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This manual was created by the Florida Division of Emergency Management’s Mitigation Bureau Planning Unit. The idea came from the need to have an easy to use document that would walk planners through the update process and each requirement while providing recently approved examples from Florida Local Mitigation Strategy Plans. It is not the intent of this manual to replace FEMA’s Local Mitigation Planning Handbook (March 2013) or Local Mitigation Plan Review Guide (October 2011), rather it is a supplemental resource.

This manual, along with a long list of other resources, is available in electronic form on our website https://portal.floridadisaster.org/mitigation/MitigateFL/External/Forms/AllItems.aspx

This manual was developed over two and a half years, beginning September 2015 and published May 2018. An update was completed in June 2019. Once the opportunity was identified, the Mitigation Planning Unit discussed multiple ways to get the information across. The idea of an update manual came from understanding the difficulties county and state planners faced during the 2014-2016 update cycle. Since all of Florida’s counties have a Local Mitigation Strategy, each cycle was purely an update. Many of the existing resources focused on creating a new plan. Further, an in-depth explanation of the requirements would facilitate more consistent training at both the local and state level.

The original manual would not have been possible without the hard work of the 2016 Planning Unit staff including Unit Managers, Jamie Leigh Price and Melissa Schloss; Lead Mitigation Planners, Alexander Falcone and Laura Waterman; Mitigation Planner, David Block; and Interns, Paige Dabney, Connie Patterson, Jon Coulter, Sterlin Baychoo, Ana Oviedo, Tyler Dacey, and Eric Green. Other contributors included Jeffery Bielling, Alachua County Emergency Management Assistant Director, and Lee Mayfield, Lee County Emergency Management Planning Chief.
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Overview

Benefits of Having an Updated and Approved Local Mitigation Strategy (LMS) Plan

“The local mitigation plan is the representation of the jurisdiction’s commitment to reduce risks from natural hazards, serving as a guide for decision makers as they commit resources to reducing the effects of natural hazards. Local plans will also serve as the basis for the State to provide technical assistance and to prioritize project funding.” -44 CFR 201.6

The county LMS plan is a vital document to assist a community in identifying, evaluating, and planning for natural hazards. This living document analyzes a wide range of community plans, capabilities, stakeholders and community characteristics to develop effective mitigation initiatives for the community. Furthermore, the Robert T. Stafford Act requires communities to have an approved LMS plan before they are eligible for federal mitigation grants. These grants include: The Hazard Mitigation Grant Program (HMGP), Pre-Disaster Mitigation Program (PDM) and Flood Mitigation Assistance Program (FMA). The county LMS plan may also be a vital piece to the Community Rating System (CRS) class as well as Emergency Management Accreditation Program (EMAP) status.

Finally, while Federal regulations require the plan to be updated every five years, Florida Administrative Code 27P-22.004 requires that the plan be reviewed annually and that updates be submitted to the state by the last business day in January of every year to be eligible for HMGP. These regulations are designed to inspire regular review of the LMS so that it truly does exist as a living document within each community.

To remain eligible and in good standing, both with the State of Florida and with FEMA, it is imperative that the LMS plan is updated regularly. This manual will provide guidance for these necessary updates.

The Florida Crosswalk vs FEMA Review Tool: What’s the Difference?

In 2011, FEMA introduced the “Plan Review Tool” as the new preferred method to review and approve LMS plans. The purpose of FEMA’s new Plan Review Tool was to shorten the length of final plan review documents and to more closely align the requirements of the review tool with the Code of Federal Regulations. An unintended consequence of FEMA’s Plan Review Tool is that information vital to plan approval can be easily overlooked. The Plan Review Tool also eliminates the space and requirement for plan reviewers to justify how each of the requirements is met.

To prevent the possibility of skipping the various components of each requirement, FDEM’s Mitigation Planning Unit created its own plan review tool that is referred to as the “FL Review Tool.” The Microsoft Excel Workbook contains several Worksheets that are linked together; each serves a very important purpose. The Excel Workbook will be used as the primary tool to review new and updated LMS plans in the State of Florida.

The FL Review Tool is based on the 2011 updated FEMA Plan Review Tool and serves to simplify
requirements to assist local planners with the planning process and to clarify the various elements necessary to meet the outlined requirements in FEMA’s Plan Review Tool. The FL Review Tool assists during the plan review process as it breaks FEMA’s requirements down into manageable, straightforward elements which can be better understood and analyzed for compliance.

The Florida Review Tool: CRS Credit, EMAP, and CEMP

In addition to identifying the elements in the LMS that will be reviewed by FEMA, The FL Review Tool recognizes the 10-step Planning Process outlined under Section 510 of the Community Rating System (CRS) program. Completing these elements is optional. The primary purpose for including these 10 steps is to help communities see how closely the CRS and LMS requirements align. By completing these steps and documenting the process, communities can come closer to obtaining the maximum number of CRS points for Floodplain Management Planning activities. Values entered into the CRS section of the FL Review Tool auto-populate a CRS worksheet which can then be printed and used during the community’s annual evaluation. Keep in mind that the CRS process can be time-consuming, it is recommended that this process begin at least 18 months prior to plan expiration.

The FL Review Tool also incorporates the Emergency Management Accreditation Program (EMAP) standards. EMAP was created to foster continuous improvement in emergency management capabilities and allows those accredited to be recognized for compliance with industry standards. Accreditation is a voluntary process that gives organizations the ability to demonstrate excellence and accountability within emergency management. The EMAP elements on the FL Review Tool are optional.

The FL Review Tool now incorporates the mitigation elements required for an approved Comprehensive Emergency Management Plan (CEMP). The CEMP is the operations document for jurisdictions and includes processes for preparedness, response, recovery, and mitigation. If a jurisdiction has an approved LMS, there are only three mitigation elements required for the CEMP:

1. The County/Jurisdiction must identify the LMS plan expiration date.
2. The County/Jurisdiction must identify the emergency management person responsible for coordinating mitigation activities with the LMS Working Group.
3. The County/Jurisdiction must describe how they will work with Floodplain Managers to identify damaged structures within Special Flood Hazard Areas after a flooding incident.

As with the CRS and EMAP criteria, completing the CEMP elements is optional. However, this helps to create a more unified planning process.

The LMS Update Manual Mission and Objectives

In the summer of 2015, the FDEM Mitigation Planning Unit realized a need to develop a manual which would assist in making the LMS update process more efficient and less burdensome for Local and State planners alike. The purpose of this guide is to take the detailed information from various sources and
condense the information to provide a usable job aide for the LMS update process statewide. Specific objectives are to:

**Simplify the FEMA Local Mitigation Planning Handbook**

This manual will condense the information provided in the most recent version of the FEMA Handbook (released in March 2013) and will be consistently updated to reflect any changes made in FEMA requirements. When these updates are made, the Mitigation Planning Unit will notify local officials by email of any significant changes. It should be noted though that whether local planners choose to follow the FL LMS Update Manual or the FEMA Local Mitigation Planning Handbook, they are still subject to all FEMA requirements and are expected to stay informed of all changes made to these requirements.

**Focus on Updating of LMS plans**

As of 2019, all Florida counties have an approved LMS plan. Therefore, this manual will primarily serve as a guide to plan updates. Should the jurisdictions within a plan shift or a jurisdiction decide to develop a new LMS plan, the FEMA Local Mitigation Planning Handbook should be consulted to provide a more detailed view of the comprehensive LMS process.

**Create a Manual that is Florida-Specific**

Hazard mitigation issues that are most relevant to Florida’s communities will be addressed and the descriptions will be based on the knowledge that all current LMS plans in Florida are multi-jurisdictional. Additionally, the information provided will be supported with exemplary samples from various local plans across Florida.

**Encourage Sustainable Planning**

This manual will establish a common understanding of FEMA requirements within the State of Florida, which can be referenced by both local and state planners during the LMS update process. This will allow for clear communication during the turnover of state and local positions and encourage continuity of efforts for future planning committees and units.

**Ensure Consistent Plan Reviews**

This manual will be used by the Mitigation Planning Unit to develop a common operating picture for all future plan developments and plan reviews. The intent is that all future efforts will be marked with consistent expectations and application of requirements across all jurisdictions and all plan reviewers.

**Reading the LMS Update Manual**

The subheadings of this manual will be labeled according to the element names of the FL Review Tool. The FEMA element names for requirements will be provided in parentheses. As multiple requirements detailed by the FL Review Tool can be attributed to a single FEMA element, the parentheses in subheadings will be the FEMA element names covering that specific FL Review Tool requirement. For example, FEMA [A1] is met through FL P1, P2 and P3. So, the guide will show P1 [A1], P2[A1], P3[A1]. The layout of this manual is intentionally structured to facilitate the update process. Requirements will be
outlined in a chronological planning order as following the order of the FL Review Tool from start to finish may not be the most logical order.

Under each section, there will be a thorough explanation of the requirement that emphasizes the concerns expressed by local planners in the past. Following a citation of favorable examples from other plans approved by the State, there will be a paragraph describing in detail what officials should do while updating that requirement. These will refer to specific files in the update manual appendices. In these appendices, there is at least one favorable sample for each requirement. Planners may elect to follow the formatting of these examples or may choose to meet the requirement through another satisfactory form.
Planning Process

Code of Federal Regulations (CFR)

§201.6 (b) Planning process. An open public involvement process is essential to the development of an effective plan. In order to develop a more comprehensive approach to reducing the effects of natural disasters, the planning process shall include:

(1) An opportunity for the public to comment on the plan during the drafting stage and prior to plan approval;
(2) An opportunity for neighboring communities, local and regional agencies involved in hazard mitigation activities, agencies that have the authority to regulate development, as well as businesses, academia and other private and non-profit interests to be involved in the planning process; and
(3) Review and incorporation, if appropriate, of existing plans, studies, reports, and technical information.

§201.6 (c) Plan content. The plan shall include the following:

(1) Documentation of the planning process used to develop the plan, including how it was prepared, who was involved in the process, and how the public was involved.

P1 (A1) – Documenting the Planning Process

Does the LMS document the planning process, including how it was prepared (with a narrative description, meeting minutes, sign-in sheets, or another method)?

To meet FEMA requirements, the LMS must show physical documentation of how the plan was prepared, including specified dates, a description of all activities that contributed to the plan’s development, and who was involved. Most planning committees choose to include a narrative description of the process and accompany this with meeting minutes, sign-in sheets, or public notices.

When updating, be sure to include the above information for ALL steps taken during the past five years. Include proof of meetings during the most recent five years via narrative descriptions, sign in sheets, or meeting minutes. There must be proof of at least one meeting each year and proof that all jurisdictions were participating throughout the process.

See Appendix A for examples of a narrative description of the planning process, meeting minutes, and sign-in sheets.
P2 (A1) – Identifying the Jurisdictions and their Roles

*Does the LMS list the jurisdiction(s) participating in the plan that are seeking approval?*

List the participating jurisdictions (e.g. cities, counties, school boards, hospitals, airport authorities) seeking approval and clarify what is required of the participating jurisdictions. At a minimum, each is expected to take part in the planning process and to have a mitigation action concerning hazards that could affect its jurisdiction. Be sure that the jurisdictions listed remain consistent in all parts of the plans.

Common delays to the LMS approval process are when:

1) a jurisdiction is listed but does not appear throughout the majority of LMS documentation OR
2) a jurisdiction is not initially listed but appears in other parts of the LMS.

Review the list of participating jurisdictions to ensure accuracy and change the roles within jurisdictions as needed. There may be new members who wish to become participating jurisdictions. These could include newly incorporated areas, school boards, utility providers, or healthcare networks. If any incorporated areas in the planning area are not participating in the LMS, provide an explanation. Also, be sure to mention any jurisdictions which no longer participate in the LMS. Keep in mind that any jurisdictions that cease participation in the LMS process will no longer be eligible for federal hazard mitigation assistance.

See *Appendix A* for an example of outlining jurisdiction responsibilities.

P3 (A1) – Jurisdictional Representation

*Does the plan identify who represented each jurisdiction? (At a minimum, it must identify the jurisdiction represented and the person’s position or title and agency within the jurisdiction.)*

Document who represented each jurisdiction. The plan must identify each person’s position or title (e.g. Director), their agency represented (e.g. Sheriff’s Office), and the corresponding jurisdiction (e.g. Charlotte County). Be sure that all jurisdictions have some form of representation. It is also recommended to include the name and contact information of each individual identified. This will provide a starting point for future planning committees and avoid confusion should anyone from the state or local level attempt to contact them.

Be sure to update the entire list of contacts and their corresponding information, while ensuring that all jurisdictions are represented.
See Appendix A for an example of listing representatives.

**P4 (A1) – Including Stakeholders in the Process**

*Does the LMS document an opportunity for neighboring communities, local, and regional agencies involved in hazard mitigation activities, agencies that have authority to regulate development, as well as other interested parties to be involved in the planning process?*

Stakeholders that were either given an opportunity to be involved or who took part in the process must be identified by their title/position and agency/organization represented. One possible way of documenting this is to include a general email list, showing the various stakeholders that are invited to participate in the process. Additionally, some committees choose to provide a “task force” list that includes the primary contacts from various stakeholders. This list will likely be composed of those who are most involved and need to be updated more regularly. As with requirement P2 (A1), it may be helpful to include the names and contact information. This information can also be provided in a narrative format.

When sending out invitations during a plan update, begin with the list of stakeholders from the previous planning process and decide if any changes are needed. The stakeholders will likely include nearby communities and agencies involved in local hazard mitigation or development activities. Including more local agencies, state agencies, and other interested parties such as power companies is a way to continuously improve the plan. In the update, describe any changes to the way stakeholders were invited to be involved in the process. Remember that this is to prove stakeholders were invited, not that they participated in the process.

See Appendix A for an example of how stakeholders were invited to the LMS process and Appendix F for additional guidance.

**P5 (A2) – Stakeholder Invitations**

*Does the plan identify how the stakeholders were invited to participate in the process?*

It must be noted in the plan how invitations were sent to stakeholders. Possible forms of invitations include emails, postings on social media or the county website, ads in the local newspaper, and fliers at the town hall or library. Documentation of these invitations is encouraged.

Another method to show that stakeholders were invited is by providing a template of a flier or email that announces the planning meetings. This will reduce the amount of documentation in the LMS plan and provide an outline for future planning committees.
While updating the plan, evaluate past methods used and determine the most efficient and effective method for inviting new stakeholders to participate in the current process. Be sure to specify in the plan how they were contacted and if desired, show documentation (e.g. screenshot of the county website, scanned image of a newspaper or flier, copy of an email). Again, this requirement focuses on proving how jurisdictions were invited to be a part of the LMS process.

See Appendix A for a sample of an email invitation sent out to stakeholders and Appendix F for additional guidance.

P6 (A3) – Public Involvement

*Does the LMS document how the public was involved in the planning process during the drafting stage?*

There must be an opportunity for the public to participate in the planning process and an effort to incorporate their feedback into the update. To verify this, documentation must be provided that verifies public was invited to be involved in the planning process. Please note that although it is encouraged to include public commentary on the LMS after completion, this alone will not satisfy the FEMA requirement. It needs to be shown that citizens were invited to be involved during the development of the plan. To verify this, include documentation of invitations, sign-in sheets from open meetings, a website that allows user reviews and comments on the plan, surveys that were completed by the public, or a booth hosted at a popular community event.

Show how the public was invited to participate in the most recent planning process and provide documentation of these invitations. When possible, incorporate public feedback into the plan, and make sure it is apparent to the reviewer. Please note that even if no community feedback is received, it is required to state how it could be incorporated into the LMS.

See Appendix A for an example of public surveys, public notices, and a public feedback statement and Appendix F for additional guidance.

P7 (A4) – Review and Incorporation of Existing Plans and Reports

*Does the LMS describe the review and incorporation of existing plans, studies, reports, and technical information?*
Examine existing plans, studies, and reports that have been incorporated into the LMS plan and discuss how they have been incorporated. A common method to accomplish this proof of incorporation is to provide citations or reference tables, diagrams, and maps that are incorporated into the plan from other sources. It is always a benefit to include the source of these images so that the Mitigation Planning Unit, FEMA, and future planning committees will know from where the information was obtained. Please note that it is not required to have a bibliography. A short citation under each image will suffice.

Review the most recent list of plans and reports that were incorporated into the LMS to ensure that none are outdated or irrelevant. Evaluate new plans, studies, and reports as well, especially concerning recent development in the jurisdictions. Update the list of reviewed sources as necessary and show how any additional material was utilized within the LMS since the last update.

See Appendix A for an example of documenting reviews of existing plans and an example of how existing plans were incorporated into an LMS Plan.
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Hazard, Risk, and Vulnerability Assessment

Code of Federal Regulations (CFR)

§201.6 (c) Plan content. The plan shall include the following:

(2) A risk assessment that provides the factual basis for activities proposed in the strategy to reduce losses from identified hazards. Local risk assessments must provide sufficient information to enable the jurisdiction to identify and prioritize appropriate mitigation actions to reduce losses from identified hazards. The risk assessment shall include:

(i) A description of the type, location, and extent of all natural hazards that can affect the jurisdiction. The plan shall include information on previous occurrences of hazard events and on the probability of future hazard events.

(ii) A description of the jurisdiction’s vulnerability to the hazards described in paragraph (c)(2)(i) of this section. This description shall include an overall summary of each hazard and its impact on the community. All plans approved after October 1, 2008 must also address NFIP insured structures that have been repetitively damaged by floods. The plan should describe vulnerability in terms of:

(A) The types and numbers of existing and future buildings, infrastructure, and critical facilities located in the identified hazard areas;

(B) An estimate of the potential dollar losses to vulnerable structures identified in paragraph (c)(2)(ii) of this section and a description of the methodology used to prepare the estimate;

(C) Providing a general description of land uses and development trends within the community so that mitigation options can be considered in future land use decisions.

(iii) For multi-jurisdictional plans, the risk assessment section must assess each jurisdiction’s risks where they vary from the risks facing the entire planning area.

R1 (B1) – Description of Hazards

Does the Plan include a general description of all natural hazards that can affect each jurisdiction?

Include a description of all natural hazards for which the community plans to mitigate. Technological hazards may be listed as well, but only natural hazards will be evaluated. Please note that if there are no plans to mitigate a hazard, it is recommended to omit it with an explanation (see the next section, R2 (B2)).

Providing a clear description, or definition, for each hazard gives clear guidelines to state and federal planners as they review this portion of a plan. For example, if “hail” is identified in the definition of a thunderstorm, reviewers will evaluate how this aspect of thunderstorms is addressed throughout the
entire risk assessment. This is usually a dictionary or NOAA definition of the hazard.

While updating, review identified hazards and determine if it is still an appropriate list for the community; add and omit as needed. Additionally, change the descriptions as desired to reflect what this hazard looks like in the jurisdictions, as well as to reflect updated definitions by NOAA.

See Appendix B for a sample hazard description and Appendix F for risk assessment resources.

R2 (B1) – Omissions of Hazards

Does the Plan provide rationale for the omission of any natural hazards that are commonly recognized to affect the jurisdiction(s) in the planning area?

Should a natural hazard that is commonly recognized to affect the jurisdiction(s) not be listed, an explanation will need to be provided. “Commonly recognized” is usually defined in terms of the Florida Enhanced State Hazard Mitigation Plan (SHMP). Not including a hazard that the state recognizes as a common hazard will elicit a need to explain its omission. If using the HIRA from the community’s CEMP remember that any hazards identified must be fully profiled in the LMS. Sometimes it’s not practical to mitigate every hazard identified in the CEMP. A common way to meet FEMA requirements, while utilizing a single HIRA, is to add a statement which identifies specifically which hazards are being profiled in the LMS. This is important because every identified hazard must have a full profile and potential project attached to it. Omission of “commonly recognized” hazards will be enough if a rational reason is included with the omission. It is not recommended, nor expected for a community to mitigate every hazard. Rather, the goal of the HIRA is to evaluate which hazards have the biggest impacts and pose the greatest threat to the community. From this evaluation the most significant hazards will warrant the attention of the LMS committee.

Please note that a hazard can be successfully omitted by adding a statement that a hazard will not be fully profiled due to low probability or limited impacts, for example. If there is not a statement specifically saying a hazard will not be fully profiled, that hazard will have to meet each requirement, have a corresponding goal and objective, and have corresponding mitigation projects on the project list.

Review and revise this section to reflect any changes to the omitted hazard list. Be sure to identify hazards which may be impossible or impractical to mitigate. This can include removing duplicate mitigation efforts such as mitigating the effects of storm surge and tsunami, when the magnitude of these may be quite similar.
See Appendix B for an example of omitted hazards.

**R3 (B1) – Location of Hazards**

*Does the Plan include a description of the location for all natural hazards that can affect each jurisdiction?*

A description or depiction of the entire location that could be affected by a hazard is a required component of the LMS plan. For wide-ranging hazards, such as severe thunderstorms and hurricanes, the location of occurrence can be the entire planning area and should be stated as such. For a less expansive hazard, such as flooding, the specific locations that can be affected need to be highlighted on a map or described in narrative format. If planners decide to provide a narrative, it should be detailed enough that someone reading it could examine their own map and delineate the areas to which the plan is referring.

Examine the location descriptions and maps and update to reflect new developments in the area that will influence the location of the hazard. For example, if there has been a new dam placed in the jurisdiction, this may change the area that can be potentially flooded by a river. As new relevant data and maps appear in other county plans, it is recommended to incorporate these into the LMS plan and note the source. This will also help to meet requirement P7 (A4).

See Appendix B for a map and description of flood zones and Appendix F for additional guidance.

**R4 (B1) – Extent of Hazards**

*Does the Plan include a description of the extent for all natural hazards that can affect each jurisdiction?*

The intention of explaining the extent of hazards is sometimes misunderstood. Below is the FEMA definition:

> Extent means the strength or magnitude of the hazard. For example, extent could be described in terms of the specific measurement of an occurrence on a scientific scale (for example, Enhanced Fujita Scale, Saffir-Simpson Hurricane Scale, Richter Scale, flood depth grids) and/or other hazard factors, such as duration and speed of onset. Extent is not the same as impacts, which are described in sub-element B3.

Furthermore, extent defines the characteristics of the hazard, regardless of the people and property it affects. The potential strength or magnitude of the hazard should be evaluated in the form of a scientifically recognized scale. It is not necessary to provide predictions for the greatest possible disaster. Rather, it is recommended to show the extent of the greatest disaster for which will be mitigated.
Here are examples of scales commonly used for extent:

<table>
<thead>
<tr>
<th>Hazard</th>
<th>Unit of Measurement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tropical Storms/Hurricanes</td>
<td>Saffir-Simpson scale</td>
</tr>
<tr>
<td>Tornadoes</td>
<td>EF-scale</td>
</tr>
<tr>
<td>Wildfire</td>
<td>Acres burned</td>
</tr>
<tr>
<td>Drought</td>
<td>Palmer Drought Severity Index OR U.S. Drought Monitor Scale</td>
</tr>
<tr>
<td>Extreme Heat</td>
<td>Minimum number of days at expected temperature</td>
</tr>
<tr>
<td>Winter Storms/ Freezes</td>
<td>Minimum number of days at expected temperature</td>
</tr>
<tr>
<td>Erosion</td>
<td>Cubic feet or tons of missing sand</td>
</tr>
<tr>
<td>Sinkhole</td>
<td>Depth and Width</td>
</tr>
<tr>
<td>Flooding</td>
<td>Depth of Water</td>
</tr>
<tr>
<td>Lightning</td>
<td>Density (strikes/second/cubic kilometer)</td>
</tr>
<tr>
<td>Hail</td>
<td>Diameter/Size</td>
</tr>
<tr>
<td>Wind</td>
<td>Mph</td>
</tr>
<tr>
<td>Dams</td>
<td>Acre-Feet Inundation</td>
</tr>
</tbody>
</table>

If the extent is described using a past event in the jurisdiction (ex. “The Fire of 2005”), this past event’s extent must be identified. For the example of fire, it could be described in terms of acres damaged and possibly how many homes, business, critical facilities, etc. were at risk. Planners may elect to include both the worst possible scenario, as well as the most common scenario. For example, the community may be capable of being hit by a category 5 hurricane but most likely it will be a category 2.

Evaluate the severity of hazard events in the past five years. If any recent occurrences had a magnitude greater than the upper bound previously planned for, raising the extent of the hazard may be warranted. If a natural hazard has consistently been significantly below the extent planned for, and there are no plans to mitigate against a hazard of the extent listed, it may be beneficial to lower the listed extent.

See Appendix B for an example of extent and Appendix F for additional guidance.

R5 (B2) – Previous Occurrences

Does the Plan include information on previous occurrences of hazard events for each jurisdiction?

Previous occurrences must be included from the last 5 years to ensure the LMS is up to date. All occurrences must be listed. However, if there have been too many occurrences to feasibly list (e.g. wildfires or lightning) it is acceptable to state the total number of occurrences and list the largest or most significant cases (specifying date and details). If there have been no previous occurrences in the past five years, it must be explicitly stated for any profiled hazard.
This requirement may also be addressed in the plan’s risk assessment introduction by stating that all profiled threats have included all past occurrences for the last 5 years or state which years the table covers. It is also beneficial to include significant occurrences outside the 5-year limit.

For an LMS update, include previous occurrences within the last 5 years. For hazards with extensive occurrences such as thunderstorms, provide a holistic number of occurrences and spotlight significant occurrences. Be sure to include dates of the events. Additional narratives of the occurrences will often assist in meeting requirement R7. Planners may elect to keep only the significant events from previous updates.

See Appendix B for an example of listing previous occurrences and Appendix F for additional guidance.

R7 (B3) – Impacts

Is there a description of each hazard’s impact on each jurisdiction (what happens to structures, infrastructure, people, environment, etc.)? Does this also include a list of critical facilities to remain open during times of a disaster?

A description of potential impacts for all profiled hazards, in each participating jurisdiction, must be included in the plan. At minimum, the plan should discuss what assets were or could be disrupted or damaged during the hazard event. This may include monetary damage, road closures, infrastructure disruptions, etc. Assets include people, structures, facilities, systems, capabilities, and activities that have value to the community. These impacts should not be generic; rather give examples of how the community could be or has been impacted.

It is beneficial to cite past occurrences and how they affected the community. This adds jurisdictional specificity to the plan. Detailing how and where previous impacts occurred better prepares jurisdictions involved to mitigate impacts in the future. If there have not been past occurrences, including estimates of potential future losses (e.g. percent damage of total exposure) can be valuable as well, in addition to the narrative.

