Rating System program including mapping, annual outreach and notification, and the maintenance of all flood zone designations and other data for all real property

folio numbers within the town. In addition, the project will integrate town's data into Miami-Dade County's GIS system tailoring products generated for town use. The additional information generated by this system will be essential for the preparation of detailed flood mitigation reports and allow users to track conditions by specific property location. This data will then be utilized to clearly identify and designate low lying areas, which will streamline flood prevention efforts when designing new systems and upgrading existing drainage systems. Estimated cost: \$140,000.

Status: Town staff has coordinated with Miami-Dade County's Stormwater Utility Department, the "transfer" of all the Flood Elevation Certificates that were previously issued by Miami-Dade. Additionally, the Town has entered into the National Flood Insurance Community Rating System, in which a Class "6" was awarded by FEMA. The Town is currently working with engineering consultants to further improve the current "class six rating." Additionally, the Town recently completed a town-wide GIS Stormwater Mapping Project which inventoried all of the Town drainage infrastructures.

Project 4: Flood Insurance Research Project

This project will be part of the work required for the Community Rating System (CRS) and will involve the research of town properties, which do not have flood insurance and the reasons therefore. This effort would result in an action program designed to increase the number of properties covered by the flood insurance. 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. Estimated cost: \$90,000.

Status: Town staff continues to provide Public Outreach Materials through its Kiosks, web-site, Homeowners Association Meetings and during other Town sponsored events, (Ex., Chili Cook-off, Rib Ticklers Ball, Taste of the Bay, Town Council meetings). Additionally, Town staff continues to inform homeowners on a daily basis who visit Town Hall for flood mitigation, elevation certificates, and flood determination letter inquiries. Furthermore the Town implemented new activities to its public outreach campaign, including public outreach educational videos presented during Town Movie night events, as well as an annual Earth Day awareness campaign presented at a local school where Town staff are educators for a day. The Town is also including outreach material flyers in door hangers for all roadwork projects at affected neighborhoods, Repetitive Loss Properties and an annual mail flyer to all Town residents.



Project 5: Development of Floodplain Management Plan

The Town is interested in obtaining grant funds to hire a consultant to develop a floodplain management plan. Ordinance No. 10-04 created a Flood Damage Prevention Ordinance to enforce mitigation efforts throughout the Town with regards to flooding. An ordinance is not a plan however and the creation of a floodplain management plan may benefit the community in a more positive "rating" within the Community Rating System, thereby allowing residents to obtain lower flood insurance premiums. The floodplain management plan is a requirement of NFIP if repetitive loss properties are greater than 10. The town currently has over 25 repetitive loss properties. Estimated cost: \$120,000.

Status: The Town was recently awarded a State of Florida Pre-Disaster Mitigation Grant in the amount of \$50,000 to fund the development of a Floodplain Management Plan. The Town recently signed a contract on June 20th 2013, with Amec Environmental & Infrastructure, Inc., to develop the Town's Flood Mitigation Plan under RFQ #12-03 and Town Resolution #13-14. Currently the Town is in the final process of finalizing and adopting its Flood Mitigation Plan with an estimated completion date of October 2014.

Project 6: Purchase Communications Emergency Equipment

During an emergency, it is critical that emergency personnel are able to communicate with one another. This project entails purchasing equipment, such as radios and additional cellular phones, to assist emergency personnel in responding to an emergency. The State of Florida is currently working to establish statewide frequencies that agencies would be able to use to speak with each other when responding to calls for assistance. During the four hurricanes that struck Florida in 2005, however, radios and cell phones were rendered inoperable in some areas after the initial strikes. The emergency radios can operate for a short distance should the antenna be damaged or fail following an event. Estimated cost: \$65,000.

Status: The Town has purchased an additional two (2) Emergency Satellite phones thereby, increasing the total available satellite phones to four (4). These phones will be operated by "key" staff during any type of event. Town staff continually tests the phones on a biannual basis to make sure they are operational. In addition, the Town is in the process of executing an Emergency Debris Removal Contract under RFP#13-10 with Bergeron Emergency Services for clearance of debris to the side of the road and other Debris Removal Services. The contract includes additional satellite phones as needed for use by Town Staff, to coordinate operations during failure of other communication systems.