It is important to note that the Florida Administrative Code (FAC) 27P-22.005 requires counties to annually submit a list of critical facilities to the Florida Division of Emergency Management Mitigation Planning Unit. A list of critical facilities in a community is important but due to privacy concerns, should not be shared publicly. Because LMS plans are public documents, a list of critical facilities should not be included. To satisfy this requirement without including the list in the LMS plan, the community should ensure identification and documentation of critical facilities is updated annually.
While impacts may not change significantly since the plan was last revised, it is important to consider how community assets were impacted during the past five-year period. It is recommended to discuss in narrative form what occurred during previous hazard occurrences, this will often expand the discussion of impacts and meet this requirement. Further, any changes in development or implemented mitigation measures may change expected future impacts. Remember to also consider EMAP requirements when developing the impacts section.

See Appendix B for an example of potential impacts and Appendix F for additional guidance.

R6 (B2) – Probability

*Does the Plan include information on the probability of future hazard events for each jurisdiction?*

The probability of future occurrences for each identified hazard must be included in the plan. The probability of (re)occurrence can be defined in several ways, including terms of general descriptors (e.g. low, medium, high), historical frequencies, statistical probabilities (e.g. 1% chance of occurrence in any given year), or hazard probability maps. A single definition may be used to fulfill this requirement. If general descriptors are used, they must be defined in the plan with the use of more specific terminology (e.g. reoccurrence frequency rate per year, percentage rate of reoccurrence per year).

Adjust the probability figures to reflect any changes in frequency within the past five years or updates in scientific data. It is possible that there may not be any changes, as many hazards rely upon statistical models or historical frequencies.

See Appendix B for an example of terms describing probability and Appendix F for additional guidance.

R8 (B3) – Vulnerability

*Is there a description of each identified hazard’s overall vulnerability (structures, systems, populations, or other community assets defined by the community that are identified as being susceptible to damage and loss from hazard events) for each jurisdiction?*

FEMA defines vulnerability as “a measure of the degree in which a jurisdiction, structure, service, or geological area is susceptible to physical injury, harm, damage, or economic loss by the impacts of a particular hazard event or disaster.” To meet FEMA requirements, the LMS must explain why the hazards cause problems and why they impact an area of the jurisdiction. It cannot simply be stated that there could be a problem, where that problem could occur, or who will be affected. Asking “why is this hazard
a problem for our planning area?” or “Why will this effect X amount of people?” will help planners stay on track by creating problem statements which can lead to possible mitigation actions. All hazards previously listed in the HIRA should be examined for vulnerability.

Essentially, the vulnerability assessment should summarize why the planning area should mitigate the identified hazards. Vulnerability should go beyond a simple explanation of what could happen but discuss items specific to the planning area which could be adversely affected.

Consider new or previously overlooked problem areas and investigate what is causing these problems. Update previous hazards vulnerability to reflect any changes that have already been completed or are in progress. This analysis can be used to determine future mitigation projects. These assessments should be based on any changes since the last plan as well as expected future changes.

See Appendix B for an example of a vulnerability analysis and Appendix F for additional guidance.

R9 (B4) – Repetitive Loss Properties

Does the Plan describe the type (residential, commercial, institutional, etc.) and number of FEMA repetitive loss properties within each jurisdiction?

To meet this requirement, the LMS must state how many of each type of repetitive loss properties are located within each jurisdiction. To protect personal privacy, addresses of repetitive loss properties are NOT allowed in this plan. The LMS can list how many of each property there are in a few sentences or by making a chart with the information. Both the type of property (residential, commercial, institutional, etc.) and the number in each jurisdiction is required, even if the number is zero. An example of a chart is as follows:

<table>
<thead>
<tr>
<th>Jurisdiction</th>
<th>Residential</th>
<th>Commercial</th>
<th>Institutional</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>25</td>
<td>15</td>
<td>21</td>
<td>10</td>
</tr>
<tr>
<td>B</td>
<td>11</td>
<td>29</td>
<td>51</td>
<td>24</td>
</tr>
<tr>
<td>C</td>
<td>45</td>
<td>30</td>
<td>26</td>
<td>36</td>
</tr>
<tr>
<td>D</td>
<td>60</td>
<td>61</td>
<td>53</td>
<td>47</td>
</tr>
</tbody>
</table>

Remember that the use of flood insurance claim and disaster assistance information is subject to The Privacy Act of 1974, as amended, which prohibits public release of the names of policy holders or
recipients of financial assistance and the amount of the claim payment or assistance. If a plan includes the names of policy holders or recipients of financial assistance and the amount of the claim payment or assistance, the plan cannot be approved until this Privacy Act covered information is removed from the plan.

Numbers should reflect current information to be considered updated. When updating this section, contact the local floodplain administrator or the state floodplain office to ensure the most recent data is being used.

See Appendix B for an examples of repetitive loss properties data and narratives.

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§201.6 (c) Plan content. The plan shall include the following:

(3) A mitigation strategy that provides the jurisdiction’s blueprint for reducing the potential losses identified in the risk assessment, based on existing authorities, policies, programs, and resources, and its ability to expand on and improve these existing tools. This section shall include:
   (i) A description of mitigation goals to reduce or avoid long-term vulnerabilities to the identified hazards.
   (ii) A section that identifies and analyzes a comprehensive range of specific mitigation actions and projects being considered to reduce the effects of each hazard, with particular emphasis on new and existing buildings and infrastructure. All plans approved by FEMA after October 1, 2008, must also address the jurisdiction’s participation in the NFIP, and continued compliance with NFIP requirements, as appropriate.
   (iii) An action plan describing how the action identified in paragraph (c)(3)(ii) of this section will be prioritized, implemented, and administered by the local jurisdiction. Prioritization shall include a special emphasis on the extent to which benefits are maximized according to a cost benefit review of the proposed projects and their associated costs.
   (iv) For multi-jurisdictional plans, there must be identifiable action items specific to the jurisdiction requesting FEMA approval or credit of the plan.

(4) A plan maintenance process that includes:
   (ii) A process by which local governments incorporate the requirements of the mitigation plan into other planning mechanisms such as comprehensive or capital improvements, when appropriate.

S1 (C3) – Goals

Does the plan include goals to reduce/avoid long-term vulnerabilities to the identified hazards?

General hazard mitigation goals must be included in the plan. As defined by FEMA, goals are broad policy statements that explain what is to be achieved through the LMS.

While updating a plan, goals do not necessarily have to change, but they must be consistent with the hazards identified in the plan, other plans, and the State Hazard Mitigation Plan. While not required, additional objectives outlining how goals are to be met can be beneficial to include. The update should also reflect that the goals have been recently reviewed.
See Appendix C for an example of LMS Goals.

S2 (C1) – Existing Policies, Programs, and Resources

Does the plan document each jurisdiction’s existing authorities, policies, programs and resources, and its ability to expand on and improve these existing policies and programs?

A summary of all existing authorities, policies, programs, and resources available to accomplish hazard mitigation must be included in the plan. This includes all jurisdictions within the LMS. This requirement calls for the listing of all resources that can be used to accomplish hazard mitigation, it does not ask for how these resources achieve this. The plan must also include a description of how these policies can be expanded upon to include mitigation information in the future.

See Appendix C for an example of a capability analysis.

S3 (C2) – National Flood Insurance Program (NFIP)

Does the plan address whether or not each jurisdiction participates in the National Flood Insurance Program (NFIP) and how they will continue to comply with NFIP requirements?

Each jurisdiction must detail their participation in the NFIP and describe their floodplain management program for continued compliance. FEMA explicitly states that a simple statement of, “The community will continue to comply with NFIP,” or similar statements, will not meet this requirement. Any jurisdiction that is not participating in the NFIP must state why they do not participate.

A list of each jurisdiction that participates in the NFIP and each jurisdiction that participates in both the NFIP and the Community Rating System (CRS) program will be helpful to meet this requirement. To demonstrate continued compliance, there should be a discussion or listing of actions that each jurisdiction has or will take to ensure continued compliance, such as ordinances or regulations. For example, simple bullet points or a paragraph addressing how new construction or improvements in the Special Flood Hazard Areas (SFHAs) will be regulated, if any flood insurance studies or mapping updates are to occur, continued provision of information to the public, and updates of floodplain mapping can demonstrate the
community’s continued compliance with the NFIP.

The key to this requirement is to discuss that the previously listed actions taken by the participating jurisdictions are still current and that any new actions are included in the plan. To strengthen a plan, include specific details of how each participating jurisdiction is meeting and will continue to meet NFIP requirements.

See Appendix C for an example of proper NFIP documentation and inclusion.

S4 (C4) – Comprehensive Range of Projects for Each Hazard

Does the plan identify and analyze a comprehensive range (different alternatives) of specific mitigation actions and projects to reduce the impacts from hazards?

The key focus of this requirement is the range of mitigation actions and projects being undertaken, or proposed, in the plan. Each hazard must have at least one project to mitigate the effects of that hazard. Ideally, each hazard will have multiple different actions analyzed before any specific action (or actions) is identified and placed in the final project list. Alternative actions are required in grant applications therefore including them in the plan will make that step easier. One project can mitigate multiple hazards. If a single project is used for multiple hazards, ensure it is clearly stated.

Including actions and projects that do not necessarily fall under the category of mitigation will not invalidate the plan itself, but those actions and projects will not be considered to fulfill this requirement. Outreach and public education projects are encouraged. Further, projects that are routinely implemented or are being locally funded should be listed as opposed to this list being a “grant wish list.”

Analyze different mitigation actions for each hazard that is profiled in the plan. From that list, identify which actions and projects are feasible for the community and include those in the final project list. Remember that project lists should be constantly updated throughout the five-year process.

See Appendix C for an example of a comprehensive range of mitigation actions and projects and Appendix F for additional guidance.

For further guidance, review FEMA’s Mitigation Ideas, which provides mitigation actions for sixteen hazards. This document can help planners to identify possible new projects and analyze existing projects.
S5 (C4) – Mitigation Projects in Each Jurisdiction

Does the plan identify mitigation actions for every hazard posing a threat to each participating jurisdiction?

For this requirement, the plan must provide specific mitigation projects or actions for each distinct jurisdiction. One project can mitigate multiple jurisdictions. If a single project is used for multiple jurisdictions, ensure this is stated.

Ensure that listed mitigation projects or actions are consistent with the participating jurisdictions listed in the plan. Updates should ensure that actions or projects used to meet this requirement are still in effect within (or across) specific jurisdictions and edit or remove initiatives that are no longer accurate or relevant. Remember that project lists should be constantly updated throughout the five-year process.

See Appendix C for an example of mitigation projects and actions that are specific to each jurisdiction and Appendix F for additional guidance.

S6 (C4) – New and Existing Buildings

Do the identified mitigation actions and projects have an emphasis on new and existing buildings and infrastructure?

Mitigation projects and actions should focus on retrofitting existing structures to lessen their impact during a future event as well as constructing new structures that will lessen the communities’ impact. This should be a dual approach as opposed to focusing on just new infrastructure or only existing buildings.

Confirm that proposed or enacted projects or actions are up to date. Take the time to inventory the types of projects being proposed to ensure both new infrastructure and existing structure retrofits are being proposed.

See Appendix C for examples of projects with a focus on new and existing structures.

S7 (C5) – Project Prioritization

Does the plan explain how the mitigation actions and projects will be prioritized (including cost benefit review)?

Selected mitigation actions and projects need to be prioritized according to one or more criteria. The only
required criteria is a cost-to-benefit review. This does not need to be a full cost-to-benefit analysis as is standard with a grant application. It could be as simple as providing an estimated cost of the project (e.g. $10,000-$15,000) and stating the estimated number of people it would benefit (e.g. 8,000-10,000).

When updating the plan, be sure that the list of prioritized projects is updated (to account for deleted, completed, and new projects) and re-analyze the criteria for prioritization as needed.

See Appendix C for an example of incorporating a local rating system into an LMS plan to prioritize actions and an example priority ranking matrix.

S8 (C5) – Responsible Parties, Funding Sources, and Timeframes

*Does the plan identify the position, office, department, or agency responsible for implementing and administering the action/project, estimated cost, potential funding sources and expected timeframes for completion?*

The plan must list who is responsible for each project. This can be a single person or an entire agency, but it must be specified. Remember that the jurisdiction benefited is not the same as the agency responsible.

Potential funding sources need to be identified. This can be achieved by listing sources for individual projects or by providing a general list that encompasses all projects. Try to make the list of funding sources as realistic and achievable as possible to give an accurate image of the financial circumstances. Furthermore, it is beneficial to show all sources of local funding in the LMS to show that there is support coming from the communities for these projects as well as the state and national grant funding to which the community may be applying. Remember that this is not just an “grant wish list.” Projects completed at the local level as well as those which may require federal grant assistance should be included.

Estimated timeframes for completion must be provided for each project. This does not mean that there needs to be a date by when the project will be completed. Rather, it should be an estimate of how long the project will take from when it begins (e.g. 2 weeks, 2 years). If planners elect to include information on the status of project (e.g. began May 2015, will begin upon receiving funding), please include this as a separate bullet or column in addition to the timeframe.

When updating the plan, ensure that the responsible parties, funding sources, and timeframes are still relevant. This information should reflect all deleted, completed, and new projects. Review how this information is presented and consider using a concise table.

See Appendix C for an example of a project list and Appendix F for additional guidance about project lists and funding sources.
S9 (C6) – Identifying Local Planning Mechanisms

Does the LMS identify the local planning mechanisms where hazard mitigation information and/or actions may be incorporated?

Identify other plans in the community into which the information or objectives of the LMS can be incorporated. Please note that this is a different requirement than P7 (A4), which requires a review of currently existing documents and plans that can be incorporated into the LMS plan. If information and knowledge was obtained from these other planning mechanisms within the LMS and information from the LMS could also be incorporated back into these plans, such plans may fit both requirements. However, it should be clearly stated in the LMS plan which planning mechanisms were utilized for requirement P7 (A4) and which were utilized for S9-11 (C6). This list may be the same as listed in S2 (C1).

Local planning mechanisms that have been listed in LMS plans in the past include:

- County or Municipal Comprehensive Plans
- Local Emergency Management Plans
- Floodplain Ordinances
- Land Development Codes and/or Regulations
- Building Codes
- Transportation Plans

Carefully re-examine the list of these local planning mechanisms to make sure that none have become outdated and adjust as needed. Continue adding to the list with any new ideas, especially considering if there have been any new plans created for the community. This should be an outline of where the community could integrate the LMS in other planning mechanisms.

See Appendix C for an example of a description of local planning mechanisms and Appendix F for additional guidance.

S10 (C6) – Plan Integration

Does the plan describe each community’s process to integrate the data, information, and hazard mitigation goals and actions into other planning mechanisms?

In addition to listing local planning mechanisms in which information from the LMS plan can be used, the procedure for how the information will be incorporated needs to be outlined. Rather than describing the process for each local planning mechanism individually, this requirement can be met by providing an overview of the local planning committee’s process of analyzing potential outlets for the information and objectives of the LMS plan.
See Appendix C for a description of implementation into other planning mechanisms.

For further guidance, review FEMA’s Plan Integration: Linking Local Planning Efforts, which outlines several ways to ensure the LMS doesn’t sit on a shelf.

S11 (C6) – History of Integration

The updated plan must explain how the jurisdiction(s) incorporated the mitigation plan, when appropriate, into other planning mechanisms as a demonstration of progress in local hazard mitigation efforts.

The LMS plan should show progress in how information and objectives have been successfully integrated into local planning mechanisms in the past. If information provided by the LMS plan has been used in other documents, it is recommended to state in which objectives, policies, codes, etc. this information can specifically be found. If the local planning mechanisms support the goals and objectives of the LMS, describe how exactly they do so.

Provide examples of how information from the LMS plan has been utilized in other community plans and how the objectives have been supported by other planning mechanisms since the last update. It may be helpful to refer to the plans listed for requirements S9 (Part 1 of C6) and S10 (Part 2 of C6) to see if any progress has been made toward these projections.

See Appendix C for a description of previously integrated planning mechanisms.

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Plan Evaluation and Maintenance

Code of Federal Regulations (CFR)

§201.6 (d) Plan Review.

(3) A local jurisdiction must review and revise its plan to reflect changes in development, progress in local mitigation efforts, and changes in priorities, and resubmit if for approval within 5 years in order to continue to be eligible for mitigation project grant funding.

§201.6 (c) Planning Process.

(4) (i) The plan maintenance process shall include a section describing the method and schedule of monitoring, evaluating, and updating the mitigation plan within a five-year cycle.

M1 (D1) – Development Changes

Was the plan revised to reflect changes in development?

This section is only applicable when completing an LMS update. There must be a descriptive paragraph explaining any changes or new development in each jurisdiction that has increased or decreased vulnerability of the community to identified hazards. Assessing these changes in risk helps to identify areas where initiatives and actions may be considered to mitigate those vulnerable community assets from the impact of a disaster. To meet this requirement, for example, a plan may document how development has encroached further into the wildland urban interface and increased the vulnerability of populations to wildfire, or how development along coastlines has increased the vulnerability of residences and businesses to the impacts of storm surge, erosion, and hurricanes.

An important aspect in meeting this requirement is discussing the changes since the last plan update. This section should discuss the changes which have occurred in the past five years that influence the jurisdictions’ vulnerability to hazards. This does not have to be limited to traditional “development” and may include mitigation projects, environmental initiatives, population changes, and any other items that can influence risk. An example would be discussing the development of environmental green space or parks which can handle storm water better than impervious surfaces. Ideally this discussion assists in the development of vulnerability statements for each hazard; this will allow the planning team to focus on the areas that are still susceptible to certain hazards and help mitigate them even further.
Take the time to review how the community has changed since the last update. This can include changes in population, demographics, land use, policies, etc. Describe these changes and how they have affected the vulnerability of the community to hazards overall. Planners may also discuss how specific development or implemented mitigation actions have increased or decreased the community’s vulnerability to specific hazards.

See Appendix D for an example of documenting changes in development.

M2 (D2) – Progress in Local Mitigation Efforts

Was the plan revised to reflect progress in local mitigation efforts (Were projects completed, deleted, or deferred and why if they were deleted or deferred?)

The LMS must provide the status of projects, specifically those that have been completed, deleted, deferred, or new since the last update. This demonstrates the mitigation progress within the community over the past five years and maintains a record of all initiatives. If a project has been deleted since the last LMS this section must address the reason. Also, if a project has been deferred the LMS must explain why this happened. Projects that have been completed since the last LMS should also be listed in this section.

Ensure that projects are current. If a project from the last LMS was deleted or deferred there must be an explanation to be approved. A “status” column on the project list is a simple way to document this; alternatively, a separately labeled listed may be created. Plan reviewers will check the project list against the previously approved project list to ensure the community is tracking the progress of mitigation efforts. To make this task easier, it is important to maintain an accurate record of projects, including notes as to why a project was deleted or deferred.

See Appendix D for an example of a project list that including status updates.

M3 (D3) – Changes in Priorities

Was the plan revised to reflect changes in priorities since the plan was previously approved?

The plan must describe if and how any priorities have changed since the plan was previously approved. This is focusing on ensuring the goals and objectives of the plan have been updated. The best way to document this requirement is to state when goals and objectives were reviewed during the planning process. This can be done either in the planning process narrative or through meeting minutes and summaries.
Ensure the goals and objectives are reviewed at the beginning of the update process. Any goals with dates should be updated or removed. Document the review of the goals and objectives in the plan.

See Appendix D for an example of a record of changes.

M4 (A6) – Monitoring

*Does the plan identify how, when, and by whom the plan will be monitored (how will implementation be tracked) over time?*

Monitoring the plan means tracking the implementation of the plan over time. The plan must include a statement or section detailing how, when, and by whom it will be monitored during the 5-year cycle. It is required to state how the plan will be monitored. Simply stating that “The plan will be monitored during the 5-year cycle” will not be sufficient. It must state when monitoring will occur; including who is responsible for monitoring the plan. The purpose of this requirement is to make sure the plan is functioning as it was written.

Update the information related to who is responsible for monitoring the plan, as well as the description of how and when the plan is to be monitored. Review the monitoring process as stated in the plan and revise as necessary to match current procedures. At minimum, plan monitoring can occur during the annual update as stipulated in F.A.C. 27P-22.004.

See Appendix D for an example outlining the monitoring process and Appendix F for additional guidance.

M5 (A6) – Evaluation

*Does the plan identify how, when, and by whom the plan will be evaluated (assessing the effectiveness of the plan at achieving stated purpose and goals) over time?*

Evaluating the plan means assessing the effectiveness of the plan at achieving its stated purpose and goals. The plan must include a statement or section detailing how, when, and by whom it will be evaluated during the 5-year cycle. It is required to state how the plan is reaching the goals and objectives it aims to achieve. Simply stating that “The plan will be evaluated during the 5-year cycle” will not be sufficient. It also must state when evaluation will occur, meaning scheduled times or stating a certain frequency with which the plan will be evaluated. Including who is responsible for evaluating the plan is also required. The purpose of this requirement is to determine whether the plan is beneficial to the public or not.
See Appendix D for an example of plan evaluation description and Appendix F for additional guidance.

M6 (A6) – Update Schedule

*Does the plan identify how, when, and by whom the plan will be updated during the 5-year cycle?*

The plan must include a statement or section detailing how, when, and by whom it will be updated during the 5-year cycle. A description of how the plan will be updated is required. There must also be a schedule, or set frequency, when update sessions will occur. It is also required to include the board or committee responsible, or the name and title of the individual, who is responsible for updating the plan. This section can refer to the 5-year update only, or it may include intermittent updates if applicable.

See Appendix D for an example of plan update process description and Appendix F for additional guidance.

M7 (A5) – Community Involvement

*Is there discussion of how the community(ies) will continue public participation in the plan maintenance process?*

The plan must detail how community participation will be continued. Public outreach and opportunities for the public to provide feedback on the plan are necessary steps and must be described. Examples to encourage participation can include presentations on the plan and its progress to community groups (schools, clubs, churches, etc.), questionnaires or surveys to measure understanding of the plan, public meetings, and use of web-based outreach (social media posts or websites available to the public).
When updating the plan, stating how the community is involved in and will be incorporated into the process of writing and updating the plan is the key focus. Stating that past examples were sufficient is an option, but only so long as those past examples ensured actual community participation. If past measures have failed to garner any response from the public this must be addressed and include a discourse on what new measures may be taken.

See Appendix D for an example of continuing community participation and Appendix F for additional guidance.

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Plan Adoption

Code of Federal Regulations (CFR)

§201.6 (c) Plan content. The plan shall include the following:

(5) Documentation that the plan has been formally adopted by the governing body of the jurisdiction requesting approval of the plan (e.g., City Council, County Commissioner, Tribal Council). For multi-jurisdictional plans, each jurisdiction requesting approval of the plan must document that it has been formally adopted.

A1 (E1) – Proof of Formal Adoption

Does the plan include documentation that the plan has been formally adopted by the governing body of the jurisdiction requesting approval?

To meet this requirement, the LMS plan must provide documentation that proves official adoption of the plan. After obtaining APA (Approved Pending Adoption) status from FDEM, at least one jurisdiction must adopt the plan prior to the plan expiration date. All other jurisdictions will have one year to adopt the plan to remain eligible for HMA guidance. Proof of this usually comes in the form of a resolution. If a resolution cannot be provided, possible alternatives are:

- A clerk or city attorney providing a written confirmation that “the action” meets the community’s legal requirements for adoption.
- The highest elected official or their designee providing written confirmation of the adoption by providing an explanation and their signature.
- Certified meeting minutes included that highlight the adoption of the LMS plan by the jurisdiction.

When an updated plan is submitted to FDEM and receives an APA status, jurisdictions within the community must then adopt the plan. Even if the LMS plan has been adopted by the community in the past, the most recent plan needs to be accepted through the standard adoption process for the local jurisdictions. Please note that although the Mitigation Planning Unit sends out consistent notifications to the local jurisdictions of their deadlines to renew the LMS plan, jurisdictions with longer adoption processes will find it beneficial to start the process earlier.

See Appendix E for an example of certified meeting minutes and Appendix F for additional guidance.
A2 (E2) – Multi-Jurisdictional Verification of Adoption

For multi-jurisdictional plans, has each jurisdiction requesting approval of the plan documented plan adoption?

Proof of adoption must be provided for each jurisdiction that is adopting the LMS plan. This includes every jurisdiction (e.g., counties, cities, school boards, hospitals) that has been listed under requirement P2 (A1). After receiving an APA status from FEMA, at least one of the jurisdictions must adopt prior to plan expiration. After this, all other participating jurisdictions must adopt the plan within the first year to remain eligible for HMA funding. It is recommended that all participating jurisdictions adopt the plan prior to the initial expiration, although this is not always practical.

When updating the LMS plan, all jurisdictions listed in P2 (A1) must re-adopt the plan as part of their standard adoption processes. Be sure to provide documentation of this most recent adoption for each jurisdiction. The plan is not considered complete until all jurisdictions have adopted, documentation is included in the plan, and a final plan and review tool have been submitted to FEMA by FDEM’s Mitigation Planning Unit.

See Appendix E for examples of adoption resolutions and Appendix F for additional guidance.
APPENDICES
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Appendix A – Planning Process

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P1 – Documenting the Planning Process Example 1: Narrative Description of Meeting Process

**Pasco County, LMS 2018**

In January 2018, the LMSWG was notified that the LMS plan was to be resubmitted to FEMA before August 2019 for renewal. As such, the group worked to meet the new mitigation criteria established in the 2018 Florida State Hazard Mitigation Plan. Throughout the year, the LMSWG members were asked to join subcommittees to assist in updating specific sections of the main document. The members provided feedback, and project status. Simultaneously, Pasco County Emergency Management staff was tasked with updating the risk analysis section of the plan. Upon completion of all tasks, Pasco County Emergency Management conducted a final review of the LMS Plan using the new criteria set forth in the State Local Mitigation Update Manual and the required Mitigation Plan Review Checklist. Pasco County Emergency Management believes that the Pasco County LMS remains compliant with Federal criteria and has submitted the plan to the Florida Division of Emergency Management for review.

During the January annual update meeting of 2018, Pasco County Emergency Management initiated the process of the updating the plan by explaining to the LMSWG the purpose of the LMS and why it is essential that there is involvement throughout the remainder of the update. Representatives from each jurisdiction were in attendance. All attendees of this initial meeting were encouraged to participate in the plan update and encouraged to increase community participation through their contacts.

Prior to this meeting in 2018, Emergency Management brought forth a new method to submit and rank projects that was adopted by the LMSWG for the LMS. Since the summer of 2016, the Committee has introduced, edited, and adopted these new methods. The project submissions for the LMS were in need of revision as they were too in depth and one dimensional. The group felt that the use of an open ended questionnaire regarding submission for the project list provided a better understanding of the project being presented for consideration, the ranking process and progress tracking. The ranking process was updated as the group decided the 10 point structure provided better detail for each criterion and showed better representation for newly adopted projects that have already had funding sources identified, in addition to exposure and benefit to the whole community.

Following the 2016 annual update meeting, the LMSWG started implementing subcommittees. Subcommittees were formed to focus on specific portions of the LMS during the planning process. Fortunately for the LMSWG, the subcommittee process allowed the LMS to be updated more productively. The subcommittees would be created with either voluntary participants or invited by Pasco County Emergency Management as Subject Matter Experts from the LMSWG to complete the project. The subcommittees would focus attention on specific portions of the LMS and present their edits and revisions to the LMSWG where final edits and feedback could be implemented before the LMSWG amended and adopted the changes.
Shortly after Hurricane Hermine in 2016, the LMSWG identified gaps in the Goals and Objectives of the LMS. The plan’s goals and objectives were very general and did not provide specific direction for the LMSWG to move forward. Noticing this gap, the LMSWG was presented with the existing goals and objectives from 2016. A subcommittee formed to complete the revision of this section. This group met and collaborated virtually and in person to finalize new goals and objectives that would be presented to the entire LMSWG for final review, feedback, and final editing. Ultimately, the LMSWG amended the changes initially created by the Goals and Objectives Subcommittee and finalized through the main group.

Project lists were consistently shared with the LMSWG throughout the last 5-years to ensure accurate project updates were provided to the LMSWG and that eligible grant funding was identified and presented. The LMSWG was tasked with providing all updates to Pasco County Emergency Management to ensure the list remained up to date. Pasco County Emergency Management provides any participant the time to provide newly identified projects, which relates to the goals and objectives of the LMS, and allow them to present it to the LMSWG for amendment to the LMS Project List. In addition, Pasco County Emergency Management would communicate with project leads to obtain a status update for existing projects, if one was not provided, in the weeks leading up to annual update meetings. At the conclusion of each annual update meeting, projects that were unable to continue, or were completed were retired and removed from the active LMS project list. The LMSWG archives all projects on a master project list for any future inquiries regarding specific projects. This archive of projects has enabled Pasco County to apply grant funding for special projects as funding opportunities become available.

The group was instructed to look at the approved 2014 Local Mitigation Strategy and specifically read over the Risk Assessments and Vulnerabilities for their review and input. Pasco County Emergency Management took the lead on compiling the data required for updating the Risk Analysis and assembling that information into a comprehensive format. Pasco County Emergency Management requested a subcommittee to focus more specifically on the compiled data and provide additional feedback is created. Of specific interest were comments from subject matter experts in flooding and wildfire as these remain common risks in our region.

Each member of the subcommittee reviewed the hazards that Pasco County may be vulnerable to and the assessment of each hazard as well as the anticipated impact it may have on people, property and public infrastructure. At the conclusion of the review period, the subcommittee provided additional input into the Risk Assessment which was used to further revise and update the plan. Pasco County Emergency Management then reviewed existing County and municipal policies, programs, ordinances and plans. Pasco County currently has several existing programs and plans related to hazard mitigation and post-disaster redevelopment. These programs and plans include the Comprehensive Emergency Management Plan, the Floodplain Management Plan, Local Comprehensive Plans, Local Land Development Codes and Regulations, Community Rating System Program for Public Information (CRSPPI), National Flood Insurance Program, Stormwater Management Plan, Building Codes, Zoning Ordinances and the Environmental Sensitive Lands Program. These plans were reviewed with the subcommittee. It was agreed that each of the aforementioned plans contained information that is both detailed and relevant to the mitigation efforts that further support the mission of the Local Mitigation Strategy.
In summary, the planning process was inclusive in that all participants in the LMSWG were provided the opportunity to review, comment and otherwise contribute to all aspects of the plan. At the core of the mitigation planning process was the coordination and partnership among the governmental units involved in the planning process as well as the input from private citizens and businesses.

As a final note, members of the LMSWG and OIPs are listed in Appendix K. The listing will identify that the LMS is comprised of a co-chair system between the Pasco County Emergency Management Director and the County Administrator. Appendix K also includes the legislative resolutions to be presented to the Pasco County Board of County Commissioners and other governing bodies certifying their approval and acceptance of the LMS update.
Minutes

St. Johns County
Local Mitigation Strategy Task Force
Meeting: February 17, 2011 @ 9:00 am

A meeting of the St. Johns County Local Mitigation Strategy Task Force was held Thursday, February 17, 2011 at 9:00 a.m., at the St. Johns County Emergency Operations Center, 100 EOC Dr., St. Augustine, Florida. Kelly Wilson called the meeting to order with the following members:

Kelly Wilson – St. Johns County Emergency Management
Dan Chitwood – St. Johns County Sheriff’s Office
Marc Chatlin – St. Augustine Beach
Georgia Katz – St. Johns County Planning
Linda Stoughton – St. Johns County Emergency Management
Dottie Acosta – St. Johns Count Property Appraiser
Paul Rose – St. Johns County School Board
John Rayno – City of St. Augustine Fire Department
Greg Caldwell – St. Johns County Engineering
Janis Fleet – Fleet and Associates
Timber Weller – Florida Division of Forestry

I. Introductions

Kelly Wilson welcomed everyone and asked each to introduce himself/herself and state the department or company each represented.

II. Old information

a. Approval of Minutes from October 7, 2010

A motion was made by Dottie Acosta to approve the minutes for the October 7, 2010 meeting; seconded by Janis Fleet; motion carried unanimously.

b. Task Force Membership Update
Janis Fleet recommended we add someone from Hastings Water District to the LMS Taskforce email list, and Greg Caldwell offered to supply the contact information. No further discussion followed.

c. Current Project Updates

Greg Caldwell updated the Task Force in regard to SJCC Engineering Divisions two HMG3 Projects – the project for the upgraded signal at A1A and Solano went before the St. Johns County Board of County Commission, then to the State and is now a fully executed contract. A1A and Coastal Highway signal upgrade project also went before the St. Johns County Board of County Commissioners and has been sent to the State and they are currently waiting for the State to sign off on the contract. DOT may partner with St. Johns County to assist in the County’s 20% match by paying 12.5%.

Linda Stoughton updated the task force in regard to the sand re-nourishment on Summer Haven. The sand reconstruction will begin in the next few weeks and must be complete by August 2011. It is the last Tropical Storm Fay project.

Kelly Wilson updated the Task Force in regard to the discussion from the last LMS Meeting about Evacuation Signs and stated that the County Sign Shop has the ability to create signs quickly and signs can produced and posted within a couple hours.

Janis Fleet discussed the close-out of the Hastings Shutter Project

Linda Stoughton, Janis Fleet, Kelly Wilson – Discussed the Regional Evacuation Plan and new Evacuation Zones. The Plan for our Area was rolled out December 17, 2010. Janis raised questions in regard to new evacuation zones and storm surge zones created as a result of this Plan. Linda explained that our storm surge has not been re-run but what we have received is the same storm surge on top of new maps. Our area will be re-done at some point but currently we are using the new data as it stands. Our Evacuation Zones have been updated to only evacuate those that need to evacuate and the Zones have been changed from 1 – 5 to A – E. We are currently extracting information from the study that is useful for us. The Planning Department and Land Use Planners have many questions in regard to the new Coastal High Hazard Zones and changing the maps in the St. Johns County Comprehensive Plan considering that the storm surge information will be run within the next 6 months and the current maps may change.

No further discussion followed.

III. New Information


i. Additional project suggestions or re-ranking

2
### Attendance Roster

**St. John's County, LMS 2015**

<table>
<thead>
<tr>
<th>Name</th>
<th>Organization</th>
<th>Email/Phone</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kelly Wilson</td>
<td>SJCEM</td>
<td>904-526-5550</td>
</tr>
<tr>
<td>Greg Lawrence</td>
<td>St. Fea.</td>
<td>843-698-0000</td>
</tr>
<tr>
<td>Janis Kleer</td>
<td>Town of Hastings</td>
<td>904-730-8103</td>
</tr>
<tr>
<td>Thelma Weller</td>
<td>Div. Forestry</td>
<td>316-497-1533</td>
</tr>
<tr>
<td>Paul Rose</td>
<td>St. Johns Co. Sch.</td>
<td>704-973-8180</td>
</tr>
<tr>
<td>Betty Avison</td>
<td>St. John Preparatory</td>
<td></td>
</tr>
<tr>
<td>Marc Chatten</td>
<td>City of St. Aug.</td>
<td></td>
</tr>
<tr>
<td>Linda Stoughton</td>
<td>SJCEM</td>
<td></td>
</tr>
<tr>
<td>Qurzie Katz</td>
<td>SJLPD</td>
<td><a href="mailto:kjk2es@sjfl.us">kjk2es@sjfl.us</a></td>
</tr>
<tr>
<td>Daniel Cliftwood</td>
<td>BSO</td>
<td>deli <a href="mailto:twood@sjfl.us">twood@sjfl.us</a></td>
</tr>
<tr>
<td>John Rayno</td>
<td>SAFD</td>
<td>ey <a href="mailto:reun@sjfl.us">reun@sjfl.us</a></td>
</tr>
</tbody>
</table>
1.3.3 Community Rating System (CRS) Cooperating Committees

- **Flood Mitigation Technical Advisory Committee** - Comprised of flood mitigation engineers and experts from public and private sector organizations, is charged with assessing County-wide flood risks and vulnerabilities without regard to jurisdictional boundaries and recommending flood mitigation priorities, strategies, plans and projects for LMS consideration and action that optimally benefit the greater community.

- **Flood Mitigation Committee** - Comprised of representatives from the county’s active CRS communities, who collaborate on a full range of Outreach Projects Strategy (OPS) initiatives and promote CRS participation. (This committee is being transitioned to the Program for Public Information (PPI)).

While there is no regulation that requires the CRS committee to meet or coordinate, Palm Beach County has a very involved CRS user group that passes information and best practices and meets on a scheduled basis. Out of the 38 municipalities in Palm Beach County, 28 are in the CRS user group. A chart in appendix J shows that list as well the number of insured homes each have in that municipality as well as their CRS rating.

1.4 Participation Requirements

Since the LMS is written directly from input from all stakeholders, it is important to make sure that the entire PBC community is represented. Each group has different participation requirements; however, all groups are strongly encouraged to participate in the process.

**Jurisdictions**

Municipal and County participation is critical to the success of the LMS. In order to retain LMS voting rights, qualify for federal mitigation assistance consideration, and otherwise remain a member in good standing, the County and all municipal jurisdictions are expected to conform to the following standards:

- Participation of the representative or alternate in the four (4) annual Working Group meetings; or

- Participation of the representative or officially designated alternate(s) in a majority of the Steering Committee meetings, and

- Participation in a majority of subcommittee meetings; or

- Participation in special conference call meetings of the Steering Committee or subcommittees; and

- Have an officially executed resolution adopting the revised LMS plan on file with the County. In order for a jurisdiction to be eligible for Hazard Mitigation Grant Program
(HMGP), Flood Mitigation Assistance Program (FMAP) and Pre-Disaster Mitigation (PDM) funding programs, they must have an officially adopted resolution and a fully executed interlocal agreement.

More than two (2) absences of the Working Group meeting will be cause for disqualification from the LMS, subject to appeal and review by the LMS Chair. All rights and privileges will be terminated during a period of disqualification and formal reapplication. All jurisdictions will be notified of meetings via email one week in advance, and will be updated with meeting summaries thereafter.

Non-Governmental Organizations (NGO) and other Governmental Entities

In order to qualify for LMS grant sponsorship, NGOs and other governmental entities must:

- Have a duly executed letter of commitment to the LMS on file with the County; and
- In the judgment of the LMS Steering Committee, actively participate in, and otherwise support LMS activities.

The Public and Private Sector

The LMS membership believes broad community support, including ongoing public and private sector involvement, is very important to the success of the program. While participation by private organizations and the general public is strictly voluntary, their attendance, comments, contributions, and support are actively invited, sought, monitored and fully documented.

In order to promote the opportunity for broad participation, at a minimum, notices and agendas for all general meetings of the LMS are posted through some combination of newspaper ads or public service announcements; social media, postings on county and municipal websites, announcements in the county and municipal newsletters and calendars, and blast faxes and e-mailings to all previous participants.

1.5 Jurisdictional Adoption

All jurisdictions wishing to participate in and share in the benefits deriving from the LMS program must complete and file a fully executed resolution which conforms to the adoption standards jointly established and amended by the PBC Board of County Commissioners (BCC) and the LMS Steering Committee.

1.6 New Jurisdictions/Entities

In the event municipal jurisdictions are added, deleted, or merged within the County, the LMS will appropriately adjust its membership rolls as necessary and require any newly defined jurisdictions to provide documentation necessary for participation in the program.
# P3 – Jurisdictional Representation Example: Listing Representatives

## Palm Beach County, LMS 2015

<table>
<thead>
<tr>
<th>TOWN OF</th>
<th>BRINY BREEZES</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>NAME</strong></td>
<td><strong>TITLE</strong></td>
</tr>
<tr>
<td>John Strandel</td>
<td>Town Attorney</td>
</tr>
<tr>
<td>Michael Hill</td>
<td>Mayor</td>
</tr>
<tr>
<td>Susan Thaler</td>
<td>Council President</td>
</tr>
<tr>
<td>Barbara Molina</td>
<td>Town Clerk Pro Temp</td>
</tr>
<tr>
<td>Carol Lang</td>
<td>Deputy Town Clerk</td>
</tr>
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</table>

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<tr>
<th>TOWN OF</th>
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<tr>
<td><strong>NAME</strong></td>
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</tr>
<tr>
<td>Gravelin, Dorothy</td>
<td>Town Clerk</td>
</tr>
<tr>
<td>Donna Etzro</td>
<td>Mayor</td>
</tr>
<tr>
<td>Marion Chateau-Flagg</td>
<td>Vice Mayor</td>
</tr>
<tr>
<td>Sletery, Patrick</td>
<td>Council Member</td>
</tr>
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<tr>
<th>CITY OF</th>
<th>DELRAY BEACH</th>
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<tbody>
<tr>
<td><strong>NAME</strong></td>
<td><strong>TITLE</strong></td>
</tr>
<tr>
<td>Terry Stewart</td>
<td>City Manager Interim</td>
</tr>
<tr>
<td>Mark McDonnell</td>
<td>Assistant Z&amp;B Director</td>
</tr>
<tr>
<td>Scott Pape</td>
<td>Senior Planner</td>
</tr>
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<table>
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<tr>
<th>TOWN OF</th>
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<tr>
<td><strong>NAME</strong></td>
<td><strong>TITLE</strong></td>
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<tr>
<td>Michelle Suter</td>
<td>Town Manager</td>
</tr>
<tr>
<td>NAME</td>
<td>TITLE</td>
</tr>
<tr>
<td>-----------------------</td>
<td>-----------------------</td>
</tr>
<tr>
<td>Carlos Ordonez</td>
<td>Public Works Director</td>
</tr>
<tr>
<td><strong>VILLAGE OF GOLF</strong></td>
<td></td>
</tr>
<tr>
<td>Laura Hannah</td>
<td>Village Manager</td>
</tr>
<tr>
<td><strong>TOWN OF GULF STREAM</strong></td>
<td></td>
</tr>
<tr>
<td>William Thrasher</td>
<td>Town Manager</td>
</tr>
<tr>
<td>Rebecca Tew</td>
<td>Town Accountant</td>
</tr>
<tr>
<td><strong>TOWN OF HAVERHILL</strong></td>
<td></td>
</tr>
<tr>
<td>Janice Rutan</td>
<td>Town Administrator</td>
</tr>
<tr>
<td>Jeff Renault</td>
<td>Town Engineer</td>
</tr>
<tr>
<td>Joseph Roche</td>
<td>Public Safety Director</td>
</tr>
<tr>
<td><strong>TOWN OF HIGHLAND BEACH</strong></td>
<td></td>
</tr>
<tr>
<td>Kathleen Weiser</td>
<td>Town Manager</td>
</tr>
<tr>
<td>Beverly Brown</td>
<td>Town Clerk</td>
</tr>
<tr>
<td>Zoe Burgess</td>
<td>Assistant to Town Manager</td>
</tr>
<tr>
<td><strong>TOWN OF HYPOLIIXO</strong></td>
<td></td>
</tr>
<tr>
<td>Barbara Searls</td>
<td>Town Clerk</td>
</tr>
<tr>
<td>Ken Schultz</td>
<td>Mayor</td>
</tr>
</tbody>
</table>
Stakeholders

Each regularly scheduled and publicly noticed quarterly LMS Working Group meetings over the past year contained a Plan Update section where Working Group members can receive information on the status of the LMS document. Our stakeholders are comprised primarily of our Working Group members that include County organizations and agencies, municipal and regional representatives, private and non-profit sector members, and others involved in hazard mitigation activities at all levels. Stakeholders are identified through their role in mitigation actions and initiatives, recommendations from current members, or other related agencies or programs; invitations are sent out by the LMS Coordinator.

Each LMS Working Group meeting includes an opportunity for the current Working Group members to identify new or potential stakeholders. Once they are invited to the Working Group meetings, they have an opportunity to provide feedback in the overall planning process. As required by Florida Administrative Code 27P-22.004, the LMS Coordinator, on behalf of the Working Group, will send out annual invitations by mail, e-mail, and/or phone call to those identified agencies/organizations that may have a stake in the LMS planning process. Additional individuals or representative groups within, and around Orange County, will also be identified and invited accordingly.
Rimoldi, Michael

Subject: Local Mitigation Strategy Working Group meeting
Location: County Center, 22nd Floor; Lobby Conference Room, 601 E. Kennedy Blvd, Tampa, FL 33602

Start: Wed 11/12/2014 1:30 PM
End: Wed 11/12/2014 3:30 PM
Show Time As: Tentative

Recurrence: (none)

Meeting Status: Not yet responded

Organizer: Rimoldi, Michael

Required Attendees:

- Adams, David; adoying@pascocountyfl.net; al.hoel@tampagov.net; alexander.awad@ci.tampa.fl.us; angela.allen@dot.state.fl.us; aprice@tampaairport.com
- aleslie@tecoenergy.com; avera@tbrpc.org; ba_spaulding@yahoo.com; Barnes, Ronald; bbush@conservecenter.com; bcallsahan@tampaport.com; beth@tbrpc.org
- bgocka@plantcitygov.com; brady@tbrpc.org; Braxton, David; Budke, Donna; cabezasrn@aysessociates.com; Cabrera, Richard; calvin.thomson@tampagov.net; Galon, Robin; cbenner@phoenixwindows.com; Cece McKiernan; Chauncia.Willis@tampagov.net; cherisse.wilk@tampagov.net; cherill@cherylmooresconsulting.com
- Christina.hummel@us.af.mil; clareconnor@plancom.org; Clark, Scott; Cook, Preston; cowen@tampabaywater.org; czambito@dewberry.com; dbrown28@tampabayrr.com
- cebbie.cahoon@yahoo.com; dney.doughty@appliedsciencesci.com; dink.palmer@baycare.org; dmcmahon@tampabaywater.org; drogoff@thehealth.usf.edu; dleslie@usf.edu; foxgheencourt@plantcitygov.com; Ford, Ken; garry.lesiwski@ci.tampa.fl.us; george.magnon@tampagov.net; gerald.huard@thehealth.gov; Glicksberg, David; Hardy, Daniel; Henry, Eugene; Ho, Chin; Hudock, James; irvin.lee@tampagov.net; jean.duncan@tampagov.net; Jennifer Fleischman; jjudy@tampabayrr.com; johnson@pascocountyfl.net; John.Ealy@tampagov.net; jsconnell@tecoenergy.com; jt@tampaport.com; kcshpman@templeterrace.com
- kenh.sides@myclearwater.com; kkress@tampabaytown.com; kschmiedecke@templeterrace.com; lbgby@tampaport.com; leroy.lee@dh.gov; lesielie.gordon@thehealth.gov; Lewis, Matthew; linda.smart@myflordacfo.com; lwatthes@conschef.com; maria.cahill@dot.state.fl.us; Matt Wilbur; mdubina@tampaport.com; michael.miller@ci.tampa.fl.us; Mickie Valente; Moremon, Anthony - CAD; mtaylor@mygulfport.us; Newton, John; oliver.greene@tampagov.net; olie.gagnon@dh.gov; Pam.Barley@redcross.org; pamela.mcdonald@dh.gov; parrtr@tampabayrr.com; paul.sidoti@em.myflorida.com; perolmas@cdmpfl.com; pford@tgh.org; psearce@plantcitygov.com; randy.goers@ci.tampa.fl.us; rersing@usf.edu; rgordon@templeterrace.com; Rimoldi, Michael; robin.bailey@swflwq.dstate.fl.us; roger.roscoe@doe.dstate.fl.us; Ryan, Mike; sally.cook@mymanatee.org; samg@floridawaterengineering.com; Sanchez, Jose; sandyl.tudor@mymanatee.org; sarah@flash.org; sharon.tamman@mymanatee.org; Skiba, Erin; slgrimes@tgh.org; Sloan, Wanda; smmueller@tecoenergy.com; spaine@ut.edu; steven.castonguay@thehealth.gov; steven.pecinovsky@dh.gov; stratec@hotmail.com
- sttsang@brackenengineering.com; Sues, Robert; Sumner, Erick; swilliams@fhs.gov; terry@calit@fde.state.fl.us; toni.palmer@ci.tampa.fl.us; Turbiville, John (Forest); Twale, William; Wade, Holley; wbracken@brackenengineering.com; Williams, Michael; Williams, Ted; Williams@hillsboroughcounty.org; yeha@plancom.org; zornittam@plancom.org; Dunn, Elizabeth; Fox, Patricia

When: Wednesday, November 12, 2014 1:30 PM-3:30 PM (UTC-05:00) Eastern Time (US & Canada).
Where: County Center, 22nd Floor, Lobby Conference Room, 601 E. Kennedy Blvd, Tampa, FL 33602

Note: The GMT offset above does not reflect daylight saving time adjustments.
Hello LMS WG,

I hope this message finds you well.

We are planning our next LMS WG meeting for Wednesday, November 12, 2014 at 1:30 pm at County Center. Same location as before on the 22nd Floor in the conference room immediately to the right as you exit the elevators.

Please find the agenda attached.

For those who would like to call in, here is the information:
Telephone number: 1-888-670-3525
Participant passcode: 9173425304 then #

And as a follow-up to one of my previous messages, we hope to be sending out Section I of the LMS for your review sometime soon.

Thanks!

Mike

Michael Rimoldi, IMPA, CFM
Senior Planner, Hazard Mitigation Program
Technical Services Division, Public Works Department

2 813.307.1800
\( 813.307.8361 \)
rimoldim@hillsboroughcounty.org
w: http://www.hillsboroughcounty.org
Public Survey

Collier County distributed a public survey that requested public input into the floodplain management plan planning process and the identification of mitigation activities that could lessen the risk and impact of future flood hazard events. Public information regarding the survey was provided in a News Release, and the survey itself was provided on Collier County’s website as well as distributed to attendees at the second public meeting.

November 6, 2014 News Release for Public Survey
OPEN PUBLIC MEETING

FLAGLER COUNTY UNIFIED LOCAL MITIGATION STRATEGY (LMS) MEETING

Date: Monday, October 26, 2015

Time: 3:00 p.m. to 4:30 p.m.

Location: Emergency Operations Center
1769 E. Moody Blvd., Bldg 3, Training Room A
Bunnell, Florida 32110

Purpose: The Emergency Management staff is holding a Local Mitigation Strategy (LMS) meeting to discuss the plan revision and update process. Anybody interested in attending the meeting or wishing to learn more about mitigation is encouraged to attend or contact the county’s mitigation planner.

Contact: County Mitigation Planner / 386-313-4243.

PLEASE TAKE NOTICE THAT INDIVIDUAL COMMISSIONERS OF THE FLAGLER COUNTY BOARD OF COUNTY COMMISSIONERS MAY ATTEND THIS MEETING. THE COMMISSIONERS WHO ATTEND WILL NOT TAKE ANY ACTION OR TAKE ANY VOTE AT THIS MEETING. THIS IS NOT AN OFFICIAL MEETING OF THE BOARD OF COUNTY COMMISSIONERS OF FLAGLER COUNTY. THIS NOTICE IS BEING PROVIDED TO MEET THE SPIRIT OF THE SUNSHINE LAW TO INFORM THE PUBLIC THAT COMMISSIONERS MAY BE PRESENT AT THESE DISCUSSIONS.

PURSUANT TO SECTION 286.0105 OF FLORIDA STATUTES, IF A PERSON DECIDES TO APPEAL ANY DECISION MADE BY THE BOARD, AGENCY OR COMMISSION WITH RESPECT TO ANY MATTER CONSIDERED AT SUCH MEETING OR HEARING, HE OR SHE WILL NEED A RECORD OF THE PROCEEDINGS, AND THAT A VERBATIM RECORD OF THE PROCEEDINGS IS MADE, WHICH RECORD INCLUDES THE TESTIMONY AND EVIDENCE UPON WHICH THE APPEAL IS TO BE BASED.

IN ACCORDANCE WITH THE AMERICANS WITH DISABILITIES ACT, PERSONS NEEDING ASSISTANCE TO PARTICIPATE IN THIS MEETING SHOULD CONTACT THE NUMBER LISTED ABOVE AT LEAST 48 HOURS PRIOR TO THE MEETING.
Public Involvement Example 3: Public Feedback Statement

**Hamilton County, LMS 2016**

4. Public Outreach and Participation

Hamilton County is required to solicit public participation in the LMS planning process. In addition to noticing the LMS meetings, the LMS Working Group and its partners actively seek public input. They also provide the public with opportunities to learn about mitigation strategies for their families, businesses and communities.

Although a notice of the meeting inviting the general public was posted in the Jasper News (local newspaper), no general public attended any of the LMS meetings held this year.