Project 7: Reduction of Floating Debris



This proposal will demonstrate the usefulness of low-cost best management practice (BMP) devices in reducing the volume of floating debris that is being washed into Cutler Bay's canals. This floating refuse eventually ends up in the federally protected marine sanctuary of Biscayne Bay. The objective is to start a remedial program in Cutler Bay's urban drainage basin by installing or retrofitting the existing curb inlets with prefabricated curb grates and leaf collecting baskets. These BMP are expected to reduce the volume of

floating trash and debris by as much as 20% and also prevent the clogging of the town stormwater system. Estimated cost: \$60,000.

Status: Town staff continues to monitor the area finger channels, canals, and ditches which are maintained by Miami-Dade County Public Works Department, through an Inter-Local Agreement with the Town. The Interlocal agreement was recently renewed with the County for another five years starting in 2012. The Town also uses its own Contractor to perform additional maintenance cycles if necessary between County scheduled cycles. The Town also coordinates with the SFWMD for the maintenance of portions of the C1-N and C-100B canals that are within Town limits. Additionally, Town staff performs inspections of “key” points throughout the canal system to insure no floating debris is impeding water flow. When debris is easily accessible, Town’s Public Works staff removes the floating debris. Additionally, Town Public Works Staff and the Towns landscape contractor performs daily roadway inspections and remove any roadway debris that can end up in the area canals.

Project 8: Canal Cleaning and Shaping – Town wide

Dredging of the approximately 11 miles of inland canals located with the Town of Cutler Bay would restore depth and bottom contour. This restoration would directly impact the ability of the canal to hold tidal flooding and minimize flooding of surrounding properties during significant weather events. This dredging project would require funds for hydrographic surveys and bottom contours to determine the scope of work and cost. Dredging requires a State, ACE, and DERM permit. A hydrographic survey will be required along with soil sampling of the pro-proposed dredged materials. Mitigation work may be required to compensate for damaged ecosystems and will be determined by DERM prior to dredging. Estimated cost: \$750,000.



Status: The Town is coordinating with the South Florida Water Management District, to complete a “dredging” project along the C-100B canal. The project will consist of SFWMD crews “dredging” the canal from the Caribbean Boulevard Bridge to the Control structure, located near Black Point Marina. Additionally, the Town in coordination with the Miami-Dade County Public Works Department has completed the design and planning phase of the new Caribbean Boulevard Bridge Widening Project. The project has been rescheduled for construction in the summer of 2015 and is scheduled to be completed in early 2016.

Project 9: Portable Traffic Light Signals

During power outages, the traffic lights are inoperable, causing a potential hazard. Portable traffic signals will provide the safety that is needed for traffic control. The town anticipates that it will need ten portable traffic signals to adequately handle an emergency situation. Estimated cost: \$140,000.

Status: The Town has completed the installation of twelve (12) emergency generator transfer switches, at “key” intersections throughout the Town.



Project 10: Town Hall/EOC Installation of Transfer Switch for Emergency Power

This project will provide for the installation of transfer switch to Town Hall. The facility was constructed to withstand category four hurricane winds, as a result this facility will be utilized as a location for the town to distribute and administer both force account labor as well as volunteers after an event. This is a mitigation project that ensures the continued operation of critical town facilities and the appropriate levels of service for town residents during and after a disaster event. Estimated cost: \$394,000.



Status: The project was completed on time and on budget in the fall of 2013.

Project 11: Acquisition of Emergency Generators

This project would involve the acquisition of power generators to support critical facilities throughout the town. This is a mitigation project that ensures the continued operation of critical town facilities and the appropriate levels of service for town residents during and after a disaster event. These generators would supply the following facilities:

- ♦ Town Hall (Operations Center) – One Emergency generator. Includes a power back-up Emergency generator to supply power for the Town Center Building, which includes the Police Department offices on second floor. (Completed Fall of 2013)
- ♦ Parks and Recreation – One generator. Supplies power to 3 parks that will serve as distribution centers.
- ♦ Public Works – 12 generators. Supplies power for the operation of traffic control signals during power outage.

Total amount of generators is 1. Estimated cost: \$394,000.

Status: Town Hall's new Emergency Generator upgrades were completed in the fall of 2013, which serves the entire building including, the Police Department on second floor. The 12 generators for Public Works to provide operation of traffic control signals during power outages have been purchased and are in storage. The Parks & Recreation Transfer Switch installation project was completed in 2009. In addition, the Town is in the process of executing an Emergency Debris Removal Contract under RFP#13-10 with Bergeron Emergency Services for clearance of debris to the side of the road and other Debris Removal Services. The contract includes the rental of generators as needed ranging from 5 to 120 KW, as well as portable trailer mounted air conditioners (5 and 12 tons) and portable server coolers (2 and 3 tons).