Following is a list of events and successful outreach activities during 2011-2015

<table>
<thead>
<tr>
<th>Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Utilized the Hamilton County Emergency Management website to provide hazard and mitigation educational information and links to additional information on FEMA’s (<a href="http://www.fema.gov">www.fema.gov</a>) and the State of Florida’s (<a href="http://www.floridadisaster.org">www.floridadisaster.org</a>) websites.</td>
</tr>
<tr>
<td>Participated in the annual Emergency Preparedness Expo held at the Emergency Operations Center.</td>
</tr>
<tr>
<td>Held public meetings to solicit input for the update to the Local Mitigation Strategy.</td>
</tr>
<tr>
<td>Developed a brochure for the Local Mitigation Strategy update.</td>
</tr>
<tr>
<td>Issued a press release and placed an advertisement soliciting input on the update of the Local Mitigation Strategy.</td>
</tr>
<tr>
<td>Held LMS meetings to update the 2016 LMS Plan.</td>
</tr>
</tbody>
</table>
P7 – Review/Incorporation of Existing Plans Example 1: Reviewed Existing Plans

Highlands County, LMS 2015

Review of Existing Plans, Data Sources, and Information

During the initial phases of the update process, the program staff for the LMS Working Group preformed a preliminary review of existing plans and reports. The program staff reviewed the following plans specific to identifying their overall effectiveness at: (1) regulating or restricting development in hazard-prone areas; (2) protecting environmental features that naturally protect or mitigate impacts of disaster; (3) requiring actions to reduce future vulnerability; (4) facilitating orderly redevelopment and recovery; and/or (5) utilizing local and regional resources for hazard mitigation.

- Highlands County Comprehensive Plan
- Highlands County Land Development Regulations
- Highlands County Comprehensive Emergency Management Plan
- City of Sebring Comprehensive Plan
- City of Sebring 2009 Evaluation & Appraisal Report
- City of Avon Park Comprehensive Plan
- City of Avon Park Unified Land Development Code
- City of Avon Park 2009 Evaluation & Appraisal Report
- Town of Lake Placid Comprehensive Plan
- Town of Lake Placid Land Development Regulations
- Town of Lake Placid 2009 Evaluation & Appraisal Report
- Highlands County Communitywide Wildfire Protection Plan

Additionally, the program staff conducted a comprehensive review of pertinent information and reports to better understand the county’s vulnerability to natural disasters. This involved utilizing the following sources, which provided information on previous disaster occurrences, hazard analyses, agriculture and economic information, demographic statistics, housing data, as well as other data relevant to Highlands County:

- FEMA - National Flood Insurance Program and Community Rating System
- Highlands County Natural Resources Lakes Management Guide to Area Lakes
- Highlandswildfire.com
- Highlands County Comprehensive Emergency Management Plan 2012
- National Weather Service
- Division of Emergency Management, Floridadisaster.org
- Florida Department of Agriculture Florida Forest Service
- U.S. National Climatic Data Center storm reports; National Oceanic and Atmospheric Administration
- South Florida Water Management District
- United States Geological Survey
P7 – Review/Incorporation of Existing Plans Example 2: How Existing Plans Were Incorporated

Citrus County, LMS 2015

3.6 Integration with Existing Plans

The County Planning staff reviewed all of the elements of the 2015 LMS that were drafted by the WRPC which conducted research to determine the most current information and identify any new and updated materials to present to the LMS Working Group for consideration during the update process. They collected and analyzed a variety of existing plans, studies, reports, and technical documents. These were reviewed to compare the existing documents available in each jurisdiction and to formulate possible mitigation strategies to overcome any perceived gaps in capabilities. Based on their findings, much of the information used to update the four major steps has either not changed or presented only minor changes. All information that has changed was presented to the LMS Working Group for their review, discussion and consideration in the form of a draft document showing those items recommended to be changed as being-crossed out and the new information underlined. This enabled the Working Group and other interested persons to easily interpret the revised information. All comments and recommended changes were submitted to the Planning Staff for amendments to the Final Draft document for submittal.

The documents reviewed are listed below along with discussion of how they were incorporated into various parts of the Citrus County LMS. Each jurisdiction is responsible to review the LMS with their local plans and to provide updated information for use with the LMS re-writes as needed.

- **Existing Citrus County Local Mitigation Strategy (2010).** This was used as the basis for the updated 2015 LMS. As part of the planning process, the two incorporated communities of the City of Crystal River and the City of Inverness had been asked to review their section of the original plan, identify incorrect or outdated information, identify any hazard events that had occurred since the adoption of the previous LMS, and identify any new mitigation measures that should be included in the updated LMS.

- **Citrus County Comprehensive Plan (2005-2030).** The Comprehensive Plan was used to garner the future direction of the County such as land development, proposed infrastructure, future land use, economic development, and conservation. The Comprehensive Plan was used to ensure that the goals and objectives in the LMS were consistent with other goals and objectives in the County.

- **Citrus County Municipal Code of Ordinances.** The ordinances were used to assess the capabilities of the County, City of Inverness and City of Crystal River. In addition, the codes were used to help determine some potential mitigation measures.

- **Citrus County Land Development Code (LDC).** The LDC includes information on stormwater management, wetland protection, and floodplain protection. The LDC was used to identify natural hazards and vulnerable areas. It was also used to assess the current capabilities of the County in regard to hazard mitigation and code enforcement and helped to identify potential mitigation measures to strengthen the County's capabilities to mitigate future hazard events.

- **Comprehensive Emergency Management Plan (CEMP) (2011).** The CEMP was used to help identify the pertinent hazards for the LMS risk assessment. In addition, the CEMP was used to
assess the County's capabilities and available resources. Annex II of the CEMP on Hazard Mitigation describes how Citrus County and its municipalities work within the community on a normal day-to-day operation and what mitigation activities would be required during and after a disaster. The provisions of the revised LMS should be incorporated into this annex of the CEMP.

- **Inglis Dam Emergency Action Plan (EAP) (January 2012).** The EAP identifies emergency conditions at the Lake Rousseau Main Dam and Bypass Canal, and provides emergency actions to be taken to reduce the risk of property damage and loss of life in the event of a dam breach or failure. The EAP was used to identify and profile the risk and vulnerability of dam failure in Citrus County. In addition, the EAP identified vulnerable structures within Citrus County that were used in the mitigation strategy.

- **Statewide Mutual Aid Agreement (MOU) (August 20, 2007).** Citrus County and its municipalities are signatories to the Statewide Mutual Aid Agreement for catastrophic disaster response and recovery activities. Mutual Aid will be coordinated through the Citrus County Emergency Management Office. The Deputy Director of Emergency Management is responsible for overseeing the mutual aid process. The MOU's were used to help assess the capabilities within the County, City of Inverness, and City of Crystal River.

- **Emergency Services Evaluation and Master Plan (December 2007).** This report evaluates Citrus County's Fire Rescue Department and the current delivery of fire, rescue, and emergency medical services. This information was used in determining the County's capabilities and to identify possible limitations, such as training programs and public education that could be integrated into the mitigation strategy.

- **Generalized Future Land Use Map (GFLUM and Land Development Code Atlas).** The basic purpose of the GFLUM is to provide direction for managing anticipated growth and change. Both maps indicate conservation, recreation, and agricultural areas. In addition, the maps prescribe areas designed for low, medium, and high density development. The maps were used to determine proposed development trends as well as to determine if there were any areas slated for high density development within the various hazard zones.

- **Utility Territorial Agreement Maps.** These maps were used to determine the general areas in which each of the three electric utility companies operate and the populations they serve. This information was used to assess the populations vulnerable to power outages as secondary hazards to the various natural hazards assessed in the LMS.
Appendix B – Hazard, Risk, and Vulnerability Assessment

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R1 – Description of Hazards Example: Severe Thunderstorm and Tornado Description

Walton County, LMS 2015

3.1.2 Severe Thunderstorms & Tornadoes

A severe thunderstorm is defined as a thunderstorm containing one or more of the following phenomena: hail 3/4” or greater, winds gusting in excess of 57.5 mph, and/or a tornado. Severe weather can include lightning, tornadoes, damaging straight-line winds, and large hail. Most individual thunderstorms only last several minutes, however some can last several hours.

Long-lived thunderstorms are called super-cell thunderstorms. A super-cell is a thunderstorm that has a persistent rotating updraft. This rotation maintains the energy release of the thunderstorm over a much longer time than typical, pulse-type thunderstorms that occur in the summer months. Super-cell thunderstorms are responsible for producing the majority of severe weather, such as large hail and tornadoes (National Oceanic and Atmospheric Administration). Downbursts are also occasionally associated with severe thunderstorms.

A downburst is a strong downdraft resulting in an outward burst of damaging winds on or near the ground. Downburst winds can produce damage similar to a strong tornado. Although usually associated with thunderstorms, downbursts can even occur with showers too weak to produce thunder (National Oceanic and Atmospheric Administration). Strong squall lines can also produce widespread severe weather, primarily from very strong winds and/or microbursts.

When a severe thunderstorm approaches, the National Weather Service will issue alerts. Two possible alerts are:

- Severe Thunderstorm Watch - Conditions are favorable for the development of severe thunderstorms.
- Severe Thunderstorm Warning - Severe weather is imminent or occurring in the area.

Perhaps the most dangerous and costly effect of thunderstorms is lightning. As a thunderstorm grows, electrical charges build up within the cloud. Oppositely charged particles gather at the ground below. The attraction between positive and negative charges quickly grows strong enough to overcome the air's resistance to electrical flow. Racing toward each other, they connect and complete the electrical circuit. Charge from the ground then surges upward at nearly one-third the speed of light and produces a bright flash of lightning.

On average, more people are killed by lightning than any other weather event. Florida leads in the nation in lightning related deaths and injuries (National Lightning Safety Institute). Florida also has the most strikes, about 12 strikes per square kilometer per year in some places (National Lightning Safety Institute).
Nationwide, lightning related economic losses amount to over $5 billion dollars per year, and the airline industry alone loses approximately $2 billion a year in operating costs and passenger delays from lightning. The peak months for lightning strikes are June, July, and August, but no month is safe from lightning danger. ([http://en.wikipedia.org/wiki/Severe_thunderstorm_warning](http://en.wikipedia.org/wiki/Severe_thunderstorm_warning)).

Florida has the highest number of tornadoes per unit area, although most of the tornadoes in Florida are weak tornadoes of EF0 or EF1 intensity. A number of Florida's tornadoes occur along the edge of hurricanes that strike the state. ([http://en.wikipedia.org/wiki/Tornadoes_in_the_United_States](http://en.wikipedia.org/wiki/Tornadoes_in_the_United_States)).

Tornadoes are another potential hazard facing Walton County because Florida has the third highest rate of tornado occurrences in the U.S and has the seventh highest death rate.

**Figure 3.1.2 Reported Tornadoes in the US**

![U.S. Reported Tornadoes and Average Number of Deaths Per Year](image)
SECTION 1: RISK ASSESSMENT INTRODUCTION

Each hazard’s section contains all of the information pertaining to that hazard. This includes a profile of the hazard in general and a history of the hazard in Charlotte County in particular, and an assessment of the county’s vulnerability to the hazard. Exceptions occur, however, whenever a hazard has overlapping impacts. This is most notable in the case of tropical cyclones, where the section “Tropical Cyclones” analyzes the impact of storm surge and “Thunderstorms/High Wind Events” analyzes the impact of a tropical cyclone’s wind. The order of the sections in the Risk Assessment part of the LMS is very roughly determined by the level of concern the LMS Working Group believes each hazard deserves. For an overview of how the LMS Working Group evaluated the threat of each hazard, please consult Table III.1-1.

<table>
<thead>
<tr>
<th>Type</th>
<th>Hazard</th>
<th>Probability</th>
<th>Impact</th>
<th>Frequency</th>
<th>Distribution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Natural</td>
<td>Coastal Erosion</td>
<td>Medium</td>
<td>Moderate</td>
<td>1 to 2 years</td>
<td>Coastal areas and barrier islands</td>
</tr>
<tr>
<td></td>
<td>Drought</td>
<td>Medium</td>
<td>Minor</td>
<td>5-10 years</td>
<td>County-wide</td>
</tr>
<tr>
<td></td>
<td>Earthquakes</td>
<td>Low</td>
<td>Minor</td>
<td>500 years</td>
<td>County-wide</td>
</tr>
<tr>
<td></td>
<td>Exotic Pests</td>
<td>Low</td>
<td>Minor</td>
<td>Continuous</td>
<td>County-wide</td>
</tr>
<tr>
<td></td>
<td>Extreme Heat</td>
<td>High</td>
<td>Minor</td>
<td>Annually</td>
<td>County-wide</td>
</tr>
<tr>
<td></td>
<td>Flooding</td>
<td>Medium</td>
<td>Major</td>
<td>5-10 years</td>
<td>Localized</td>
</tr>
<tr>
<td></td>
<td>Freeze</td>
<td>Medium</td>
<td>Minor</td>
<td>5-10 years</td>
<td>County-wide</td>
</tr>
<tr>
<td></td>
<td>High Wind Event</td>
<td>High</td>
<td>High</td>
<td>5-10 years</td>
<td>County-wide</td>
</tr>
<tr>
<td></td>
<td>Sinkholes</td>
<td>Low</td>
<td>Minor</td>
<td>20+ years</td>
<td>Localized</td>
</tr>
<tr>
<td></td>
<td>Tornado</td>
<td>Medium</td>
<td>Moderate</td>
<td>Several per year</td>
<td>County-wide</td>
</tr>
<tr>
<td></td>
<td>Tropical Cyclone*</td>
<td>Medium</td>
<td>Major-Catastrophic</td>
<td>2-3 years</td>
<td>Coastal areas and barrier islands</td>
</tr>
<tr>
<td></td>
<td>Tsunami</td>
<td>Low</td>
<td>Major</td>
<td>500 years</td>
<td>Coastal areas and barrier islands</td>
</tr>
<tr>
<td></td>
<td>Wildfire</td>
<td>Medium</td>
<td>Moderate</td>
<td>Several per year</td>
<td>County-wide</td>
</tr>
<tr>
<td>Technological</td>
<td>Dam Failure</td>
<td>Low</td>
<td>Minor</td>
<td>N/A</td>
<td>Three parcels in northwest corner of county</td>
</tr>
<tr>
<td></td>
<td>Hazardous Materials</td>
<td>Medium</td>
<td>Minor</td>
<td>Sporadically</td>
<td>County-wide</td>
</tr>
<tr>
<td></td>
<td>Terrorism</td>
<td>Low</td>
<td>Major-Catastrophic</td>
<td>N/A</td>
<td>County-wide</td>
</tr>
<tr>
<td></td>
<td>Critical Infrastructure Disruption</td>
<td>Low</td>
<td>Moderate</td>
<td>N/A</td>
<td>County-wide</td>
</tr>
</tbody>
</table>

*Refers to the storm surge impact of a tropical cyclone. For the wind impact of a tropical cyclone, refer to High Wind Event.

This table addresses the top hazards to potentially affect Charlotte County. The hazards were separated by type: Natural or Technological. Each hazard’s section includes two main components (as further described below): hazard identification and vulnerability analysis. The vulnerability analysis is usually further divided into three sections: history of hazard occurrence, probability of hazard occurrence, and an estimation of potential losses. Probability has three categories: high likely to (occur), Medium (may occur), Low (low occurrence). Annually means once every year.

The following hazards were not included due to the little to no risk of the hazard: Nuclear Power Plant Incidents, Civil Disturbance, Mass Immigrations, Coastal Oil Spill, Epidemic, Solar Storms, and Traffic Accidents. For further information on these hazards and their impact on Charlotte County refer to the Comprehensive Emergency Management Plan or Appendix II of this plan. The impacts of lightning and hail are omitted since mitigation efforts for these impacts are the same as projects submitted for high wind events.

1 Unless explicitly identified otherwise, “Charlotte County” or “the county” refers to both unincorporated Charlotte County and the City of Punta Gorda collectively.
Clay County, LMS 2015

Figure 6: Clay County Flood Zones
R3 – Location of Hazards Example 2: Description of Flood Zones

*DeSoto County, LMS 2015*

**Flood Analysis:**

**Impacted by Peace River:**

River Acres: The subdivision is located on the eastside of the Peace River approximately 4.5 miles north of the City of Arcadia off U.S. 17 at Masters Road.

Hodent Subdivision: Located off of Girl Scout Road on County Road 661, approximately 4.5 miles north of State Road 70. The subdivision is situated on the west side of the Peace River. Girl Scout Camp: The camp is located off of Girl Scout Road on County Road 661, 4.5 miles north of State Road 70. The camp is situated on the west bank of the Peace River.

Peace River Campgrounds: The campground is located at the intersection of County Road 661 and State Road 70. The campground is situated on the west side of the Peace River.

Lettuce Lake Campground: The campground is located approximately 10 miles south of the City of Arcadia, about 2.5 miles off U.S. 17 on County Road 761. The campground is situated on the east side of the Peace River.

Liverpool Subdivision: This subdivision is located approximately 11 miles south of the City of Arcadia off of Liverpool Street on U.S.17. The homes are situated on the east side of the Peace River.

Up River Campground: This is a small business and campground with 7 permanent structures. It is located approximately 4 miles south of the City of Arcadia, on County Road 760. The campground is situated on the west bank of the Peace River.

**Impacted by Horse Creek:**

Hidden Acres and Royal Park Subdivisions: These subdivisions are located south of State Road 72 approximately 8 miles west of the City of Arcadia at the Horse Creek Bridge.

Horse Creek Subdivision: This facility is located approximately 2.5 miles south of State Road 72 off County Road 769 off Environmental Lab Road on Wildcat Run.

Spring Lake Youth Academy: The facility is located approximately 7 miles south of State Road 72 off County Road 769 on Start Street.

Environmental Learning Lab: This facility is located approximately 2.5 miles south of State Road 72 off County Road 769 on Environmental Lab Road.
**Subdivisions Impacted by Localized Flooding:**

Floricadia Subdivision: This subdivision is located approximately 4.5 miles south of the City of Arcadia on County Road 760-A.

Forest Pines Subdivision: This subdivision is located south of the City of Arcadia to the west of Airport Road.

Springlake Subdivision: This subdivision is located south of the City of Arcadia off County Road 769 near the DeSoto County/Charlotte County Line.

**Roadways Subject to Flooding:**

- U.S 17: Inside City limits
- State Rd 31: Near Charlotte County line
- State Rd 70: Inside City limits
- State Rd 72: At Horse Creek Bridge
- County Road 660: Mare Branch Crossing, off the Peace River
- County Road 661: Near the Peace River
- County Road 760-A: Near Hwy 31 Intersection
- County Road 761: Near Horse Creek
- County Road 769: Near DeSoto / Charlotte County line and at the Horse Creek Bridge

Looking back at historical records, the worst that could happen would be to areas along the Peace River, Horse Creek and non-elevated structures in the low lying areas. Using a scale of 1-3’ of water as being LOW, 3-5’ being MEDIUM and 5-16’ being HIGH. The severity of houses in the in land area would be low, along Peace River would be high and the Horse Creek area would be medium/high.
## Table II – 7: Hazards Vulnerability Matrix

<table>
<thead>
<tr>
<th>Hazard</th>
<th>Probability</th>
<th>Impact</th>
<th>Frequency</th>
<th>Distribution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Earthquake</td>
<td>None</td>
<td>None</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Tsunami</td>
<td>None</td>
<td>None</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Coastal Erosion</td>
<td>None</td>
<td>None</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Landslides Sinkholes</td>
<td>Low</td>
<td>Minimal</td>
<td>1 in 50-100</td>
<td>County-Wide</td>
</tr>
<tr>
<td>Coastal Storm</td>
<td>High</td>
<td>Major</td>
<td>1 in 7 years</td>
<td>County-Wide</td>
</tr>
<tr>
<td>Tornado</td>
<td>Moderate</td>
<td>Major</td>
<td>1 or 2 a year</td>
<td>County-Wide</td>
</tr>
<tr>
<td>Flood</td>
<td>Moderate</td>
<td>Moderate</td>
<td>0 – 1 a year</td>
<td>County Wide</td>
</tr>
<tr>
<td>Wildfire</td>
<td>High</td>
<td>Moderate</td>
<td>1 or 2 a year</td>
<td>County-Wide</td>
</tr>
<tr>
<td>Dam/Levee Failure</td>
<td>Low-Moderate</td>
<td>Major</td>
<td>1 in 50-100</td>
<td>Clewiston</td>
</tr>
<tr>
<td>Thunderstorm/High Wind Event</td>
<td>High</td>
<td>Minor-Moderate</td>
<td>Daily during the summer</td>
<td>County-Wide</td>
</tr>
<tr>
<td>Drought/Heat Wave</td>
<td>High</td>
<td>Major</td>
<td>Annually</td>
<td>County-Wide</td>
</tr>
<tr>
<td>Winter Storms/Freezes</td>
<td>Moderate</td>
<td>Minor</td>
<td>1 in 5 Years</td>
<td>County-Wide</td>
</tr>
<tr>
<td>Exotic Pests/Diseases</td>
<td>Moderate</td>
<td>Moderate</td>
<td>1 or 2 a year</td>
<td>County-Wide</td>
</tr>
<tr>
<td>Civil Disturbance</td>
<td>Low</td>
<td>Minimal</td>
<td>Unknown</td>
<td>County-Wide</td>
</tr>
<tr>
<td>Terrorism</td>
<td>Low</td>
<td>Minimal</td>
<td>Unknown</td>
<td>County-Wide</td>
</tr>
</tbody>
</table>

## Table II – 8: HENDRY COUNTY EXTENT OF NATURAL HAZARDS

(all information applies to all jurisdictions in Hendry County, unless noted otherwise.)

<table>
<thead>
<tr>
<th>Hazard</th>
<th>Effects</th>
<th>Answers (Extent)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coastal Erosion</td>
<td>-</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>DAM/Levee Failure</td>
<td>How deep could the flooding be?</td>
<td>7-16 feet in Clewiston</td>
</tr>
<tr>
<td>Disease Outbreak</td>
<td>What is the rate of disease caused deaths?</td>
<td>536.3/100,000 residents</td>
</tr>
<tr>
<td>Drought/Temperature Extreme</td>
<td>Highest reading on Keetch-Byram Drought Index?</td>
<td>708 in April 2007</td>
</tr>
<tr>
<td></td>
<td>Highest rainfall deficit?</td>
<td>20 inches</td>
</tr>
<tr>
<td></td>
<td>Lowest Oklawheebe lake level?</td>
<td>8.82 feet (July 2, 2007)</td>
</tr>
<tr>
<td></td>
<td>What is the average high temperature?</td>
<td>92.5°F</td>
</tr>
<tr>
<td>Earthquake</td>
<td>How high on the Richter Scale?</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>Epidemic</td>
<td>What is the rate of epidemic (all infectious diseases) caused deaths?</td>
<td>21.7/100,000 residents</td>
</tr>
<tr>
<td>Exotic Pests &amp; Diseases</td>
<td>How many acres of citrus groves are at risk?</td>
<td>63,792 acres or 9,553,400 trees</td>
</tr>
<tr>
<td></td>
<td>How many acres of sugar cane are at risk?</td>
<td>52,000 acres</td>
</tr>
<tr>
<td></td>
<td>How much cattle is at risk?</td>
<td>63,000 head</td>
</tr>
<tr>
<td>Flood</td>
<td>How deep could the flooding be on the ground (ft)?</td>
<td>2 – 36 inches</td>
</tr>
<tr>
<td>Hurricane</td>
<td>Highest measure on the Saffir-Simpson scale?</td>
<td>Category 3-4</td>
</tr>
<tr>
<td>Sea Level Rise</td>
<td></td>
<td>Not Applicable</td>
</tr>
<tr>
<td>Severe Thunderstorms</td>
<td>High Winds</td>
<td>30 – 130 mph</td>
</tr>
<tr>
<td></td>
<td>Lightning (Flash Density)</td>
<td>8 – 12 flashes/sq km/year</td>
</tr>
<tr>
<td></td>
<td>Hail diameter(largest)</td>
<td>.75 to 2.75 inches</td>
</tr>
<tr>
<td>Sink Holes</td>
<td>How deep (ft)?</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>Space Weather</td>
<td>-</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>Tornado</td>
<td>Highest measure on the Enhanced Fujita Scale?</td>
<td>EF 0 through EF 2</td>
</tr>
<tr>
<td>Tsunami</td>
<td>-</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>Wildfire</td>
<td>How many acres would be available to burn?</td>
<td>756,282 acres</td>
</tr>
<tr>
<td>Winter Storm</td>
<td>Lowest temperature?</td>
<td>18°F - 20°F range</td>
</tr>
</tbody>
</table>
R5 – Previous Occurrences Example: Listing Previous Occurrences

**Madison County, LMS 2016**

Table 18: Madison County Historical Tornadoes

<table>
<thead>
<tr>
<th>County</th>
<th>Location</th>
<th>Date</th>
<th>Time</th>
<th>Extent</th>
<th>Deaths</th>
<th>Injuries</th>
<th>Property Damage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Madison Co.</td>
<td></td>
<td>7/1/1959</td>
<td>1600</td>
<td>F1</td>
<td>0</td>
<td>0</td>
<td>250</td>
</tr>
<tr>
<td>Madison Co.</td>
<td></td>
<td>12/3/1968</td>
<td>1400</td>
<td>F1</td>
<td>0</td>
<td>0</td>
<td>2500</td>
</tr>
<tr>
<td>Madison Co.</td>
<td></td>
<td>12/25/1969</td>
<td>1830</td>
<td>F2</td>
<td>0</td>
<td>1</td>
<td>2500</td>
</tr>
<tr>
<td>Madison Co.</td>
<td></td>
<td>9/9/1971</td>
<td>1445</td>
<td>F0</td>
<td>0</td>
<td>0</td>
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</tr>
<tr>
<td>Madison Co.</td>
<td></td>
<td>10/20/1976</td>
<td>1200</td>
<td>F1</td>
<td>0</td>
<td>0</td>
<td>25000</td>
</tr>
<tr>
<td>Madison Co.</td>
<td></td>
<td>12/29/1983</td>
<td>0045</td>
<td>F1</td>
<td>0</td>
<td>0</td>
<td>25000</td>
</tr>
<tr>
<td>Madison Co.</td>
<td></td>
<td>4/3/1987</td>
<td>1015</td>
<td>F0</td>
<td>0</td>
<td>0</td>
<td>2500</td>
</tr>
<tr>
<td>Madison Co.</td>
<td></td>
<td>4/19/1988</td>
<td>0230</td>
<td>F3</td>
<td>4</td>
<td>18</td>
<td>25000000</td>
</tr>
<tr>
<td>Madison Co.</td>
<td></td>
<td>11/5/1988</td>
<td>0015</td>
<td>F2</td>
<td>1</td>
<td>3</td>
<td>25000</td>
</tr>
<tr>
<td>Madison Co.</td>
<td></td>
<td>7/3/1990</td>
<td>1700</td>
<td>F0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Madison Co.</td>
<td>Hopewell</td>
<td>9/29/1998</td>
<td>1900</td>
<td>F0</td>
<td>0</td>
<td>0</td>
<td>25000</td>
</tr>
<tr>
<td>Madison Co.</td>
<td>Greenville</td>
<td>9/22/2000</td>
<td>1355</td>
<td>F0</td>
<td>0</td>
<td>0</td>
<td>1000</td>
</tr>
<tr>
<td>Madison Co.</td>
<td>Greenville</td>
<td>6/12/2001</td>
<td>0050</td>
<td>F1</td>
<td>0</td>
<td>1</td>
<td>200000</td>
</tr>
<tr>
<td>Madison Co.</td>
<td>Lovett</td>
<td>11/12/2004</td>
<td>1240</td>
<td>F1</td>
<td>0</td>
<td>0</td>
<td>5000</td>
</tr>
<tr>
<td>Madison Co.</td>
<td>Cherry Lake</td>
<td>3/2/2007</td>
<td>0236</td>
<td>EF1</td>
<td>0</td>
<td>0</td>
<td>5000</td>
</tr>
<tr>
<td>Madison Co.</td>
<td>Lee</td>
<td>3/31/2009</td>
<td>1940</td>
<td>EF1</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

**City of Madison:** The City of Madison is affected by tornadoes in the same respect to Madison County. The vulnerability of Madison is higher than the county due to the larger concentration of people and structures found within the city. The risks of a Tornado affecting the City of Madison are equally high for all areas of the city. A tornado event in the City of Madison would probably cause severe damage to homes and structures. There would be a short term economic impact due to businesses having to recover from any damage sustained and employee absenteeism at work. The loss of life is estimated to be below 10 persons based on past historical events.

**Town of Greenville:** The Town of Greenville is affected by Tornadoes in the same respect to Madison County. The vulnerability of Greenville is higher than the county due to the larger concentration of people and structures found within the city. The risks of a Tornado affecting the Town of Greenville are equally high for all areas of the town. A tornado event in the Town of Greenville would probably cause severe damage to homes and structures. The loss of life is estimated to be below 10 persons based on past historical events. There would be a short term economic impact due to businesses recovering from any damage sustained and employee absenteeism at work.

**Town of Lee:** The Town of Lee is affected by Tornadoes in the same respect to Madison County. The vulnerability of Lee is higher than the county due to the concentration of people and structures found within the city. The risks of a Tornado affecting the Town of Lee are equally high for all areas of the town. A tornado event in the Town of Lee would probably cause severe damage to homes and structures. The
loss of life is estimated to be below 10 persons based on past historical events. There would be a short term economic impact due to businesses having to recover from any damage sustained and employee absenteeism at work.

**Hazard History:**
April 19, 1988 – A tornado hit the City of Madison, FL. Four deaths and twenty injuries reported. An estimated twenty-five to thirty homes suffered major damage or were destroyed. The storm caused four million dollars in damages to North Florida Community College (NFCC).

November, 1988 – A tornado destroyed a mobile home occupied by a mother and her baby. The mother was sucked out of the home and died from her injuries. The baby survived.

July 12, 1992 – Thunderstorm moved in quickly on Madison County. The storm resulted in over 1000 homes being damaged, as well as 500 vehicles. No deaths or injuries reported. The storm brought massive amounts of hail, some as large as softballs. Over six inches of rain fell in a 15-minute timeframe during the storm.

1994 – A tornado hit Madison High School and caused over $500,000 in damage. It then jumped over a nursing care facility and hit the Florida Highway Patrol Station. It then destroyed the Driver’s License Office.

February 14, 2000 – Madison County suffered a severe storm event on this date. There were power outages and debris caused by high winds. No injuries were reported.

September 22, 2000 – Tropical Storm Helene brought several tornadoes to the area. One tornado touched down northeast of Greenville and we went under a tornado warning for 30 minutes. We suffered minimal damage and no injuries were reported.

June 11, 2001 – The remnants of Tropical Storm Allison brought five tornadoes and six inches of rain to Madison County during the evening hours. There were three mobile homes totally destroyed, and several other homes, cars and barns had moderate damage. No deaths or injuries reported.

April 23, 2002 – Madison County experienced a possible tornado touchdown on this date. It was reported to be near Greenville. There were several uprooted trees and one injury due to a tree falling on an occupied car. One witness claims to have seen the funnel cloud, but it was not confirmed by the National Weather Service.

July 29th, 2003 – On this date, Madison County went under a severe storm warning. The county experienced high winds, lots of rain, and lightning. No major damages or injuries were reported. Some fallen trees and debris blocked some roads.

November 12, 2004 – A F1 tornado touched down briefly in the afternoon and downed numerous trees
just east of Hamburg. This event was reported by the Madison County Emergency Management Agency and property damages were estimated at approximately $5,000.

March 2, 2007 - On this morning, an EF-1 tornado developed quickly and touched down near Cherry Lake. The tornado snapped and uprooted trees along County Road 471. It also damaged the porch and roof of a home. A vehicle was damaged by fallen trees. About 130 acres of planted pine trees were also destroyed. A squall line of severe thunderstorms produced numerous reports of wind damage and isolated tornadoes across the Florida Panhandle and Big Bend from the late evening hours of March 1 into the predawn hours of March 2. An estimated $5,000 in property damages occurred.

March 31, 2009 – Numerous large pine trees were down in a narrow convergent path. A series of thunderstorms on this day brought flooding, wind damage and spawned a tornado across portions of the Big Bend.

No tornadoes have been reporting in Madison County since the 2010 LMS.
R6 – Probability Example: Terms Describing Probability

**Taylor County, LMS 2016**

E. Hazards Analysis
Taylor County and the City of Perry are vulnerable to numerous natural and man-made hazards. Hazards were identified by analyzing the historical occurrences in Taylor County and the City of Perry and by reviewing the geography, climatology and other natural features that increase human and economic risks.

*Probability* was defined as follows:

- **High** – Occurs at least once every two years
- **Medium** – Occurs at least once every five years
- **Low** – Occurrences less frequently than five years

*Magnitude* was defined as follows:

- **Catastrophic** – the entire county is potentially affected by an event
- **Major** – Most of the county is potentially affected by the event
- **Minor** – Only a specific area of the county is potentially affected
- **Negligible** – Damages and impacts are very localized and minor

<table>
<thead>
<tr>
<th>Hazard</th>
<th>Priority Ranking</th>
<th>Probability</th>
<th>Extent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hurricanes and Tropical Storms</td>
<td>Very High</td>
<td>High</td>
<td>Cat 2 every 5 years</td>
</tr>
<tr>
<td>Tornadoes</td>
<td>High</td>
<td>High</td>
<td>EF2 Every 3 years</td>
</tr>
<tr>
<td>Severe Storms</td>
<td>High</td>
<td>High</td>
<td>58 mph winds</td>
</tr>
<tr>
<td>Forest Fires</td>
<td>High</td>
<td>High</td>
<td>10 Acres Average</td>
</tr>
<tr>
<td>Floods Areal</td>
<td>High</td>
<td>Medium</td>
<td>2 Feet Average</td>
</tr>
<tr>
<td>Floods Riverine</td>
<td>High</td>
<td>High</td>
<td>2 Feet Average</td>
</tr>
<tr>
<td>Floods Coastal</td>
<td>High</td>
<td>Low</td>
<td>3 Feet Average</td>
</tr>
<tr>
<td>Drought</td>
<td>Medium</td>
<td>Medium</td>
<td>KBDI-400 Average</td>
</tr>
<tr>
<td>Heat Wave</td>
<td></td>
<td></td>
<td>2 days above 100° per yr</td>
</tr>
<tr>
<td>Freezes / Winter Storms</td>
<td>Medium</td>
<td>Low</td>
<td>23 days below 32° per yr</td>
</tr>
<tr>
<td>Sinkholes</td>
<td>Low</td>
<td>Medium</td>
<td>2”2”2’ per occur</td>
</tr>
<tr>
<td>Coastal and Riverine Erosion</td>
<td>Low</td>
<td>Medium</td>
<td>20 roads per year</td>
</tr>
<tr>
<td>Hazardous Materials Incident</td>
<td>Low</td>
<td>Low</td>
<td>Localized</td>
</tr>
<tr>
<td>Civil Unrest</td>
<td>Low</td>
<td>Low</td>
<td>Localized</td>
</tr>
<tr>
<td>Transportation Incident</td>
<td>Low</td>
<td>Low</td>
<td>Localized</td>
</tr>
<tr>
<td>Earthquakes</td>
<td>Low</td>
<td>Low</td>
<td>None</td>
</tr>
<tr>
<td>Tsunami</td>
<td>Low</td>
<td>Low</td>
<td>None</td>
</tr>
<tr>
<td>Dam / Levee Failure</td>
<td>Not Applicable</td>
<td>Low</td>
<td>None</td>
</tr>
</tbody>
</table>
R7 – Impacts Example: Potential Impacts

Seminole County, LMS 2015

Drought and Water Shortages
Relative Risk: **High**
Extent: D4- Exceptional Drought (Drought Severity Classification)
A drought is noted as a period of unusual dry weather that persists long enough to cause serious problems such as crop damage and/or water supply shortages. There are four basic approaches to measuring drought (Wilhite, 1985):

- Meteorological- defined usually on the basis of the degree of dryness (in comparison to some “normal” or average amount) and the duration of the dry period.
- Agricultural-drought to agricultural impacts, focusing on precipitation shortages, differences between actual and potential evapotranspiration, soil water deficits, reduced groundwater or reservoir levels.
- Hydrological- associated with the effects of periods of precipitation (including snowfall) shortfalls on surface or subsurface water supply (i.e., streamflow, reservoir and lake levels, groundwater).
- Socioeconomic-associated with the supply and demand of some economic good with elements of meteorological, hydrological, and agricultural drought.

The severity of the drought depends upon the degree of moisture deficiency, the duration, and the size of the affected area. In the past, most of Central Florida has suffered from droughts to the extent that unnecessary water use has been curtailed by legislation. This curtailment, imposed by local governments and the St. Johns Water Management District, was accomplished by water restriction use during designated hours and alternate days. Many natural hazards can arise from the effects of drought. Historically, drought in Florida has been known to contribute to wildfires, sinkholes, and major water shortages between the months of November-April. Drought is measured on a scale of 0-4 displayed in the table below:

<table>
<thead>
<tr>
<th>Scale</th>
<th>Severity</th>
</tr>
</thead>
<tbody>
<tr>
<td>D0</td>
<td>Abnormally Dry</td>
</tr>
<tr>
<td>D1</td>
<td>Drought- Moderate</td>
</tr>
<tr>
<td>D2</td>
<td>Drought- Severe</td>
</tr>
<tr>
<td>D3</td>
<td>Drought- Extreme</td>
</tr>
<tr>
<td>D4</td>
<td>Drought- Exceptional</td>
</tr>
</tbody>
</table>

One of the most severe cases of long-term drought in Florida occurred from October, 2010 and lasted until June of 2012 in which a major portion of the state displayed D3- Drought Extreme conditions. During this extensive period, the two-month period of April and May of 2012, showed the highest level of drought concern with portions of the state under a D-4 Drought Exceptional condition (The National Drought Mitigation Center, 2014).
One of the major bodies of water providing a water source for much of our crops and agriculture territory in Seminole County is the St. Johns River. During long periods of drought, a disruption in the watering cycle can have potentially damaging effects including substantial crop loss in the northwestern portion of the County. In addition to the crop loss and livestock reductions, drought in Seminole County is associated with increase in wildfire threat which in turn, places both human and wildlife populations at a higher risk. In partnership with County and municipal staff and the St. Johns Water Management District, a contingency plan is in place to restrict water use across the county in an effort assist with water conservation efforts during periods of drought.

Some direct impacts related to drought include reduced crop production, increased fire hazard, reduced water levels at major lakes and rivers, damage to fish habitat, and income loss for the agriculture industry. These impacts have been recorded as a result of historic events including the extreme drought conditions of 2010-2012.

The Office of Emergency Management regularly monitors the National Oceanographic and Atmospheric Administration, National Weather Service, United States Geological Survey, and the Southeast River Forecast Center for water, river, and lake levels. Activation of public information messages may be necessary if water levels become dangerously low. Seminole County and all of its municipalities may be affected by drought conditions. Structures are not vulnerable to the consequences of drought; therefore do not have a potential dollar loss.

Consequences associated with drought can be public health, agricultural loss, economic recovery assistance programs, mass care, and notification and warning.

The Local Mitigation Strategy recognizes that with a changing climate, there is the potential for an increasing risk of environmental impacts from drought and water shortages and that future mitigation and adaptation strategies related to this hazard should be considered.
R8 – Vulnerability Example: Vulnerability Analysis of Wildfires

*DeSoto County, LMS 2015*

**Wildfires Analysis:**
The State of Florida including DeSoto County has experienced Wildfires during Florida’s Dry season, which runs February through June or until the rainy season starts. Over the years, Florida fires have received national media attention like other states. Federal, State, and Local governments have increased spending in the four phases of Emergency Management (Mitigation, Preparedness, Response, and Recovery) due to the problem of “wild land urban interface”. In 1998, the State of Florida was affected by a number of large wildfires with the Palm Coast subdivision fire requiring the largest aerial suppression operation ever conducted in the United States. Some 45,000 persons were evacuated and fire suppression units responded from 44 states.

Due to the rural nature of DeSoto County, wildfires largely affect agricultural property and other large tracts, but not the City of Arcadia. These wildfires on agricultural property are not generally a concern for structures, but due to the size of the area impacted, fires tend to burn for longer periods. Emergency response is limited due to the scale of the fires and focus is generally on containing these wildfires. The overall vulnerability to the rural areas of DeSoto County are: destruction of forest areas, closing of highways due to smoke, loss of wages if crops destroyed, disruption of utilities, risk to homes in the urban/rural county interface. There are no urban/rural interfaces inside the City of Arcadia. There are numerous homes scattered throughout the countryside with various degrees of risk depending on fuel source and how well maintained a buffer zone is around each structure.

In DeSoto County during 1998/1999 brush fire seasons, Division of Forestry units responded to 49 wildfires totaling 278.8 acres. The average acreage was 5.69 acres. The highest fuel areas that are found within DeSoto County are located in following Area/Sector (s):
Sector # 5 (DeSoto Ranchettes)
Sector # 6 (State Road 31- G. Pierce Woods Hospital)
  Sector # 8 (Nocatee)
  Sector # 9 (Ft. Ogden)
  Sector # 10 (Kings Highway) Sector # 11 (Hidden Acres)

Mitigation projects for DeSoto County include cutting fire lanes, prescribed burns to reduce fuel, land clearing around existing structures to remove fire risk. The City of Arcadia is not prone to have wildfire events, but could use the above mentioned actions to further reduce fire risk.

The following is a breakdown of number of wildfires that have occurred in DeSoto County since 2008 as reported by DeSoto County Public Safety.

<table>
<thead>
<tr>
<th>Year</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>2008</td>
<td>20</td>
</tr>
<tr>
<td>2009</td>
<td>27</td>
</tr>
<tr>
<td>2010</td>
<td>23</td>
</tr>
</tbody>
</table>
Division of Forestry’s five-year history (2009-2014) indicates that a total of 3,379.5 acres have been impacted by wildfires. Using these figures, DeSoto County can expect 24 wildfires each year with an average size of 22 acres per event. The following is a breakdown by “cause” as determined by the Division of Forestry for the above six years.

<table>
<thead>
<tr>
<th>Cause</th>
<th># Fires</th>
<th>Percent</th>
<th>Acres</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lightening</td>
<td>18</td>
<td>16.36</td>
<td>335.5</td>
</tr>
<tr>
<td>Campfire</td>
<td>10</td>
<td>32.3</td>
<td>32.2</td>
</tr>
<tr>
<td>Smoking</td>
<td>0</td>
<td>0</td>
<td>0.0</td>
</tr>
<tr>
<td>Debris Burning</td>
<td>33</td>
<td>24.57</td>
<td>1338.8</td>
</tr>
<tr>
<td>Incendiary</td>
<td>0</td>
<td>0</td>
<td>0.0</td>
</tr>
<tr>
<td>Equipment</td>
<td>14</td>
<td>12.73</td>
<td>460.4</td>
</tr>
<tr>
<td>Children</td>
<td>3</td>
<td>2.73</td>
<td>1.8</td>
</tr>
<tr>
<td>Railroad</td>
<td>1</td>
<td>0.91</td>
<td>3.5</td>
</tr>
<tr>
<td>Unknown</td>
<td>18</td>
<td>10.91</td>
<td>689.4</td>
</tr>
<tr>
<td>Miscellaneous</td>
<td>12</td>
<td>6.48</td>
<td>467.8</td>
</tr>
</tbody>
</table>

In 1999 wildfires occurred along the right away of the railroad tracks, which belong to the CSX railroad. These tracks run north and south through DeSoto County including the City of Arcadia. Florida Statutes require that the railroad maintain the right away free of high grass and brush. The Florida Division of Forestry will be monitoring these tracks as required.
R9 – Repetitive Loss Properties Example 1: Repetitive Loss Properties Data

**St. John’s County, LMS 2015**

A. Repetitive Loss Data
Some areas of the County experience repetitive flooding from heavy rainfall, damage includes flooded roadways and homes.

The most well known area with repetitive flooding is the waterfront area of downtown St. Augustine which is very low and which sometimes can flood from the combination of a full moon, a high tide and a northeasterly wind. Flooding also occurs throughout the County within low-lying areas and within the 100-year floodplain.

According to information provided by the Florida Division of Emergency Management the City of St. Augustine Beach has had 2 losses on 1 Single Family Unit; The City of St. Augustine has had 44 losses on 14 properties – 12 Single Family Units, 1 Multi-Family Unit, 1 Non-Residential Unit; The Town of Hastings has had 2 losses on 1 Single Family Unit; and Unincorporated St. Johns County has had 120 losses on 45 properties - 39 Single Family Units, 4 Multi-Family Units and 2 Non-Residential Units. This information included properties with reported losses up to December 31, 2013. The types of properties that are included on this repetitive loss list include: Fifty-three (53) Single Family Units (SFU), Five (5) Multi-Family Units (MFU), and Three (3) Non-residential Units (NRU).

A detailed description of these repetitive losses is provided on the following table. Exact addresses are considered confidential and are thus not included.

### Repetitive Loss Summary for St. Johns County

**Data as of 12/31/2013**

<table>
<thead>
<tr>
<th>County Name</th>
<th>Community Name</th>
<th>Building Payments</th>
<th>Contents Payments</th>
<th>Total Payments</th>
<th>Average Payment</th>
<th>Losses</th>
<th>Properties</th>
</tr>
</thead>
<tbody>
<tr>
<td>St. Johns County**</td>
<td>St. Augustine Beach, City Of</td>
<td>8471.67</td>
<td>0.00</td>
<td>8471.67</td>
<td>4235.84</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>St. Augustine, City Of</td>
<td>304994.45</td>
<td>133191.54</td>
<td>438185.99</td>
<td>9958.77</td>
<td>44</td>
<td>14</td>
</tr>
<tr>
<td></td>
<td>Town of Hastings</td>
<td>9,547.23</td>
<td>0.00</td>
<td>9,547.23</td>
<td>4,773.62</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>St. Johns County</td>
<td>1725373.29</td>
<td>418613.70</td>
<td>2143986.99</td>
<td>17866.56</td>
<td>120</td>
<td>45</td>
</tr>
</tbody>
</table>

* NOTE: ALL PAYMENTS ARE IN US DOLLARS ($)
**NOTE: THE DATA CONTAINED ON THIS REPORT CONTAINS REPETITIVE LOSS PROPERTIES THAT HAVE NOT BEEN MITIGATED.
R9 – Repetitive Loss Properties Example 2: Repetitive Flood Loss Chart

**Indian River County, LMS 2015**

**Figure 4.4** Surge predictions are based on a Category 5 event. Overall, Category 5 worst case storm surge inundation in Indian River County could result in inundation depths of 3 feet above ground to greater than 9 feet above ground.

Portions of the City of Vero Beach located on the barrier island and adjacent to the Intercoastal Waterway can expect surge from a Category 5 storm to range from 3 feet above ground to greater than 9 feet above ground. Lands located along the western banks of the Intercoastal Waterway will received the largest impact from storm surge. Western portions of the City west of U.S. Highway 1 may be inundated with 3 to 6 feet of surge.

The entire Town of Indian River Shores will be inundated with surge during a Category 5 event. Surge is expected to range from 3 feet above ground to greater than 9 feet above ground.

The entire Town of Orchid will be inundated with surge during a Category 5 event. Surge is expected to range from 3 feet above ground to greater than 9 feet above ground. The central portions of the Town are slightly less at risk.

The City of Sebastian’s location on portions of the coastal ridge makes it less likely to experience surge in the western portions of the City. However, those lands adjacent to the Intercoastal Waterway and Sebastian Creek may be impacted by between 1 and greater than 9 feet of surge.

The Town of Fellsmere’s location to the west of I-95 makes it less likely to experience the high surge levels found on the coastal areas in the County. Despite its location away from the coastline, the Town may experience between 1 and 8 feet of surge during a Category 5 event. The extent of surge is fairly uniform throughout the Town.

**Documented Repetitive Losses.**

For this analysis, documented repetitive losses are restricted to the narrow FEMA definition and represent only those properties whose owners have made more than one claim on their flood insurance policies as recorded by the NFIP. As of December 2014, Indian River County (including municipalities) had a total of 211 repetitive flood loss properties with a total of 461 claims. Total payments for building damage on these claims was $18,289,603, while total payments for content damage was $4,486,293 (Table 4.3).

**Table 4.3: NFIP Repetitive Flood Loss Properties by Jurisdiction, Through December 2014**

<table>
<thead>
<tr>
<th>Community</th>
<th>Number of Properties</th>
<th>Number Mitigated</th>
<th>Number</th>
<th>Occupancy Type</th>
<th>Number of Claims</th>
<th>Total Building Payments</th>
<th>Total Content Payments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indian River Co.</td>
<td>107</td>
<td>19</td>
<td>88</td>
<td>0</td>
<td>8</td>
<td>243</td>
<td>$7,913,685</td>
</tr>
<tr>
<td>Vero Beach</td>
<td>97</td>
<td>12</td>
<td>69</td>
<td>1</td>
<td>20</td>
<td>4</td>
<td>$10,023,140</td>
</tr>
<tr>
<td>Sebastian</td>
<td>2</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>$212,681</td>
</tr>
<tr>
<td>Fellsmere</td>
<td>2</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>4</td>
<td>$83,541</td>
</tr>
<tr>
<td>I.R. Shores</td>
<td>3</td>
<td>0</td>
<td>3</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>$56,556</td>
</tr>
<tr>
<td>TOTAL</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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Appendix C – Mitigation Strategy

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S1 – Goals Example: Goals, Objectives, and Actions

_Brevard County, LMS 2015_

1.9 Mitigation Goals, Objectives, and Actions

This section of the Brevard County Local Mitigation Plan describes the goals and objectives established by Brevard Prepares, and the completed and anticipated actions for implementation and maintenance of this plan in an ongoing effort to achieve these goals.

1.9.1 Develop Goals and Objectives for the Mitigation Plan

Brevard Prepares has established a number of goals and objectives to guide its work in the development of this plan. The goals and objectives help to focus the efforts of the group in the mitigation planning effort to achieve an end result that matches the unique needs, capabilities and desires of the participating jurisdictions. For purposes of this update, the mitigation goals and objectives established by Brevard Prepares have not been changed. The following are a list of all goals and objectives.

1. The disaster-resistant economy will be strengthened.
   a. Local government will establish programs, facilities and resources to support business resumption activities by impacted local businesses and industry.
   b. Local government emergency response and disaster recovery plans will appropriately consider the needs of key employers in the community.
   c. Local government will encourage community businesses and industries to make their facilities and operations disaster resistant.
   d. Components of the infrastructure needed by the community’s businesses and industries will be protected from the impacts of disaster.

2. Local government in partnership with the community will continue to develop, implement and maintain effective mitigation programs.
   a. The capability to effectively utilize data and information related to mitigation planning and program development including “lessons learned”.
   b. The effectiveness of mitigation initiatives implemented in the community will be measured.
   c. Outreach programs to gain participation in mitigation programs by business, industry, institutions and community groups will be developed and implemented.
   d. The community’s public and private sector organizations will partner to promote hazard mitigation programming throughout the community.
   e. Local elected governing bodies will promulgate the local mitigation plan and support community mitigation.

3. The health, safety and welfare of our disaster-resistant community will be maintained.
   a. Local governments will establish and enforce building and land development codes that are effective in addressing the hazards.
b. Land use policies, plans, and regulations will discourage or prohibit inappropriate location of structures or infrastructure.

c. Local government will ensure that hazard mitigation needs and programs are given appropriate emphasis.

d. Regulations will be established and enforced to ensure that public and private property maintenance is consistent with minimizing vulnerabilities to disaster.

e. Designated evacuation routes will be relocated, retrofitted or modified to remain open before, during and after disaster events, and vehicle access routes to key areas will remain open.

f. The potential for infrastructure system failure because of or during a disaster will be minimized through routine maintenance.

g. Local government will support key employers in the community in the implementation of mitigation measures for their facilities and systems.

h. Facilities in the community posing an extra health or safety risk when damaged or disrupted will be made less vulnerable to the impacts of a disaster.

i. Programs for removal, relocation or retrofitting of vulnerable structures and utilities in hazard areas will be established and implemented.

j. There will be adequate resources, equipment and supplies to meet victims’ health and safety needs after a disaster.

k. Adequate systems for notifying the public at risk and providing emergency instruction during a disaster will be available.

l. Local governments will protect high hazard natural areas from new or continuing development.

m. Local jurisdictions will participate fully in the National Flood Insurance Program and the associated Community Rating System.

n. Reconstruction and rehabilitation of structures and utilities in the community will incorporate appropriate hazard mitigation techniques.

4. Public education will be enhanced to increase the level of disaster awareness.

   a. The community will be periodically updated regarding local efforts in mitigation planning and programming.

   b. The owners and operators of businesses and industries in the community will be knowledgeable in appropriate techniques.

   c. Managers of public facilities will be knowledgeable in hazard mitigation techniques and the components of the community’s mitigation plan.

   d. All interested individuals will be encouraged to participate in hazard mitigation planning and training.

   e. The public living or working in defined hazard areas will be aware of that fact, understand their vulnerability and know appropriate techniques.

   f. Education programs in risk communication and hazard mitigation will continue to be established and implemented.

The goals were established by the Brevard Prepares Steering Committee in 2004 and then formally
adopted. These goals continue to guide the work of Brevard Prepares. The goals selected are related to the broad mitigation needs and capabilities of the communities involved, rather than addressing a specific hazard type or category.

Therefore, the Brevard County mitigation goals and objectives, by definition, are “multi-hazard” in scope and can be described as statements of the desired “mitigation-related capabilities” that will be present in each participating jurisdiction in the future as the goals are achieved.