Project 12: Debris Removal

The town presently maintains a list of contractors that have agreed to provide debris removal services following a disaster. The town would develop a Comprehensive Debris Clearance (CDC) plan that would list the names and phone numbers of debris removal contractors, identify potential debris storage sites, removal methods, and provide for special programs. Contracts would be negotiated in advance and monetary damages would be due to the town if the contractor fails to perform. The study also

would analyze how the town could best coordinate debris removal activities with related post-disaster service performed by Miami-Dade County. The town welcomes debris removal assistance along federal, state and county roadways, but recognizes that it will need to provide its own service along for most of the smaller, local road-ways within the town. Estimated cost: \$10,000.

Status: The Town's solid waste removal services are provided by Miami-Dade Solid Waste Department. Town staff on a Quarterly basis participates in a Municipal Quarterly Meeting with Miami-Dade Solid Waste staff, to review emergency debris removal services, in the event of a major storm. In addition, the Town is in the process of executing an Emergency Debris Removal Contract under RFP#13-10 with Bergeron Emergency Services for clearance of debris to the side of the road and other Debris Removal Services. Miami-Dade County solid waste will continue to remove the debris that has been collected and pushed to the side of the road.



Project 13: Develop a Debris Plan

Develop and implement town wide debris removal plan using G.P.S. for data acquisition and G.I.S. for mapping. If the town's proposed debris management plan will coordinate the efforts of the Miami-Dade County's Coordinated Debris Clearance (CDC) Program. Estimated cost: \$80,000.

Status: The Town's solid waste removal services are provided by Miami-Dade Solid Waste Department. Town staff on a Quarterly basis participates in a Municipal Quarterly Meeting with Miami-Dade Solid Waste staff, to review emergency debris removal services, in an event of a major storm. In addition, the Town is in the process of executing an Emergency Debris Removal Contract under RFP#13-10 with Bergeron Emergency Services for clearance of debris to the side of the road and other Debris Removal Services. Miami-Dade County solid waste will continue to remove the debris that has been collected and pushed to the side of the road.

Project 14: Storm Water Outfalls

Clean and line positive outfalls to prevent future blockage caused by build-up of bivalve organisms throughout the town's 11 miles of canals. Estimated cost: \$500,000.

Status: Town's stormdrain contractor, as part of an annual contract, continues to clean all positive outfall structure and service lines. This service is funded through the fees collected from the Town's Stormwater utility Fund and as part of the Town's NPDES permit activities.



Project 15: Municipal AM Emergency Radio Broadcast Station

Allow issuing of timely information 24/7. Has capacity broadcast, operate without grid power for 2 days, store repeat messages and ability to allow instant timely broadcast messages. Estimated cost: \$85,000.

Status: Town staff continues pursuing alternate Grant funding for this project. Additionally, the Town has partnered with local H.A.M. radio professionals to provide emergency communications in the event of a major storm.

Project 16: Cutler Bay Waterway Conveyance Improvements

Remove sediments from the Cutler Bay waterway that have built up over time which are causing bank flooding due to the major reduction in channel depth and cross section, as well as causing impassable locations to boat traffic. Preliminary tests show sediment as clean. Estimated cost: \$270,000.

Status: The Town is coordinating with the South Florida Water Management District, to complete a “dredging” project along the C100B canal. The project will consist of SFWMD crews “dredging” the canal from the Caribbean Boulevard Bridge to the Control structure, located near Black Point Marina. Additionally, the Town in coordination with the Miami-Dade County Public Works Department has completed the design and planning phase of the new Caribbean Boulevard Bridge Widening Project. The project has been rescheduled for construction in the summer of 2015 and is scheduled to be completed in early 2016.

Project 17: Removal of Australian Pines and other Exotics

Debris removal after a storm is an expensive and time-consuming process. Fallen trees can delay the re-entry process by blocking access to roads and properties. This project would create a permanent ongoing tree removal program. It would ensure removal of exotic trees on public rights of way. The exotics would be replaced by appropriate native trees that will enhance the town’s tree canopy. The town will maintain the new native trees. Estimated cost: \$85,000.

Status: Town’s Landscape Maintenance contractor, as part of the annual contract, continues to remove any “Exotic” plant located along the Town owned right-of-way and/or swales. This process is accomplished through a “Work Order” basis, issued by the Public Works Department. Additionally the Town has planted to date 2,300 native trees throughout the Town since incorporation.