1.9.2 Using a “Goal-Based” Planning Process

The goals established by Brevard Prepares are considered to be broad, general guidance that define the long-term direction of the planning. As indicated in the list of goals and objectives attached to this section, each goal statement has one or more objectives that provide a more specific framework for actions to be taken by Brevard Prepares and its participants. The objectives define actions or results that can be placed into measurable terms by Brevard Prepares, and translated into specific assignments by the Steering Committee for implementation by the participating jurisdictions and associated agencies and organizations.

The objectives selected by Brevard Prepares are intended to create a specific framework for guiding the development of proposed mitigation initiatives for incorporation into the plan. Whenever feasible, the planning participants have attempted to associate each proposed mitigation initiative with the objective statement the initiative is intended to achieve. By associating a mitigation initiative with a specific objective, the proposed initiative is also, of course, intended to help achieve the broader goal statement to which the objective corresponds. Proposing mitigation initiatives that are consistent with the selected objectives is a principal mechanism for the participants to achieve the stated goals of the mitigation planning program.

As the Brevard County Local Hazard Mitigation Strategy is reviewed and updated by Brevard Prepares participants, the goals and supporting objective statements are also reviewed to ensure they are still applicable to meeting the unique needs, interests and desires of the community. The following goals and objectives were reviewed for this update, and it was determined to continue to plan towards these mitigation goals.
S2 – Existing Policies, Programs, and Resources Example: Detailing Capability

**Miami-Dade County, LMS 2015**

**County**

1. Board of County Commission Resolutions
   a. R-572-00, which establishes the Miami-Dade Local Mitigation Strategy as official county policy
   b. R-710-05, which authorizes the county manager to apply for, receive, expend and amend applications for projects listed in the Miami-Dade Local Mitigation Strategy.
   c. R-451-14, which requires all County infrastructure projects to consider potential impacts of sea level rise during all project phases.

2. Pertinent Miami-Dade County laws include codes and ordinances that govern the unincorporated and municipal activities, as follows:
   a. Chapter 8(b) of the county code, which deals with emergency management;
   b. Chapter 11(c), covering Development within Flood Hazard Districts;
   c. Chapter 17, i.e. the Housing Code, focused on maintaining the housing stock in decent safe and sanitary conditions;
   d. Chapter 18b covering right-of-way landscaping;
   e. Chapter 24 covering the activities of the Miami-Dade Division Environmental Resources Management (DERM) for permitting hazardous materials;
   f. Chapter 28 of the county code which deals with subdivision regulations;
   g. Chapter 33, covering zoning activities for approval of a development of regional impact
   h. Floodplain Management Program sets the criteria for elevations and assesses the risks for flooding for different areas of the County;
   i. Miami-Dade County Comprehensive Emergency Management Plan (CEMP) mandates that municipalities have emergency management plans, as well as recommends the performance of hazard mitigation activities;
   j. Miami-Dade County Comprehensive Land Use Plan dictates current land use and controls future land use and growth throughout the county;
   k. The Public Works Manual, especially Section D5, concerning coastal construction;
   l. Dade County Environmental Protection Ordinance, Coastal and Freshwater Wetlands Regulations, Sections 24-58 and 24-59.

3. Miami-Dade County Landscape Maintenance Special Taxing Districts provide tree-trimming programs that prevent more severe damage during windstorms.

4. On March 1, 2002 the Florida Building Code (FBC), was adopted by Miami-Dade County and all the Municipalities, consequently replacing the South Florida Building Code. The High Velocity Hurricane Zone (HVHZ) portions of the code are applicable to Miami Dade and Broward Counties only, the HVHZ sections of the FBC in addition to the most current ASCE-7 standard contains a stricter design and construction measures, especially to protect windows,
walls and roof from wind-born debris. In 2012, the FBC was amended to include flood protection measures and use of ASCE-24.

5. The Local Law Enforcement Mutual Aid Agreement with Miami-Dade County designed to coordinate and supplement local resources.

6. The Statewide Mutual Aid Agreement for Catastrophic Disaster Response and Recovery establishes a local resource for all Working Group members that are presently signatories.

7. The Southeast Florida Regional Climate Change Compact set forth an agreement between Miami-Dade, Broward, Palm Beach and Monroe Counties to work in collaboration to address the impacts of climate change on Southeast Florida. The Climate Change Action Plan was subsequently developed to identify and pursue reduction and resiliency measures in the region.

County Programs

Stormwater Management Master Plan
This program has the responsibility of the evaluation of flood protection levels of service. The Stormwater Management (Drainage) Level of Service (LOS) Standards for Miami-Dade County contains 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, 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 following the latest version of the Florida Building Code or as specified in Chapter 11-C of the Miami-Dade County Code, whichever is higher. The incorporated areas of the county (municipalities) may have adopted stricter elevation standards.

Subdivision and Other Regulations
Miami-Dade County Code imposes certain developmental requirements before land is platted. These relate to the provision of water and sewer facilities, local streets, sidewalks, drainage, and open space. Before use permits or certificates of occupancy can be issued Section 33-275 of the Miami-Dade County Code requires that adequate water, sewage and waste disposal facilities be provided.

Shoreline Review
The Shoreline Development Review Ordinance was adopted in 1985 and prescribes minimum standards for setbacks, visual corridors and, with its' accompanying resolutions, sets out a flexible review process through which architectural interest, building orientation, landscaping, shoreline use compatibility, access, and other design related elements can be negotiated with the developers and enforced by the local governing jurisdiction.

Area Plan Report
Since 1998, Area Plan Reports have emerged as a preferred planning technique for community visioning and helping to find answers to fundamental planning questions.
An Area Plan Report is a practical planning technique, which blends public participation, detailed planning, and the development of implementation tools. Its principal focus is the creation of planning products (instead of processes). Public participation is indispensable for a successful Area Plan Report. The overriding objective is the creation of a detailed plan, which resolves areas of concern identified in the Area Plan Report study area; often these concerns involve capital improvements such as roads, sewers, sidewalks, parks and other community improvements. The Planning and Zoning Divisions of the Department of Regulatory and Economic Resources (RER) implements the Area Plan Report process as a collective planning effort that develops a small area plan which incorporates the priorities of a community.

**Coastal Management**

The Beach Restoration and Preservation Program is Miami-Dade County's mechanism for initiating and coordinating federal and/or State projects essential to the protection and recreational viability of Miami-Dade's ocean shoreline. Local participation in the determination of activities pertaining to beach restoration and preservation is included in the program. The County has benefited from large federal and State funding contributions and the expertise obtained as a result of the program. Most notably, the Miami-Dade County Beach Restoration Project now provides hurricane and erosion control protection for upland property and a vast recreational resource for public use. This project replaced a seriously eroded shoreline sustained only by bulkheads and seawalls, which offered little protective or recreational value. Implementation of erosion control projects is based on the following criteria:

1. Need for protection of public safety and property in areas threatened by coastal erosion.
2. To provide enhanced beach-related recreational opportunities for both visitors and Miami-Dade County residents.
3. To provide more effective and efficient long-term management of our natural and restored beach systems.

The Biscayne Bay Restoration and Enhancement Program objectives are to maintain or improve ecological, recreational, and aesthetic values of Biscayne Bay, its shoreline, and coastal wetlands. Projects include shoreline stabilization, mangrove and wetland habitat restoration, and bay bottom community enhancement at parks and other public lands. These contribute to erosion control, water quality, and fisheries and wildlife resources.

Future capital expenditures will be directed primarily towards maintaining and enhancing durability of restored beaches and to environmental improvement of the Biscayne Bay ecosystem. All of these projects are developed and carried out based on the best scientific and technical information available to the agencies involved.

**Municipalities**

1. The Basic Emergency Management Plan sets forth the procedure for all activities of the municipality before, during and after emergencies.
2. A Stormwater Management Plan, which is focused on flood-related hazards and defines the relevant mitigation goals, evaluates appropriate and feasible mitigation measures and prioritizes such measures into an Action Plan for systematic implementation.
3. A Floodplain Management Plan manages development in the floodplain. All cities within the county are striving to establish a floodplain management plan and participate in the Community Rating System. NFIP has stated that the LMS may serve as a floodplain management plan for its participants.

4. A Comprehensive Land Use Plan controlling growth and development within the municipality.

**Municipal Agencies and Their Mitigation Functions**

The municipalities of Miami-Dade County each have within their structure certain departments and agencies which affect and promote mitigation. While these agencies may have slightly different names from city to city, the role they perform in the mitigation function remains the same (e.g. public works or public services or community services, etc.).

Miami-Dade Public Works operates and maintains and operates drainage systems and the secondary canals throughout the County, working with the SFWMD to implement flood control operations, when required.

Police and fire rescue departments: Each of the municipalities except Miami Lakes, Palmetto Bay and Cutler Bay maintains its own Police Department while the cities of Coral Gables, Hialeah, Key Biscayne, Miami and Miami Beach maintain their own fire departments, with the balance of the cities using Miami-Dade Fire Rescue for this service. Emergency responders are essential for alert and notification, lifesaving response, prevention and protection activities that all contribute to lessening the impact of disasters. The police and fire departments also conduct educational seminars to residents to spread awareness on emergency preparedness.

The building department (or building & zoning): The functions of this department relate extensively to a wide range of mitigation projects and on-going mitigation activities. In most of our cities, the Building Official is responsible for interpreting and enforcing all laws, codes, ordinances, regulations and municipal policies related to the construction, improvement, expansion, repair or rehabilitation of buildings within the city. This department ensures that all new construction complies with the Florida Building Code which in itself is a major contribution to hazard mitigation. The department usually is responsible for the management of development in Special Hazard Areas; preservation of open space; general control of land use intensities; and coordination between the capacity of public infrastructure in relation to proposals of private development. This department also ensures all proposed development in the city conforms to the city’s comprehensive plan as it relates to urban design of public areas and buildings, infrastructure planning and maintenance of flood data and other statistical information.

Planning and Development Department: Often is a part of the building department and even, at times, a part of public works. However, a number of our municipalities maintain planning and development as a separate entity which interacts within the mitigation strategy in many ways and must be part of the overall strategy especially in the area of urban land use.

Public Works Department: In most of our cities this department is responsible for construction and
maintenance of roads, bridges and waterways and storm water management including drainage system
development, inspection and maintenance, all functions that relate in various ways to hazard mitigation.
Public works activities are a major component of any mitigation strategy.

Analysis of Existing Policies, Ordinances and Programs
In 2014 the LMS Coordinator performed a review of a number of local policies and plans to create an
Integration Document (Part 4 Appendix H). Additional LMSWG members were invited to participate and
assist by reviewing the Integration Document and identifying and reviewing other local policies, ordinance
and programs so we may better identify areas where we are in alignment or areas for consideration where
mitigation may be better aligned.

As can be imagined, in a county as large and diverse as Miami-Dade, there are numerous planning agencies
and documents that are developed. Each many times addresses the needs of their focus (e.g. transportation, emergency management) and each seems to have a different threshold for how often the plan is to be updated and the planning horizon to which it assesses the consideration of hazards and risks. The Integration Document included in this version should be viewed as a starting point for the LMSWG to discuss, review and identify areas where we as a whole community can be more effective in our approach
to mitigation and resiliency.

The Integration Document includes reviews of the following:

- Southeast Florida Regional Climate Action Plan
- Miami-Dade Comprehensive Development Master Plan (CDMP)
- Miami-Dade Emergency Management Recovery Plan
- Miami-Dade 2035 Long Range Transportation Plan
- Florida Administrative Code 9J-2.0256

As the population grows in Miami-Dade County, hazard mitigation laws must address new structures being
built in areas susceptible to unusual occurrences either through prohibition, limitation or tougher code to
reduce potential losses. For example, new building construction in low lying flood areas must be limited
or built in such a manner to minimize impacts from flooding. Similarly, future construction sites of natural
gas, electrical and nuclear power plants must have mechanisms in place that will self-contain, or
significantly limit, effects of potential catastrophic incidents. As identified in the Integration Document
the Miami Dade CDMP Plan addresses a number of planning and zoning issues and the prevention or
limitation of development in risk areas. Adaptation Action Areas are being incorporated into the CDMP
and they should also be considered in relation to recovery and post-disaster redevelopment.

Local government and the private sector must provide ongoing training and information sessions for the
public. Clear, unbiased knowledge is a key ingredient for safety enhancement for the public. Ongoing
training could include public information notices and continuous training sessions at local libraries,
hospitals and schools. Part of the cost for this training should be borne by those private parties who ask
or have businesses that may contribute to an unusual occurrence. For example, construction of a new
electrical substation, a natural gas company building a new facility, a professional dry cleaner
establishment, a new gas station, etc. would have impact fees assessed to offset the mitigation training costs.

Training and equipment to prepare for and subsequently resolve hazard situations are necessary and vital. Alternative financial resources must be assessed and located in addition to including these costs in all respective governmental budgets.

Periodic review and revision of the local government ordinances, policies and programs must occur no less than once every other year.

Each municipality that has not yet done so should adopt a floodplain management ordinance and participate in the community rating system program. At the present time, the Miami-Dade Local Mitigation Strategy will serve as a floodplain management plan if adopted by a municipality.

**Municipal Integration of Mitigation Measures**
The following section identifies how the participating municipalities have incorporated mitigation into their planning processes, policies and/or ordinances. The municipalities continuously strive to expand and improve upon their mitigation measures as is illustrated below and with the extensive listing of mitigation projects identified in Part 2.
Aventura

<table>
<thead>
<tr>
<th>City of Aventura Comprehensive Plan</th>
<th>April 2006</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Transportation Element</strong></td>
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<tr>
<td><strong>Policy 1.9:</strong> The City of Aventura, in consultation with the Florida Department of Transportation, shall evaluate the impacts of proposed development and redevelopment on its transportation system, Strategic Intermodal System facilities, and the adopted level of service standards of transportation facilities, and identify strategies to alleviate or mitigate such impacts in coordination with the developer and other agencies as appropriate. The City shall coordinate with FDOT, Miami-Dade County, and 28 other jurisdictions in the county in the development of common methodologies for measuring such impacts.</td>
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<tr>
<th>Infrastructure Element</th>
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<tr>
<td><strong>Objective 4:</strong> Aventura shall protect and preserve the biological and hydrological functions of the wetlands identified in the Land Use Element. Future impacts to the biological functions of publicly and privately owned wetlands shall be mitigated. Publicly acquired wetlands shall be restored and managed for their natural resource, habitat and hydrologic values.</td>
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</tbody>
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<tr>
<th>Capital Improvements Element</th>
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<tbody>
<tr>
<td><strong>Objective 3:</strong> Future development will be permitted only when the adopted level of service standards for those services listed in the CIE will be upgraded or maintained at adopted levels of service, or when demonstrated negative impacts on hurricane evacuation clearance times will be mitigated, by ensuring that adequate fiscal resources are made available including, the proportionate cost of improvements necessitated by the development. [9J-5.016(3)(b)3]</td>
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</tbody>
</table>

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<thead>
<tr>
<th>Conservation &amp; Coastal Management Element</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Policy 10.2:</strong> Structures which suffer recurring damage to pilings, foundations or load-bearing walls shall be required to rebuild landward of their current location to modify the structure to structurally enhance the structure, institute or mitigation measures or delete the areas most prone to damage.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>City of Aventura Comprehensive Plan</th>
<th>April 2006</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Policy 10.14:</strong> The City shall implement its local mitigation strategy in accordance with the guidelines provided in the Local Mitigation Strategy: A Guidebook for Florida Cities and Counties in order to fulfill the requirements of Rule 9J-5.012, F.A.C. relating to post-disaster planning, repair, and reconstruction.</td>
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</tbody>
</table>
Comprehensive Plan for Village of Bal Harbour  
June 1988

**Future Land Use Element**

Objective 9J-5.006(3)(b)4: Protect natural and historical resources
Policy: Developments and construction that adversely impact the quality of the natural environment shall not be allowed.

**Coastal Management Element**

Objective 2.2 Hazard Mitigation and Coastal High-Hazard Areas: the Village of Bal Harbour shall ensure that building, development and redevelopment activities are carried out in a manner which minimizes the danger to life and property from hurricanes. Development within coastal high-hazard areas shall be restricted and public funding for facilities with coast high-hazard areas shall be curtailed.

- Policy 2.2.01: The hazard mitigation section of the Dade County Hurricane Procedure Plan shall be reviewed and updated on a 5-year basis. In the rewrites, the Emergency Management Director shall identify specific actions that could be implemented to reduce exposure to natural hazards.
- Policy 2.3.06: The Recovery Task Force shall propose comprehensive plan amendments which reflect the recommendations in any interagency hazard mitigation reports or other reports prepared pursuant to Section 406 of the Disaster Relief Act of 1974 (PL 93-288).
- Policy 2.3.07: If rebuilt, structures which suffer damage in excess of fifty (50) percent of their appraised value shall be rebuilt to meet all current requirements, including those enacted since construction of the structure.
- Policy 2.3.08: Structures which suffer recurring damage to pilings, foundations, or loadbearing walls shall be required to rebuild landward of their current location, to modify the structure to structurally enhance the structure, institute other mitigation measures or delete the areas most prone to damage.

---

Town of Bay Harbor Islands Code of Ordinances  
Enacted December 2013

**Article 1 General Provisions**

Sec. 11-5. - Seasonal and periodic flooding; protection of lives.
(a) The regulation of areas subject to seasonal and periodic flooding as provided in the comprehensive plan, policies 1.1(4) (page 35), 3.2 (page 36), 5.2 (page 37), and objectives 3 (page 36) and 5 (page 37) shall be implemented by the Code of Ordinances, including sections 5-17, 5-23.1(A)(3), (4) and sections 23-11(A)(5) and 23-12(12).

(b) While it is hereby declared that Dade County has retained the primary responsibility for seasonal and periodic flooding throughout the county as provided in county Ordinance Nos. 57-22 and 57-30, as amended, the town’s Code of Ordinances shall further implement the goals and objectives of the county ordinances by requiring compliance with all minimum federal flood insurance elevations for all new construction and for which land use densities and intensities have been adopted in further support thereof.

(c) The protection of lives as provided in the comprehensive plan, policy 5.2 (page 37), shall be implemented by the Code of Ordinances, including section 5-1, and by virtue of the Miami-Dade County retention of primary
APPENDIX 13: FLOOD MANAGEMENT PROGRAMS AND REPETITIVE LOSS PROPERTY INVENTORY

Overview
In addition to the potential for injury or loss of life from coastal or inland flooding is potential property loss. The National Flood Insurance Program (NFIP) was created to provide home and business owners with property insurance against the flood hazard. In order to participate in the NFIP and provide property owners with the ability to obtain flood insurance, local governments must adopt key Land Development Regulations (LDRs) within the floodplain as well as manage a program designed to minimize the community’s vulnerability.

FEMA has reported the following statistics with regard to the flood policies within the State of Florida as compared to other states (http://bsa.nfipstat.fema.gov/reports/1011.htm). These facts show the overall importance of the NFIP to the state and the level of flooding concern.

<table>
<thead>
<tr>
<th>Top 5 States</th>
<th>Total Policies</th>
<th>Total Value of Insured Properties</th>
<th>Total Premiums of Policies in Force</th>
</tr>
</thead>
<tbody>
<tr>
<td>Florida</td>
<td>2,007,265</td>
<td>$475,532,376,500</td>
<td>$1,065,801,733</td>
</tr>
<tr>
<td>Texas</td>
<td>613,505</td>
<td>$158,435,243,100</td>
<td>$380,842,793</td>
</tr>
<tr>
<td>Louisiana</td>
<td>473,537</td>
<td>$112,783,427,000</td>
<td>$366,421,758</td>
</tr>
<tr>
<td>California</td>
<td>240,503</td>
<td>$64,159,270,500</td>
<td>$211,132,333</td>
</tr>
<tr>
<td>New Jersey</td>
<td>239,478</td>
<td>$57,172,538,700</td>
<td>$241,577,140</td>
</tr>
<tr>
<td><strong>Total US Policies</strong></td>
<td><strong>5,388,138</strong></td>
<td><strong>$1,277,920,367,400</strong></td>
<td><strong>$3,795,555,026</strong></td>
</tr>
</tbody>
</table>

As of June 2014, Florida residents purchased 37% of all NFIP policies in the United States. The NFIP Insurance Report (8/28/2014) is presented in Table 13-2 which provides flood insurance information for each jurisdiction.

Mitigation programs are working as new buildings are constructed to current codes. The county and its jurisdictions strive to reduce their vulnerability to flooding through LDRs, code enforcement, and they actively seek to assist homeowners and businesses elevate or flood proof their structures. Those communities who choose to do so may include their Floodplain Action Plan and Annual Reports in the (optional) Appendix 15 of the Local Mitigation Strategy.

National Flood Insurance Plan Participation
The municipalities participating in the LMS also participate in the NFIP. The specifics vary from jurisdiction to jurisdiction. Typical plans for NFIP participation are presented below:

- **Maintenance of the Flood Insurance Rate Maps (FIRM).** The jurisdictions maintain the most recent set of FIRM maps so as to be able to provide guidance for construction within the floodplain. These maps were updated during FEMA’s Map Modernization process. Many communities link to the FEMA website for digital FIRMs.
- **Flood Elevation Certificates** are filed both electronically and in hard copy.
- Continue to provide the **Map Determination Service**, including the publicizing of the service.
• If needed, each community has a designated floodplain manager.
• Most communities participate in the Community Rating System (CRS), remain in compliance through annual CRS recertification and are engaged in no activities designed to lower our CRS score. Activities include drainage system maintenance, distribution of information on floodproofing, prohibiting stream dumping, and maintaining a Disaster Response and Recovery Plan.
• Enforcement of adopted Land Development Regulations which sets down the standards for construction or substantial improvement of structures within the floodplain. Also, the jurisdictions have updated their LDRs to conform to recent state changes, CRS Program Best Practices, and NPDES requirements.
  o All construction within the V and A zones must meet NFIP requirements. All development is regulated with regard to surface water runoff.
  o Detention and retention are required to be designed for the 100-year storm unless connected to a conveyance facility.
  o Enforces the elevation of all new and substantially improved structures.
  o All CRS communities send flood proofing information and insurance information annually to the residents of each repetitive loss area.
  o Maintenance of stormwater systems, including the inspection of privately-owned drainage systems and remove, or cause to be removed, obstructions in channels or waterways. This includes routine inspection, removal of debris, repairs, top and slope mowing, and aquatic maintenance.
  o Prohibits stream dumping
  o Encourage the elevation/retrofitting of structures to FBC requirements through the enforcement of the 50% rule, through the distribution of information to repetitive loss areas and SFHA.
• Conservation/ Recreational Opportunities. Open areas are retained for wetland and floodplain purposes through the use of Land Use designations such as Open Space / Recreation, Conservation and Preservation land uses. They may be further protected by some communities by dedicating land in perpetuity to that use for protection of the wetland, floodplain or uplands.
• Community assistance and outreach. The jurisdictions provide community assistance in many forms, including providing information on the FIRM and flood zones, maintaining a Flood Library of relevant documents at the local libraries, and making disaster preparedness documents available online. Websites link to the county emergency management site for a mitigation/preparedness video library and additional information. It also includes the annual mail-out of flood proofing information to the residents of each repetitive loss area as well as providing flood information to banks, lending institutions, etc.
Managing Repetitive Loss Properties

One of the key elements in a floodplain management plan is the mitigation of repetitive loss properties. A repetitive loss property is defined as property for which two or more losses of at least $1,000 each have been paid by the National Flood Insurance Program (NFIP) over a rolling 10-year period.

Pinellas County has 7% of all the NFIP policies in the state with 15% of the total number of repetitive loss structures in the state. This illustrates that Pinellas County is very vulnerable to coastal and inland flooding and that most residents and businesses in the floodplain purchase flood insurance.

The distribution of the structures by jurisdiction is presented in Table 13-3. The list of the repetitive loss properties is not available in documents for public review because of security and privacy regulations. The Repetitive Loss Inventory is for official use only (FOUO) and was provided on CD to the official local jurisdiction representative on the LMS.

The areas with the highest number of repetitive loss locations are the geographic areas with the highest historic flooding. These include the barrier island communities and along the Intra Coastal Waterway, the historic area in Tarpon Springs, the Gandy and Shore Acres communities in the City of St. Petersburg. (See Map 13-1).

The location of specific areas in the community where flooding continues to be a problem allow planners to identify where mitigation efforts should be concentrated. For many of these areas, mitigation will involve significant property owner investment and will probably be delayed until redevelopment/reconstruction occurs. New construction or significant remodeling will require adherence to current floodplain management regulations will be enforced.