Project 18: Preventive Pruning of Existing Town Tree Inventory

This project's purpose is twofold: to minimize storm generated debris and protect infra-structure from tree related storm damage. Studies show that by practicing proper structural pruning methods such as appropriate crown reduction and canopy thinning, tree and limb failures are reduced during storm events. Therefore, properly pruned trees produce less debris and minimize infrastructure damage. This project proposes to create a program that provides regularly scheduled pruning of trees planted by the town within the right of way in order to provide structural integrity and thereby mitigate and clean up costs and property damage caused by weather events. The department would utilize local contractor services to accomplish project goals. All pruning performed will conform to the International Society of Arboriculture and ANSI A-300 standards. Estimated cost: \$285,000.

Status: Town's Landscape Maintenance contractor, as part of the annual contract, continues to perform corrective pruning of trees located along the Town owned right-of-way and/or swales. This process is accomplished through a "Work Order" basis, issued by the Public Works Department. The Town recently completed a beautification and corrective pruning project utilizing a \$10,000 grant awarded by the National Urban and Community Forestry. Additionally, the Town was awarded an additional \$15,000 grant from the same agency. The Town will match the Forestry grant with an additional \$15,000. This grant will further help continue our beautification, corrective pruning, and education of proper tree care and trimming to Town residents. The Town Manager also promotes continuous education, training and certification of the Town staff. The Town's Public Works Director recently became a certified Arborists with the international Society of Arboriculture. Currently there are two (2) Town Staff preparing to take the Certified Arborist Exam.



Project 19: Emergency Portable Air Conditioner Units

Purchase emergency portable air conditioner units for computer rooms and office areas for all essential operating areas. Town Hall serves as the town's emergency operations center, maintains computer systems and services. The portable air conditioner units would prevent these systems and services from damage and malfunction. Four units are necessary. Estimated cost: \$120,000.

Status: Town continues to seek Grant funds for this project. Additionally, the Town applied for a 2011 Pre-Disaster Mitigation Grant seeking funding to provide an emergency HVAC system for the first two floors (EOC) in the Town Hall building. Furthermore, the Town is in the process of executing an Emergency Debris Removal Contract under RFP#13-10 with Bergeron Emergency Services for clearance of debris to the side of the road and other Debris Removal Services. The contract includes the rental of generators as needed ranging from 5 to 120 KW, as well as portable trailer mounted air conditioners and portable server coolers.

Project 20: Satellite Phones

After Hurricane Andrew, communications were virtually non-existent. With satellite phones distributed to our field crews as well as regional command centers, better and faster recovery after a disaster can occur. Phones would be made available to our first responders' emergency personnel. Estimated cost: \$55,000.

Status: The Town has purchased an additional two (2) Emergency Satellite phones thereby, increasing the total available satellite phones to four (4). These phones will be operated by "key" staff during any type of event. Town staff continually tests the phones on a biannual basis to make sure they are operational. In addition, the Town is in the process of executing an Emergency Debris Removal Contract under RFP#13-10 with Bergeron Emergency Services for clearance of debris to the side of the road and other Debris Removal Services. The contract includes additional satellite phones as needed for use by Town Staff, to coordinate operations during failure of other communication systems.

Project 21: Community Emergency Response Teams (CERT)



This project's goal is to establish CERTS for the town. When an emergency or disaster occurs at anytime and anyplace in the town, trained CERT volunteers will be ready and able to respond to save lives and protect property. CERT members will be able to do the greatest good for the greatest number after a disaster, while protecting them from becoming victims. This program will include but not be limited to basic medical treatment procedures, scene safety, securing utilities, and other hazards, and some rescue operations. Estimated cost: \$40,000.

Status: As of August 2014, fifteen (15) Town staff members successfully completed the CERT training course and field exercise. The Town will be hosting CERT training in October 2014 where additional staff will be certified.

Project 22: Purchase Computerized Equipment Storage for Vital Public Records

The Town of Cutler Bay was incorporated in 2005. Adequate daily back-up and off-site storage of vital public records is a main priority in the new town. Planning for storage and back-up of vital records is well timed and the town's computer systems are periodically being upgraded. Estimated cost: \$75,000.

Status: Town staff continues to perform weekly back-up of all data programs and stores tapes at an off-site facility. Additionally, the Town purchased computer hardware equipment in order to "virtualize" the Town's electronic filing system. The Town's IT Contractor continues providing maintenance to the system on a weekly basis.



Project 23: Portable Traffic Control Signs

Effective and efficient communication is vital to allow for the rapid evacuation of citizens prior to the impact of a hurricane in Cutler Bay. With a residential population of 41,579 people and a commuter population that at least doubles the affected population during the work week, traffic jams are a certainty. Portable traffic control signs that provide scrolling text messages would allow traffic to be directed to alternative routes and to provide other vital information to motorists. The portable signs have other uses besides assisting in evacuations: they can be used to display information during events such as fire/rescue emergencies, hazardous material spills, special events and terrorist incidents. These signs display a test message that is easily programmed into the unit and can be moved using most any town vehicle with a trailer hitch. The town of Cutler Bay would purchase 4 of these units at a cost of about \$50,000 each, plus additional trailer hitches for town vehicles. Estimated cost: \$200,000.

Status: Town staff continues to pursue grant funds to fund this Project. Currently the Town has two (2) rented traffic control signs in service used for one (1) signature roadway improvement projects within Town limits. In case of an Emergency these signs are currently available to the Town for service.

Project 24: Storm Shutters for Town Buildings

This project would install hurricane shutters and reinforced doors on all municipal buildings not already so protected. The shutters and doors are designed to prevent hurricane force winds and debris from breaking the windows and allowing wind, water and debris to enter the structures. The proposed modifications would allow these buildings to not only survive the hurricane with less damage to the structure and the property stored inside, but also reduce the financial impact to the town. Estimated cost: \$120,000.

Status: Town staff has applied for funding of this project in the 2011 Pre-Disaster Mitigation Grant application cycle, through the State of Florida Office of Emergency Management. Town staff is committed to continue applying for grants as the opportunity arises.

Project 25: Town Hall/EOC Hardening Project (Impact Resistant Windows)

Town Hall / Emergency Operation Center Building existing exterior glazing – proposed scope would be to retrofit structural elements to reinforce the existing curtain wall system and install transparent interior polyester laminate which would be secured to the existing reinforced frames. The current glazed area is approximately 14,000 SF, which would put the overall cost for this work at \$630,000.

Status: Town staff has applied for funding of this project in the 2011 Pre-Disaster Mitigation Grant application cycle, through the State of Florida Office of Emergency Management. Town staff is committed to continue applying for grants as the opportunity arises.

Project 26: Town Hall/EOC Hardening Project (Exterior Walls)

Town Hall / Emergency Operation Center Building's glazing, the building also has an Exterior Insulating Finish System (EIFS) as its main enclosing system below the glazing. The current system will not meet either current wind or missile impact of any sort. This system will need to be completely replaced as the building envelope is to meet current hardening/category 5 storm by combining the structural reinforcement of the glazing with that of the wall below the cost of replacing this system with an approved exterior wind rated system could be mitigated. The approximate 26,000 SF would cost \$728,000 for the entire building.

Status: Town staff has applied for funding of this project in the 2011 Pre-Disaster Mitigation Grant application cycle, through the State of Florida Office of Emergency Management. Town staff is committed to continue applying for grants as the opportunity arises.

Project 27: Town Hall/EOC Hardening Project (Mechanical HVAC System)

Town Hall / Emergency Operation Center's building envelope is composed of the roof and the roof equipment. Reroofing the 13,000 SF building would cost approximately \$158,000. Reinforcement of the building rooftop mechanical systems would include bracing, wind barriers, and replacement of some outdated minor equipment. An estimate for this work would be approximately \$70,000; total combined cost of \$228,000.

Status: Town staff has applied for funding of this project in the 2011 Pre-Disaster Mitigation Grant application cycle, through the State of Florida Office of Emergency Management. Town staff is committed to continue applying for grants as the opportunity arises.

Project 28: Town Hall/EOC HVAC System

Town Hall / Emergency Operation Center's current HVAC system cannot be operated during a storm event. Therefore, a new per floor dedicated HVAC system (a conventional direct expansion system with roof mounted air handler) would need to be installed for the first two floors which are designated as the EOC facility. The approximate cost for providing this retrofit system of HVAC would be approximately \$275,000.00 per floor. Further, a chase/mechanical space would be required of approximately 200 SF per floor. Total Project cost: \$610,000.

Status: Town staff has applied for funding of this project in the 2011 Pre-Disaster Mitigation Grant application cycle, through the State of Florida Office of Emergency Management. Town staff is committed to continue applying for grants as the opportunity arises.



Sources

- ♦ The Local Mitigation Strategy for Miami-Dade County and its Municipalities, Departments, and Private Sector Partners published by the Local Mitigation Strategy Working Group dated July 30, 2011.
- ♦ Town of Cutler Bay staff interviews.