<table>
<thead>
<tr>
<th>CID</th>
<th>Community Name</th>
<th>Total Premium</th>
<th>V-Zone</th>
<th>A-Zone</th>
<th>Total No. of Policies</th>
<th>Total Coverage</th>
<th>Total Claims Since 1978</th>
<th>Total Paid Since 1978</th>
</tr>
</thead>
<tbody>
<tr>
<td>125089</td>
<td>BELLEAIR BEACH, CITY OF</td>
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<td>988</td>
<td>1,083</td>
<td>$265,167,800</td>
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<td>BELLEAIR BLUFFS, CITY OF</td>
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<td>35</td>
<td>174</td>
<td>$43,302,200</td>
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<td>$303,302</td>
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<tr>
<td>125090</td>
<td>BELLEAIR SHORE, TOWN OF</td>
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<td>10</td>
<td>30</td>
<td>80</td>
<td>$11,688,500</td>
<td>49</td>
<td>$607,039</td>
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<tr>
<td>125088</td>
<td>BELLEAIR, TOWN OF</td>
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<td>42</td>
<td>425</td>
<td>801</td>
<td>$221,235,800</td>
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<tr>
<td>125096</td>
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<td>709</td>
<td>9,080</td>
<td>11,948</td>
<td>$2,635,961,000</td>
<td>1,348</td>
<td>$11,678,193</td>
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<tr>
<td>125103</td>
<td>DUNEDIN, CITY OF</td>
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<td>2,759</td>
<td>$504,950,800</td>
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<td>$1,069,527</td>
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<tr>
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<td>2,898</td>
<td>$625,755,900</td>
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<td>$6,333,713</td>
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<tr>
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<td>2,744</td>
<td>$331,088,400</td>
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<td>120245</td>
<td>KENNETT CITY, TOWN OF</td>
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<td>334</td>
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<tr>
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<tr>
<td>125133</td>
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<td>63</td>
<td>1,378</td>
<td>1,441</td>
<td>$274,541,800</td>
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<td>$1,256,240</td>
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<td>120250</td>
<td>OLDSMAR, CITY OF</td>
<td>$2,012,110</td>
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<td>1,756</td>
<td>2,516</td>
<td>$652,108,700</td>
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<td>PINELLAS COUNTY</td>
<td>$23,471,396</td>
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<td>120251</td>
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<td>$2,165,346</td>
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<td>3,662</td>
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<td>$2,692,292</td>
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<tr>
<td>125140</td>
<td>REDINGTON BEACH, TOWN OF</td>
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<td>45</td>
<td>701</td>
<td>746</td>
<td>$175,425,600</td>
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<td>$8,666,426</td>
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<tr>
<td>125141</td>
<td>REDINGTON SHORES, TOWN OF</td>
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<td>1,623</td>
<td>1,664</td>
<td>$379,158,000</td>
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<tr>
<td>125148</td>
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<td>36,970</td>
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<td>$842,860,600</td>
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<tr>
<td>125153</td>
<td>TREASURE ISLAND, CITY OF</td>
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<td>5,551</td>
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<tr>
<td>COUNTY TOTAL:</td>
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<td>130,072</td>
<td>30,013,997,500</td>
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<td>$179,321,172</td>
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</tr>
</tbody>
</table>

Table 13-2: NFIP Policy Report
8/28/2014
### Table 13-4: Repetitive Loss Properties

<table>
<thead>
<tr>
<th>Community Name</th>
<th>Rep Loss</th>
<th>SF</th>
<th>2-4</th>
<th>Condo</th>
<th>Other</th>
<th>Non-Res</th>
<th>Properties Mitigated</th>
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</thead>
<tbody>
<tr>
<td>Belleair</td>
<td>7</td>
<td>7</td>
<td>0</td>
<td>0</td>
<td>0</td>
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<td>0</td>
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<tr>
<td>Belleair Beach</td>
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<td>4</td>
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<tr>
<td>Belleair Shore</td>
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<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
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<td>Clearwater</td>
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<td>63</td>
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<td>5</td>
<td>9</td>
<td>9</td>
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<tr>
<td>Gulfport</td>
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<td>3</td>
<td>2</td>
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<td>2</td>
<td>0</td>
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<td>Indian Rocks Beach</td>
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<td>30</td>
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<td>0</td>
<td>1</td>
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<tr>
<td>Indian Shores</td>
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<td>5</td>
<td>4</td>
<td>1</td>
<td>7</td>
<td>1</td>
<td>8</td>
</tr>
<tr>
<td>Kenneth City</td>
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<td>0</td>
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<td>Largo</td>
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<td>4</td>
<td>10</td>
<td>31</td>
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<td>North Redington</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Red Jog</td>
<td>6</td>
<td>3</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Oldsmar</td>
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<td>6</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>Pinellas County</td>
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<td>110</td>
<td>7</td>
<td>3</td>
<td>0</td>
<td>11</td>
<td>39</td>
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</tbody>
</table>

Source: FEMA, Repetitive Loss Listing 2014

### Table 13-5: Repetitive Loss Properties by Occupancy

<table>
<thead>
<tr>
<th>Occupancy Type</th>
<th>Single Family</th>
<th>2-4 Family</th>
<th>Condo</th>
<th>Non-Residential</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1172</td>
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<td>34</td>
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<td>63</td>
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</tbody>
</table>

Source: FEMA, Repetitive Loss Listing 2014

### Table 13-6: Repetitive Loss Properties by Flood Zone

<table>
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<tr>
<th>Flood Zone</th>
<th>A-Zone 100-year</th>
<th>B-Zone 500 year</th>
<th>Velocity Zone</th>
<th>C/D</th>
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<tbody>
<tr>
<td></td>
<td>1,262</td>
<td>11</td>
<td>132</td>
<td>51</td>
<td>46</td>
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</table>

Source: FEMA, Repetitive Loss Listing 2014
Map 13-1: Pinellas County Repetitive Loss Property Areas and Areas of Historic Flooding
Table 5.1 – Mitigation Options by Category and Hazard

<table>
<thead>
<tr>
<th>Category</th>
<th>Mitigation Alternatives</th>
<th>Natural Hazard</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mitigation Alternatives</td>
<td>Flooding</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Hurricanes/Tropical Storms</td>
</tr>
<tr>
<td>Prevention</td>
<td>building codes</td>
<td>X</td>
</tr>
<tr>
<td></td>
<td>coastal zone management regulation</td>
<td>X</td>
</tr>
<tr>
<td></td>
<td>density controls</td>
<td>X</td>
</tr>
<tr>
<td></td>
<td>design review standards</td>
<td>X</td>
</tr>
<tr>
<td></td>
<td>easements</td>
<td></td>
</tr>
<tr>
<td></td>
<td>environmental review standards</td>
<td></td>
</tr>
<tr>
<td></td>
<td>floodplain development regulations</td>
<td></td>
</tr>
<tr>
<td></td>
<td>floodplain zoning</td>
<td></td>
</tr>
<tr>
<td></td>
<td>forest fire fuel reduction</td>
<td></td>
</tr>
<tr>
<td></td>
<td>hillside development regulation</td>
<td></td>
</tr>
<tr>
<td></td>
<td>open space preservation</td>
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<td>performance standards</td>
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<td></td>
<td>shoreline setback regulation</td>
<td></td>
</tr>
<tr>
<td></td>
<td>special use permits</td>
<td></td>
</tr>
<tr>
<td></td>
<td>stormwater management regulations</td>
<td></td>
</tr>
<tr>
<td></td>
<td>subdivision and development regulations</td>
<td></td>
</tr>
<tr>
<td></td>
<td>transfer of development rights</td>
<td></td>
</tr>
<tr>
<td>Property Protection</td>
<td>acquisition of hazard-prone structures</td>
<td></td>
</tr>
<tr>
<td></td>
<td>construction of barriers around structures</td>
<td></td>
</tr>
<tr>
<td></td>
<td>elevation of structures</td>
<td></td>
</tr>
<tr>
<td></td>
<td>relocation out of hazard areas</td>
<td></td>
</tr>
<tr>
<td></td>
<td>structural retrofits</td>
<td></td>
</tr>
<tr>
<td>Public Awareness</td>
<td>hazard information center</td>
<td></td>
</tr>
<tr>
<td></td>
<td>public educational and outreach programs</td>
<td></td>
</tr>
<tr>
<td></td>
<td>real estate disclosure</td>
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</tr>
</tbody>
</table>
A variety of mitigation options may be found in the FEMA’s Mitigation Ideas: A Resource for Reducing Risk to Natural Hazards (FEMA, 2013). The document serves, as a starting point, for gathering ideas and should not be used as the only source for identifying actions. Communities should seek innovative and different ideas for reducing risk that meet their unique needs.

The purpose is to provide a resource that communities can use to identify and evaluate a range of potential mitigation actions for reducing risk to natural hazards and disasters. The focus is mitigation, which is action taken to reduce or eliminate long-term risk to hazards. Mitigation is different from preparedness, which is action taken to improve emergency response or operational preparedness.

- Historical structures;
- Adverse impacts to natural resources (e.g., beaches, water quality);
- Economic disruption;
- Fiscal impact;
- Recurring damage;

<table>
<thead>
<tr>
<th>Category</th>
<th>Mitigation Alternatives</th>
<th>Natural Hazard</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Flooding</td>
</tr>
<tr>
<td>Natural Resource Protection</td>
<td>best management practices</td>
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</tr>
<tr>
<td></td>
<td>dune and beach restoration</td>
<td>X</td>
</tr>
<tr>
<td></td>
<td>forest and vegetation management</td>
<td>X</td>
</tr>
<tr>
<td></td>
<td>sediment and erosion control regulations</td>
<td>X</td>
</tr>
<tr>
<td></td>
<td>stream corridor restoration</td>
<td>X</td>
</tr>
<tr>
<td></td>
<td>stream dumping regulations</td>
<td>X</td>
</tr>
<tr>
<td></td>
<td>urban forestry and landscape management</td>
<td>X</td>
</tr>
<tr>
<td></td>
<td>wetlands development regulations</td>
<td>X</td>
</tr>
<tr>
<td>Emergency Services</td>
<td>critical family protection</td>
<td>X</td>
</tr>
<tr>
<td></td>
<td>emergency response services</td>
<td>X</td>
</tr>
<tr>
<td></td>
<td>hazard threat recognition</td>
<td>X</td>
</tr>
<tr>
<td></td>
<td>health and safety maintenance</td>
<td>X</td>
</tr>
<tr>
<td></td>
<td>post-disaster mitigation</td>
<td>X</td>
</tr>
<tr>
<td>Structural Projects</td>
<td>channel maintenance</td>
<td>X</td>
</tr>
<tr>
<td></td>
<td>dams/reservoirs</td>
<td>X</td>
</tr>
<tr>
<td></td>
<td>levees and floodwalls</td>
<td>X</td>
</tr>
<tr>
<td></td>
<td>safe rooms/shelters</td>
<td>X</td>
</tr>
<tr>
<td></td>
<td>seawalls/bulkheads</td>
<td>X</td>
</tr>
</tbody>
</table>
• Damage to repair to public infrastructure (e.g., roads, water systems, sewer systems, stormwater systems, electrical power);
• Debris removal;
• Redevelopment/reconstruction;
• Development practices;
• Environmental damage;
• Intergovernmental coordination; and
• Mental health counseling.

Along with these general hazard impacts, specific issues related to preparing for, mitigating against, responding to, and recovering from disasters were identified by the Steering Committee. The issues identified are summarized below.

Flooding
• Localized flooding coming from the western portion of the County in addition to coastal surge will create flooding that greatly exceeds what has been modeled for coastal surge alone. Need for model/study to determine expected impacts from freshwater flooding;
• Large number of smaller contiguous events stacked on top of each other can aggravate local flooding;
• Maintain coordination with Army Corps of Engineers on St. Lucie Canal and Lake Okeechobee water levels;
• Flood events impact fisheries and tourism industries;
• Development along State Road 76 will increase the number of homes experiencing flooding;
• Elevating homes alone will not solve the problem; must elevate all features, roads, fire hydrants, etc;
• Need to accurate model the predicted impact of increased impervious land in County due to development;
• South Fork Estates: homes have 3 to 4 feet of fill, and the streets have had 2 to 3 feet of water;
• Need to better coordinate the impact of drainage between neighboring subdivision;
• Need to better maintain canals;
• Approval to clear canals near Manatee Pocket is difficult because of environmental impacts;
• Need to determine what an acceptable impact is (e.g., Flooded homes? Flooded roads?);
• Residents need to be made aware of the potential for flooding;
• Sedimentation is an issue because many businesses in Martin County are water dependent;
• New development on North Beach and Bridge Road in Hobe Sound/Jupiter Island will create excess standing water on the roads. Need for flood structures and other site improvements to remove standing water; and
• The City of Stuart is not currently a participant in the CRS.

Hurricanes/Tropical Storms
• Strengthening building at Jupiter Island Public Works to ensure that the building can stand up to a Category 2 or greater hurricane;
• Jupiter Island is in need of property acquisition near Bridge Road for the debris staging of material for grinding and disposal purposes; and
• Assess Martin County facilities for strength and identify hardening needs.

**Wildland Fire**
• Wildland fire mitigation needed on Lots 5 or 6 on Suzanne Drive, owned by the Town of Jupiter Island Public Works.

**Erosion**
• Seawalls should be constructed where they do not exist to protect the built environment on oceanfront and river portions of Jupiter Island; and
• Continued beach re-nourishment to the Town of Jupiter Island.
• Continued beach re-nourishment to Hutchinson Island, particularly in area of Bathtub Beach and Sailfish Point.

**Emergency Shelters**
• Many churches serve as kitchens to serve meals following disasters. These facilities need wind protection;
• Impact of evacuees from other counties;
• Education on when to evacuate to a shelter and when to stay at home;
• Pet friendly shelters needed; and
• Some shelters are in need of generator hook-ups and generators.

**Technological Hazards**
• A train derailment in downtown Stuart would impact the City government building and functions;
• Train derailments cause traffic impediments because main east-west corridors become blocked; and
• These concerns, along with information generated from the inventory of local planning documents and ordinances, resulted in the following goals and objectives for all hazard mitigation planning in Martin County.
SECTION 7: MITIGATION INITIATIVES

A. Introduction

In Putnam County there are numerous areas and locations that are vulnerable to hazardous events such as floods, wildfires, and other natural and man-made disasters. The mitigation initiatives that Putnam County developed began with evaluating the guiding principles that were completed during the initiation of the LMS process. The initiatives revolved around these principles regarding the reduction of the county's vulnerability to natural and man-made hazards. An LMS Task Force, comprised of a variety of people in the public and private sector was created based on the initiatives, which reflected the needs of the community. The Task Force reviewed a number of documents including: Future Land Use Policies, Land Development Code Regulations, and data collected from the Department of Public Safety. Over the process of several meetings, the LMS Task Force discussed and listed potential projects in Putnam County, which is discussed in detail in the following subsections. The projects were both structural and non-structural mitigation initiatives. These projects were then discussed in the context of cost, responsible entity, implementation time, funding, and areas affected. After all the data was compiled, the Task Force ranked the projects. Information on this process is located in Section 70.

2015 Update

The LMS Task Force thought this to be one of the most important sections to update and reorganize; therefore it was expanded vastly for the 2009 update. One of the main reasons for this was because it is seen as a great way to give new LMS Task Force members a solid stance on where each project is currently at along the implementation process. For information on this update see Section 1 Comprehensive Range of Actions.

Putnam County has developed a comprehensive range of different types of projects. Each of Putnam County's LMS projects can be divided into six broad categories:

- Public Education & Awareness- Actions to educate and inform citizens, officials, business owners, and property owners about the potential risk from hazards and ways to mitigate against them (e.g. providing mitigation education reading materials, outreach programs, etc.).
- Structural Retrofits & Additions- Actions to modify and/or add to existing structures as a way to mitigate against potential risks from hazards (e.g. storm shutters, back-up generators, etc.).
- Governmental Prevention- Governmental actions that influence the way existing/future property and structures are built and developed to help bring forth mitigation goals (e.g. adopting a fire prevention ordinance, building codes that promote hazard mitigation, etc.).
- Technology- Actions that require technological advancements to move mitigation goals forward (e.g. special GIS/ hazard layers, improved communication devices, etc.).
• **Study-** Actions that develop a list of risks, vulnerability, etc. to help with mitigation goals (e.g. stormwater drainage efficiency study, survey on how much citizens know about hurricane evacuations, etc.).

• **Infrastructure Improvements-** Actions that improve infrastructure before and after hazardous events (e.g. new stormwater drainage systems, fixing road wash-out areas, etc.).

At least three mitigation action items (projects) fit into each of these categories, thus making a well-rounded list of mitigation projects. To see which project(s) belongs to each category, see Section 7E.

Putnam County currently has 24 main mitigation action items (projects) on the Project Priority List, with many of them having multiple sub-projects. Of all of these, at least 5 projects have mitigation efforts that encompass the entirety of the county and its jurisdictions, addressing all identified hazards for the county. To see what projects incorporate the various hazards please see Section 7F "Project Priority List", and to see what jurisdictions each project takes into account, see Section 7E.

The five all hazard-inclusive mitigation projects have all had developments in the last five years and are continuous efforts that will be implemented years down the LMS road. One of these projects (#07-03) deals with reinforcing community shelters to be able to handle all identified hazard events that could occur in the county. Currently with this project's development over the past five years, four of its sub-projects have acquired HMGP contracts. Another one of these five all-hazard projects (#07-01) deals with the creation/distribution of mitigation materials for all hazards. In the past few years, materials have been created regarding the highly vulnerable wildfire and flooding hazards in Putnam County. All hazards will eventually be addressed with the implementation order starting with the hazards with the highest vulnerabilities down to the lowest. The last three of these projects (#07-05, #08-01, #08-02) deal with improving/protecting communications within the county and region during a hazardous event. These projects are continuous efforts for the county.
### Mitigation Projects in Each Jurisdiction

**Lake County, LMS 2016**

<table>
<thead>
<tr>
<th>Project Name</th>
<th>Estimated $</th>
<th>Organization</th>
<th>Hazard</th>
<th>Potential Funding Sources</th>
<th>Status</th>
<th>Desired Completion Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Generator ARC</td>
<td>$60,000.00</td>
<td>City of Clermont</td>
<td>High Wind</td>
<td>Regular Budget or Grant(s)</td>
<td>Open</td>
<td>&lt;2 Years</td>
</tr>
<tr>
<td>8th Street Pier Renovation</td>
<td>$125,000.00</td>
<td>City of Clermont</td>
<td>High Wind</td>
<td>Regular Budget or Grant(s)</td>
<td>Closed</td>
<td>&lt;2 Years</td>
</tr>
<tr>
<td>Palatka Loxahatchee Riverhead Renovation</td>
<td>$150,000.00</td>
<td>City of Clermont</td>
<td>High Wind</td>
<td>Regular Budget or Grant(s)</td>
<td>Open</td>
<td>&lt;2 Years</td>
</tr>
<tr>
<td>Sunnyvale Lake Flood Stage Pumping</td>
<td>$250,000.00</td>
<td>City of Clermont</td>
<td>Flood</td>
<td>Regular Budget or Grant(s)</td>
<td>Open</td>
<td>&lt;2 Years</td>
</tr>
<tr>
<td>Lakeland Drive Stormwater and Erosion Improvements (4th Street to Brogden)</td>
<td>$10,000,000.00</td>
<td>City of Clermont</td>
<td>Multi***</td>
<td>Regular Budget or Grant(s)</td>
<td>Open</td>
<td>&lt;2 Years</td>
</tr>
<tr>
<td>Sunset Lake Flood Stage Pumping</td>
<td>$150,000.00</td>
<td>City of Clermont</td>
<td>Flood</td>
<td>Regular Budget or Grant(s)</td>
<td>Closed</td>
<td>&lt;2 Years</td>
</tr>
<tr>
<td>Lake Minneola Chain O Lakes Subdivision Drainage Improvements</td>
<td>$1,000,000.00</td>
<td>City of Clermont</td>
<td>Flood</td>
<td>Regular Budget or Grant(s)</td>
<td>Open</td>
<td>&lt;2 Years</td>
</tr>
<tr>
<td>Lake Haskell Park Wildlife Protection Plan</td>
<td>$100,000.00</td>
<td>City of Clermont</td>
<td>Wildlife</td>
<td>Regular Budget or Grant(s)</td>
<td>Closed</td>
<td>&lt;2 Years</td>
</tr>
<tr>
<td>McKinney Park Lightning Detection</td>
<td>$30,000.00</td>
<td>City of Clermont</td>
<td>Lightning</td>
<td>Regular Budget or Grant(s)</td>
<td>Closed</td>
<td>&lt;2 Years</td>
</tr>
<tr>
<td>Bishop Field Lightning Detection</td>
<td>$30,000.00</td>
<td>City of Clermont</td>
<td>Lightning</td>
<td>Regular Budget or Grant(s)</td>
<td>Closed</td>
<td>&lt;2 Years</td>
</tr>
<tr>
<td>Lake Helen Park Lightning Detection</td>
<td>$30,000.00</td>
<td>City of Clermont</td>
<td>Lightning</td>
<td>Regular Budget or Grant(s)</td>
<td>Closed</td>
<td>&lt;2 Years</td>
</tr>
<tr>
<td>West Park Lightning Detection</td>
<td>$30,000.00</td>
<td>City of Clermont</td>
<td>Lightning</td>
<td>Regular Budget or Grant(s)</td>
<td>Closed</td>
<td>&lt;2 Years</td>
</tr>
<tr>
<td>City Hall Hardening</td>
<td>$500,000.00</td>
<td>City of Tavares</td>
<td>Multi***</td>
<td>Regular Budget or Grant(s)</td>
<td>In Progress</td>
<td>&lt;2 Years</td>
</tr>
<tr>
<td>Emergency Power - City of Minneola, City Hall</td>
<td>$250,000.00</td>
<td>City of Minneola</td>
<td>Multi***</td>
<td>Regular Budget or Grant(s)</td>
<td>Open</td>
<td>&lt;2 Years</td>
</tr>
<tr>
<td>Underground Power Grid Conversion</td>
<td>$14,140,000.00</td>
<td>City of Minneola</td>
<td>High Wind</td>
<td>Regular Budget or Grant(s)</td>
<td>Closed</td>
<td>&lt;2 Years</td>
</tr>
<tr>
<td>Lesensburg Resource Center Emergency Power</td>
<td>$150,000.00</td>
<td>City of Lesensburg</td>
<td>Hurricane</td>
<td>Regular Budget or Grant(s)</td>
<td>Open</td>
<td>&lt;2 Years</td>
</tr>
<tr>
<td>Emerald Lakes MHP</td>
<td>$10,000,000.00</td>
<td>Lake County Water Authority</td>
<td>Flood</td>
<td>Regular Budget or Grant(s)</td>
<td>Open</td>
<td>&lt;2 Years</td>
</tr>
<tr>
<td>Fire Station Permanant Generators</td>
<td>$350,000.00</td>
<td>Lake County Fire Rescue</td>
<td>Hurricane</td>
<td>Regular Budget or Grant(s)</td>
<td>Open</td>
<td>&lt;2 Years</td>
</tr>
<tr>
<td>Wind Mitigation Upgrades To Fire Stations</td>
<td>$9,300,000.00</td>
<td>Lake County Fire Rescue</td>
<td>High Wind</td>
<td>Regular Budget or Grant(s)</td>
<td>Open</td>
<td>&lt;2 Years</td>
</tr>
<tr>
<td>Fire Station 55</td>
<td>$6,900,000.00</td>
<td>City of Mount Dora</td>
<td>Multi***</td>
<td>Regular Budget or Grant(s)</td>
<td>Open</td>
<td>&lt;2 Years</td>
</tr>
<tr>
<td>Lift Station Improvements</td>
<td>$1,740,000.00</td>
<td>City of Mount Dora</td>
<td>Multi***</td>
<td>Regular Budget or Grant(s)</td>
<td>Closed</td>
<td>&lt;2 Years</td>
</tr>
<tr>
<td>Elevated Water Tank Rehabilitation</td>
<td>$60,000.00</td>
<td>City of Mount Dora</td>
<td>Multi***</td>
<td>Regular Budget or Grant(s)</td>
<td>Closed</td>
<td>&lt;2 Years</td>
</tr>
<tr>
<td>Vac-Tron Truck</td>
<td>$2,576,000.00</td>
<td>City of Mount Dora</td>
<td>Multi***</td>
<td>Regular Budget or Grant(s)</td>
<td>Closed</td>
<td>&lt;2 Years</td>
</tr>
<tr>
<td>Old 441 Lift Station</td>
<td>$450,000.00</td>
<td>City of Mount Dora</td>
<td>Multi***</td>
<td>Regular Budget or Grant(s)</td>
<td>Closed</td>
<td>&lt;2 Years</td>
</tr>
<tr>
<td>Tremain Rd and Charles Ave Drainage</td>
<td>$130,000.00</td>
<td>City of Mount Dora</td>
<td>Flood</td>
<td>Regular Budget or Grant(s)</td>
<td>Open</td>
<td>&lt;2 Years</td>
</tr>
<tr>
<td>Overlook Dr and Purple Heart Ln Drainage</td>
<td>$200,000.00</td>
<td>City of Mount Dora</td>
<td>Erosion</td>
<td>Regular Budget or Grant(s)</td>
<td>Open</td>
<td>&lt;2 Years</td>
</tr>
<tr>
<td>Liberty Ave Drainage</td>
<td>$350,000.00</td>
<td>City of Mount Dora</td>
<td>Flood</td>
<td>Regular Budget or Grant(s)</td>
<td>Open</td>
<td>&lt;2 Years</td>
</tr>
<tr>
<td>Donnelly St Drainage</td>
<td>$695,000.00</td>
<td>City of Mount Dora</td>
<td>Flood</td>
<td>Regular Budget or Grant(s)</td>
<td>Open</td>
<td>&lt;2 Years</td>
</tr>
<tr>
<td>Thrill Hill Restoration</td>
<td>$300,000.00</td>
<td>City of Mount Dora</td>
<td>Erosion</td>
<td>Regular Budget or Grant(s)</td>
<td>Open</td>
<td>&lt;2 Years</td>
</tr>
<tr>
<td>Public Works Facility</td>
<td>$11,600,000.00</td>
<td>City of Clermont</td>
<td>High Wind</td>
<td>Regular Budget or Grant(s)</td>
<td>Closed</td>
<td>&lt;2 Years</td>
</tr>
<tr>
<td>Generator City Hall</td>
<td>$350,000.00</td>
<td>City of Clermont</td>
<td>High Wind</td>
<td>Regular Budget or Grant(s)</td>
<td>Open</td>
<td>&lt;2 Years</td>
</tr>
<tr>
<td>Generator City Hall</td>
<td>$30,000.00</td>
<td>City of Clermont</td>
<td>High Wind</td>
<td>Regular Budget or Grant(s)</td>
<td>Open</td>
<td>&lt;2 Years</td>
</tr>
<tr>
<td>Lift Station Generator</td>
<td>$100,000.00</td>
<td>City of Fruitland Park</td>
<td>High Wind</td>
<td>Regular Budget or Grant(s)</td>
<td>Open</td>
<td>&lt;2 Years</td>
</tr>
</tbody>
</table>
## Polk County LMS Plan Update on Deferred, Completed, or Deleted Mitigation Project Initiatives

<table>
<thead>
<tr>
<th>Initiative/Benefit</th>
<th>Project Type</th>
<th>Intervention Location Addressed</th>
<th>Planning/Management</th>
<th>Address Type of Existing Structure</th>
<th>Mitigation Approach</th>
<th>Promote/Enhance Selected</th>
<th>Deferred, Completed, or Deleted</th>
<th>If Deferred, or Completed, Why?</th>
</tr>
</thead>
<tbody>
<tr>
<td>All</td>
<td>Education, Public Awareness</td>
<td>Hurricane Preparedness educational services to educate citizens on the dangers and mitigation efforts.</td>
<td>1.5</td>
<td>All</td>
<td>Polk County Public Safety</td>
<td>$5,000</td>
<td>Public Safety</td>
<td>Deferred</td>
</tr>
<tr>
<td>All</td>
<td>Education, Public Awareness</td>
<td>Core skills for prevention and response. Efforts to include public safety in school curricula.</td>
<td>1.5</td>
<td>Wildfire Sharing Department</td>
<td>$3,000</td>
<td>Fire Service</td>
<td>Annual</td>
<td>Deferred</td>
</tr>
<tr>
<td>All</td>
<td>Education, Public Awareness</td>
<td>Includes fire alarm systems for new and existing structures.</td>
<td>1.5</td>
<td>All</td>
<td>N/A, 2011</td>
<td>$1,000</td>
<td>N/A</td>
<td>Annual</td>
</tr>
<tr>
<td>All</td>
<td>Education, Public Awareness</td>
<td>Includes school safety plans for new and existing structures.</td>
<td>1.5</td>
<td>Storm</td>
<td>N/A, 2011</td>
<td>$1,000</td>
<td>N/A</td>
<td>Annual</td>
</tr>
<tr>
<td>All</td>
<td>Education, Public Awareness</td>
<td>Includes hurricane preparedness materials, including site-specific safety plans and evacuation procedures.</td>
<td>1.5</td>
<td>Storm</td>
<td>N/A, 2011</td>
<td>$2,000</td>
<td>N/A</td>
<td>Annual</td>
</tr>
<tr>
<td>All</td>
<td>Education, Public Awareness</td>
<td>Fire &amp; Fall Prevention for Older Adults program</td>
<td>1.1</td>
<td>Wildfire, Storm, N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>Annual</td>
</tr>
<tr>
<td>All</td>
<td>Education, Public Awareness</td>
<td>Provides resources for older adults to prepare for hurricane and fall events.</td>
<td>1.1</td>
<td>Wildfire, Storm, N/A</td>
<td>Public Safety</td>
<td>$9,000</td>
<td>N/A</td>
<td>Annual</td>
</tr>
<tr>
<td>All</td>
<td>Education, Public Awareness</td>
<td>Storm, Fire, Emergency Preparation, N/A</td>
<td>1.1</td>
<td>Storm, Fire, Emergency Preparation</td>
<td>$1,000</td>
<td>N/A</td>
<td>Annual</td>
<td>Deferred</td>
</tr>
<tr>
<td>All</td>
<td>Education, Public Awareness</td>
<td>Emergency preparedness resources for older adults, including hurricane and fall safety.</td>
<td>1.1</td>
<td>Storm, Fire, Emergency Preparation</td>
<td>N/A</td>
<td>N/A</td>
<td>Annual</td>
<td>Deferred</td>
</tr>
<tr>
<td>All</td>
<td>Education, Public Awareness</td>
<td>Provides resources for older adults to prepare for hurricane and fall events.</td>
<td>1.1</td>
<td>Storm, Fire, Emergency Preparation</td>
<td>N/A</td>
<td>N/A</td>
<td>Annual</td>
<td>Deferred</td>
</tr>
<tr>
<td>All</td>
<td>Education, Public Awareness</td>
<td>Storm, Fire, Emergency Preparedness</td>
<td>1.1</td>
<td>Storm, Fire, Emergency Preparation</td>
<td>N/A</td>
<td>N/A</td>
<td>Annual</td>
<td>Deferred</td>
</tr>
<tr>
<td>All</td>
<td>Building Safety</td>
<td>Homeowner Junior High/Year</td>
<td>1.2</td>
<td>Polk County Public Safety</td>
<td>$5,000</td>
<td>BRAGP</td>
<td>12-18 Months</td>
<td>Complete</td>
</tr>
<tr>
<td>All</td>
<td>Critical Facilities</td>
<td>ricane preparedness materials for new and existing structures.</td>
<td>1.4</td>
<td>Flood, Existing Utilities</td>
<td>$30,000</td>
<td>BRAGP</td>
<td>12-18 Months</td>
<td>Deferred</td>
</tr>
<tr>
<td>All</td>
<td>Critical Facilities</td>
<td>Storm, Fire, Emergency Preparation, N/A</td>
<td>1.4</td>
<td>Storm, Fire, Emergency Preparation</td>
<td>N/A</td>
<td>N/A</td>
<td>Annual</td>
<td>Deferred</td>
</tr>
<tr>
<td>All</td>
<td>Critical Facilities</td>
<td>Storm, Fire, Emergency Preparation</td>
<td>1.4</td>
<td>Storm, Fire, Emergency Preparation</td>
<td>N/A</td>
<td>N/A</td>
<td>Annual</td>
<td>Deferred</td>
</tr>
<tr>
<td>All</td>
<td>Critical Facilities</td>
<td>Storm, Fire, Emergency Preparation</td>
<td>1.4</td>
<td>Storm, Fire, Emergency Preparation</td>
<td>N/A</td>
<td>N/A</td>
<td>Annual</td>
<td>Deferred</td>
</tr>
<tr>
<td>All</td>
<td>Critical Facilities</td>
<td>Storm, Fire, Emergency Preparation</td>
<td>1.4</td>
<td>Storm, Fire, Emergency Preparation</td>
<td>N/A</td>
<td>N/A</td>
<td>Annual</td>
<td>Deferred</td>
</tr>
<tr>
<td>All</td>
<td>Critical Facilities</td>
<td>Storm, Fire, Emergency Preparation</td>
<td>1.4</td>
<td>Storm, Fire, Emergency Preparation</td>
<td>N/A</td>
<td>N/A</td>
<td>Annual</td>
<td>Deferred</td>
</tr>
<tr>
<td>All</td>
<td>Critical Facilities</td>
<td>Storm, Fire, Emergency Preparation</td>
<td>1.4</td>
<td>Storm, Fire, Emergency Preparation</td>
<td>N/A</td>
<td>N/A</td>
<td>Annual</td>
<td>Deferred</td>
</tr>
</tbody>
</table>

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**Polk County, LMS 2015**

S6 – New and Existing Buildings Example: Focus on New and Existing Structures

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### Appendix E: Prioritization Process

<table>
<thead>
<tr>
<th>Criteria Category</th>
<th>Consistency with LMS Goals</th>
<th>Addresses Mission Essential or Mission Critical Facilities</th>
<th>Environmental Impacts</th>
<th>Social Equity</th>
<th>Accessibility to Funds</th>
<th>Political or Legal Opposition</th>
<th>Community Support</th>
<th>Score</th>
<th>Weight</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Consistent with multiple goals or objectives</td>
<td>Addresses one mission essential facility</td>
<td>Largely benefits the surrounding ecosystems, natural resources, air quality, or water quality long-term (over 50 years)</td>
<td>Application materials are filled out and ready to be submitted</td>
<td>Matching funds are identified and are available</td>
<td>There will probably be no political or legal opposition</td>
<td>Community is in full support and is asking for a solution to the problem</td>
<td>4</td>
<td>0</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>Consistent with one goal or objective</td>
<td>Addresses one mission essential facility</td>
<td>Benefits the surrounding ecosystems, natural resources, air quality, or water quality (10-40 years)</td>
<td>Project plans are partially complete and will take some time to submit when funding becomes available</td>
<td>Matching funds can be made available in a short timeframe</td>
<td>There is limited political or legal opposition</td>
<td>Community would easily understand how this project benefits them</td>
<td>3</td>
<td>0</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Not consistent with any goals or objectives</td>
<td>Addresses one mission critical facility</td>
<td>Minimal, low-impact damage to ecosystems, natural resources, air quality, or water quality</td>
<td>Negatively impacts very few people</td>
<td>Matching funds are not available</td>
<td>There is likely to be political or legal opposition</td>
<td>There would be limited support by the community for this project</td>
<td>1</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0</td>
<td>0</td>
<td>0</td>
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**Priority Score:** 0
# Project Prioritization Example 2: Priority Ranking Matrix

**Clay County, LMS 2015**

<table>
<thead>
<tr>
<th>Criteria Category</th>
<th>4</th>
<th>3</th>
<th>2</th>
<th>1</th>
<th>0</th>
</tr>
</thead>
<tbody>
<tr>
<td>The Percentage of the Population Benefited</td>
<td>76-100% of the population benefited</td>
<td>51-75% of the population benefited</td>
<td>26-50% of the population benefited</td>
<td>11-25% of the population benefited</td>
<td>0-10% of the population benefited</td>
</tr>
<tr>
<td>The Percentage of the Affected Area Benefited</td>
<td>76-100% of the jurisdiction’s population</td>
<td>51-75% of the jurisdiction’s population</td>
<td>26-50% of the jurisdiction’s population</td>
<td>11-25% of the jurisdiction’s population</td>
<td>0-10% of the jurisdiction’s population</td>
</tr>
<tr>
<td>Health and Safety Considerations (Countywide)</td>
<td>Benefits the health &amp; safety of between 76-100% of the population</td>
<td>Benefits the health &amp; safety of between 51-75% of the population</td>
<td>Benefits the health &amp; safety of between 26-50% of the population</td>
<td>Benefits the health &amp; safety of between 11-25% of the population</td>
<td>Benefits the health &amp; safety of between 0-10% of the population</td>
</tr>
<tr>
<td>The Cost of Implementing The Initiative</td>
<td>No quantifiable cost to implement</td>
<td>Cost is estimated at less than $250,000</td>
<td>Cost is estimated at between $250,000 and $1,000,000</td>
<td>Cost is estimated at between $1,000,000 and $5,000,000</td>
<td>Cost is estimated at over $5,000,000</td>
</tr>
<tr>
<td>The Benefit to Cost Ratio (FEMA Formula)</td>
<td>More than 5.0</td>
<td>Between 4.0 and 4.9</td>
<td>Between 3.0 and 3.9</td>
<td>Between 2.0 and 2.9</td>
<td>Between 1.0 and 1.9</td>
</tr>
<tr>
<td>The Probability of Community Acceptance (Countywide)</td>
<td>Likely to be endorsed by the entire community</td>
<td>Of benefit only to those directly affected and would not adversely affect others</td>
<td>Would be somewhat controversial with special interest groups or a small percentage of the community</td>
<td>Would be strongly opposed by special interest groups or a significant percentage of the community</td>
<td>Would be strongly opposed by nearly all of the general population</td>
</tr>
<tr>
<td>The Probability of Funding</td>
<td>Funding can probably be obtained through local short term budgeting</td>
<td>Funding can probably be obtained through local long term budgeting</td>
<td>Funding could be obtained through matching local</td>
<td>The most likely funding source is post disaster mitigation funds</td>
<td>No potential funding sources readily apparent</td>
</tr>
<tr>
<td>The Feasibility of Implementation and Environmental Acceptability</td>
<td>Relatively easy to put in place within 1 year and environmentally sound</td>
<td>Not anticipated to be difficult to put in place an environmentally acceptable</td>
<td>Somewhat difficult to put in place because of complex requirements and environmental concerns</td>
<td>Difficult to put in place because of significantly complex requirements and environmental permitting problems</td>
<td>Very difficult to put in place due to extremely complex requirements and environmental permitting problems</td>
</tr>
<tr>
<td>Consistency With Other Plans and Programs</td>
<td>Initiative is included in several other plans and programs</td>
<td>Initiative is included in two other plans and programs</td>
<td>Initiative is included in one other plans and program</td>
<td>Initiative is not listed in another plan and program</td>
<td>Initiative may be inconsistent with other plans and programs</td>
</tr>
<tr>
<td>Timeframe For Accomplishing</td>
<td>1 year</td>
<td>2 years</td>
<td>3 years</td>
<td>4 years</td>
<td>&gt;4 years</td>
</tr>
<tr>
<td>Ranking Priority</td>
<td>Necessary</td>
<td>Very Important</td>
<td>Important</td>
<td>Somewhat Important</td>
<td>Not very important</td>
</tr>
</tbody>
</table>
S8 – Responsible Parties, Funding Sources, and Timeframes Example: Project List

Orange County, LMS 2016

<table>
<thead>
<tr>
<th>Region/Stormwater Drainage Measures</th>
<th>Project Name &amp; Description</th>
<th>Total Population Affected</th>
<th>Population at Risk</th>
<th>Number of Properties</th>
<th>Estimated Damage (Millions)</th>
<th>Potential Funding Sources</th>
<th>Estimated Cost</th>
<th>Match (If Applicable)</th>
<th>New or Revised: Completed or Ongoing</th>
<th>Timeframe for Completion</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.1 Perform Engineering Studies</td>
<td></td>
<td>28 Orange County, Orlando, Eastville</td>
<td>Floods</td>
<td>Yes</td>
<td>$7,466,448</td>
<td>Current NA</td>
<td>2 Years</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.2 Retrofit and Upgrade Flood Control Devices for New and Existing Structures</td>
<td></td>
<td>32 Orange County, Orlando, Windermere, Ranoria, Statue,</td>
<td>Floods, Subsidence</td>
<td>Yes</td>
<td>$955,000</td>
<td>Current NA</td>
<td>6 Months</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.3 Erosion Waterways or Levees</td>
<td></td>
<td>4 Orange County, Orlando</td>
<td></td>
<td>Yes</td>
<td>$1,047,000</td>
<td>Current NA</td>
<td>1 Year</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.4 Elevate Structures in Floodplains</td>
<td></td>
<td>13 Orange County, Orlando</td>
<td></td>
<td>Yes</td>
<td>$560,000</td>
<td>Current NA</td>
<td>6 Months</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.5 Perform Public Outreach and Responder Training</td>
<td></td>
<td>3 Orange County, Orlando, Lake County, Orange County,</td>
<td>Floods, Subsidence</td>
<td>Yes</td>
<td>$22,167,300</td>
<td>Current NA</td>
<td>1 Year</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.6 Emergency Shelter Retrofits</td>
<td></td>
<td>31 Orange County, Orlando, Lakeville</td>
<td></td>
<td>Yes</td>
<td>$6,300,000</td>
<td>Current NA</td>
<td>1 Year</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.7 Perform Engineering Studies</td>
<td></td>
<td>29 Orange County, Orlando, Eastville</td>
<td></td>
<td>Yes</td>
<td>$740,000</td>
<td>Current NA</td>
<td>6 Months</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
7.2 Incorporation into Existing Planning Mechanisms

Walton County and its municipalities have other plans that will be reviewed and integrated into the Hazard Mitigation Plan as they undergo their regular updates. As previously mentioned, the Walton County Comprehensive Plan has been amended per the approved EAR. According to the planners of the City of Freeport and City of Defuniak Springs, they have updated their comprehensive plans as well. The following is a list of plans and codes that have and will continue to be integrated into the Walton County Hazard Mitigation Plan.

- Walton County Comprehensive Plan
- Walton County Land Development Code
- City of Defuniak Springs Comprehensive Plan
- City of Freeport Comprehensive Plan
- City of Paxton Land Development Code

The Hazard Mitigation Plan will take into account any changes in these plans and incorporate the information accordingly in its next update.

The LMS Working Group contacted the Planners for City of Defuniak Springs, City of Freeport, Town of Paxton and Unincorporated Walton County as to whether any changes had taken place within their planning mechanisms that would relate to the Local Mitigation Strategy. The municipalities provided the updates to their Land Development Codes as found in (Appendix H1).

Walton County has adopted many ordinances during the previous 5-year update cycle, which has incorporated the LMS Strategy into their planning mechanisms. The list is as follows:

8. Ordinance 2007-06, July 10, 2007, Land Development Code, Restriction on Development (Wetlands);


13. Ordinance 2007-53, December 11, 2007, Modifying the Walton County Land Development Code Providing a Provision for Engineering Interpolation Between the Basic Wind Speed Lines of the Walton County Wind-Borne Regions and Basic Wind Speeds Map; Re-defining the Walton County Coastal Building Zone and Requiring Engineer Design and Certification for Structural Construction in That Zone;

14. Ordinance 2008-02, January 8, 2008, Walton County Comprehensive Plan, Updated Table of Capital Improvements to Include Preliminary Engineering Design of Construction of the Mossy Head Wastewater Treatment Facility;

15. Ordinance 2008-06, January 22, 2008, Walton County Land Development Code, Detection and Elimination of Inappropriate Discharge into the Stormwater System;


17. Ordinance 2008-09, March 25, 2008, Walton County Land Development Code, Xeriscaping;

18. Ordinance 2009-01, January 13, 2009, Requiring the Certification or Registration of Persons Engaged in or Desiring to Engage in the Business of Construction Contracting.

Since 2010, Walton County has adopted the following ordinances which incorporate the Local Mitigation Strategy into our planning mechanisms:

1. Ordinance 2010-08, Protection of Flood Prone Areas (Flood Plain), May 10, 2010.
5. Ordinance 2010-15, Walton County Updated Flood Map Ordinance, November 9, 2010.
Plan Integration Example: Integration Into Other Planning Mechanisms

Seminole County, LMS 2015

Implementation through Existing Plans and Programs

One of the methods to most effectively implement the LMS is to propose and implement initiatives that will further the goals and objectives in the LMS. Initiatives listed, when implemented will serve to mitigate existing issues. Other current plans, when reviewed and updated will be compared to the initiatives and objectives of the LMS to ensure that all planning activities work toward the common goal. Some identified planning mechanisms that have been utilized in the past include (but have not been limited to) floodplain ordinances, county and municipal comprehensive plans, land development codes, comprehensive emergency management plan.

Seminole County’s Office of Emergency Management has oversight of the process for incorporating the LMS into other local government planning mechanisms. Some plans, such as the Comprehensive Emergency Management Plan (CEMP) and Continuity of Operations Plan (COOP), have prescribed processes that provide the opportunity for integration of LMS goals and objectives at scheduled intervals. During these planning cycles, Emergency Management reviews the LMS for consistency and identifies opportunities to link the LMS to the revised plans. As an example, information collected for the LMS risk assessment has been used to update the CEMP.

As part of the planning integration process, Emergency Management staff also continuously seeks plan-development opportunities that are not part of existing planning cycles, but are relevant to the goals and objectives of the LMS. The process for linking the LMS to planning projects includes identifying mitigation-related elements in the plans under development, and assuring that policies and initiatives in the LMS are considered and addressed. Strategic planning is an example of this, as the process includes looking at both short- and long-term needs and addressing gaps and initiatives through policy and budget.

Public education and outreach is a large portion of the Local Mitigation Strategy. The LMS is incorporated in the Prepare Seminole! Campaign which is a community action program to help all citizens, businesses, and other organizations prepare and mitigate damages. This campaign was launched in 2005 after tornadoes affected the Central Florida area. The public outreach initiative uses LMS goals and objectives to encourage mitigation efforts.

The LMS goals are used to help strengthen vulnerable critical facilities by using other grants, funding opportunities, and policy. The State Homeland Security Grant has been used to strengthen interoperable communication systems that are used during disasters. In addition, these grants have strengthened capabilities of the Emergency Operations Center to provide redundant communications with other EOCs in the region and the State of Florida EOC in Tallahassee, Florida.

The Development Services Department uses strict building codes to prevent loss from fires, natural disasters, as well as man-made events. In the City of Altamonte Springs, fire sprinkler codes were adopted...
to prevent the loss of homes and buildings from fires. Strict planning and building codes are used to minimize the vulnerability of newly constructed buildings throughout Seminole County.

Particular highlights of the LMS Working Group efforts to implement the mitigation plan through other plans and programs include updates to the Comprehensive Emergency Management Plan (using the hazards/risk assessment), comprehensive future land use plans of Seminole County and municipalities. During the updating process, both of these documents will be revised to limit development in hazard areas, etc. These examples demonstrate that each participating jurisdiction is committed to incorporating mitigation principles and concepts into their normal operations and activities via their existing planning and programming processes.
Review of local plans for hazard mitigation supporting policies and goals

In addition to the review of FEMA flood hazard maps, the location of repetitive loss properties, CRS activity worksheets, past disaster damages, regional plans (Northwest Florida Water Management District Risk MAP products and water conservation plans), available studies and technical reports, the communities in this plan have reviewed other local planning documents such as comprehensive plans, stormwater master plans (where available), and capital improvement plans. Below is a listing of policies and actions that support hazard mitigation efforts in the greater Bay County area.

Bay County Comprehensive Plan

The Bay County Comprehensive Plan strongly supports Local Mitigation Strategy policies. Broad examples include:

- The Capital Improvements Element supports the avoidance of public expenditures within the Coastal High Hazard Area.
- The Coastal Management Element includes requirements for the Land Development Regulations to include regulations to prohibit development from compounding hazards and their risks.
- The Conservation Element addresses wetland protection, and suggests enforcement for the conservation of these wetlands to be included in the Land Development Regulations.

Further specific examples of Comprehensive Plan objectives and policies are grouped into 3 hazard mitigation areas below: storm surge, flood hazard and combined hazards.

Storm Surge

Objective 4.11: Assist and support efforts by Florida’s Department of Transportation and the Metropolitan Planning Organization toward improving major state highway access into Bay County to provide more effective and efficient transportation movement and hurricane evacuation. (Transportation Element)

Policy 4.11.1: Hurricane evacuation routes are identified and shown on the Future Transportation Map Series

Objective 6.15: Restrict development that will damage or destroy significant dunes (as defined at 62B-33.002(13), F.A.C.) (Conservation Element)

Policy 6.15.1: Developers of beachfront projects shall make every effort to avoid damaging significant dunes. Where such damage is unavoidable, the significant dune must be restored and re-vegetated to at least pre-development conditions. Mitigation required as a result of a Florida Department of Environmental Protection Coastal Construction Permit shall be presumed to satisfy dune restoration requirements.

Objective 7.4: Restrict development that will damage or destroy significant dunes (as defined at 62B-33.002(13). F.A.C.) unless appropriate mitigation measures are undertaken. (Coastal Management Element)
Objective 7.5: Institute beachfront construction standards that will protect coastal resources and minimize the potential for damage caused by coastal storms.

Policy 7.5.1: All development undertaken seaward of the Coastal Construction Control Line (CCCL) shall be in strict compliance with Ch. 62B-33, F.A.C. Other development undertaken within 1500 feet of the CCCL must be undertaken in compliance with the Coastal Zone Protection Act. (§161.55 F.S.).

Objective 7.7: Restrict development in the "Coastal High-Hazard Area" (CHHA) and limit public expenditures that subsidize development within the CHHA. (Coastal Management Element)

Policy 7.7.2: Public subsidy of infrastructure for development in the CHHA shall be limited to the demand that will result from build-out at 15 dwelling units/acre. This policy shall not preclude private investment for infrastructure in the CHHA.

Policy 7.7.3: High risk developments such as nursing homes, convalescent centers, hospitals, mobile home parks, subdivisions, or RN parks shall not be located in the CHHA.

Policy 7.7.4: Use local, state, and federal funds as may be available to purchase or lease large tracts of undeveloped land in the CHHA so as to reduce the development potential of these areas.

Policy 7.7.5: The County shall not accept dedications of roads, water and sewer facilities, or other public facilities in the CHHA unless specifically provided for in an enforceable development agreement.

Objective 7.8: Restore eroded or damaged beach and dune systems when financially feasible. (Coastal Management Element)

Policy 7.8.1: Require restoration of damage beach and dune systems as part of new beachfront development projects, and participate in joint federal, state and local beach nourishment projects when financially feasible.

Policy 7.13.2: Capacity of public infrastructure shall not be increased on Coastal Barrier Resources consistent with the Coastal Barrier Resources Act (U.S. Code, Title 16. Chapter 55).

Policy 7.16.2: Improve coordination between the County and State agencies relative to maintaining or improving hurricane evacuation.

Objective 11.3: Restrict development in the "Coastal High Hazard Area" (CHHA) and limit public expenditures that subsidize development within the CHHA. (CIP Element)

Policy 11.3.1: Residential density in the CHHA will be restricted to a maximum of 15 dwelling units per acres in areas where adequate infrastructure exists to accommodate that level of development.

Flood Hazard

Objective 5E.10: Establish specific provisions for the regulation of stormwater runoff. (Stormwater Management Sub-Element)

Policy 5D.10.6L: Require evaluation of flooding that may be caused by the development of vacant land adjacent to existing developed areas, including adjacent building lots in subdivisions. Policy
Objective 5E.11: Continue eligibility for and participation in the National Flood Insurance Program (NFIP). (Stormwater Management Sub-Element)
   Policy 5E.11.1: The County will continue participation in the NFIP and will use its Flood Damage Prevention Ordinance to reduce the potential for flooding.

Objective 6.7: Conserve and manage natural resources on a system wide basis rather than piecemeal.
   Policy 6.7.4: No building or structure can be located closer than thirty feet from a DEP wetland jurisdiction line, mean high water line, or ordinary high water line except for piers, docks or similar structures and an attendant ten foot wide cleared path through the wetland for purposes of providing access to such structure, or wetland crossings required to connect dry, upland parcels. All naïve vegetation, if any exists, will be preserved within the 30-foot setback area. This requirement, including possible alternatives, may be addressed in the Land Use Code.

Objective 6.12: Policy 6.12.1: The County will use its GIS to institute a wetlands identification and monitoring program.

Objective 6.1.3: Reduce the potential risk to lives and property from flooding by using hazard mitigation strategies and special building construction practices. (Conservation Element)

Objective 6.11: Protect and conserve wetlands and the natural functions of wetlands. (Conservation Element)
   Policy 6.11.3.2. Developers will design and construct development projects so as to avoid activities that would destroy wetlands or the natural functions of wetlands.
   Policy 6.13.2: The County will use its Local Hazard Mitigation Strategy to reduce the potential for flood damage.
   Policy 6.13.3: The County will use its Flood Damage Prevention Ordinance to ensure that structures built in flood zones are properly elevated and constructed so as to reduce the risk of flood damage.
   Policy 6.13.4: The County will adopt regulations to ensure that new development does not create a flood hazard to existing or downstream development.
   Additional regulations for flood mitigation within the unincorporated areas of the County is the requirement of a 1-foot freeboard, meaning that the top of the lowest floor must be one foot higher than the base flood elevation, in all flood zone areas. Those areas not designated by FEMA as a flood zone must construct the lowest floor at least one foot above the crown of the road.
General Other/Combined Hazards
Objective 6.18: Provide landowners with beneficial use of their property when environmental restrictions cause the loss of full development potential through use of innovative and flexible development strategies. (Conservation Element)

Policy 7.13.2: Capacity of public infrastructure shall not be increased on Coastal Barrier Resources consistent with the Coastal Barrier Resources Act (U.S. Code. Title 16. Chapter 55).

Objective 7.14: Establish a comprehensive pre- and post-disaster development strategy. (Coastal Management Element)

Policy 7.14.1: The County will establish a comprehensive pre and post disaster redevelopment strategy that will include land purchase, hazard mitigation, building practices and other related considerations.

Bay County Stormwater Management Plan
The Engineering Department’s Stormwater Management Planning Group works closely with the public and with the Roads & Bridges Department to monitor stormwater problems that may cause flooding from drainage ditches, roads and other sources, then designs and implements solutions to such problems. The Engineering Department maintains a website providing information to the public on how to report drainage and stormwater problems. The Stormwater Engineer assists the Vice-Chair of the LMS team by researching grant opportunities for mitigation projects, maintaining the Master Stormwater and Strategic Stormwater Plans, and by engineering basin studies to improve the FEMA D-FIRMS. To see projects completed, underway or listed as future actions, please see section 4 of this document.

Callaway, City of

Callaway Comprehensive Plan
To further the goals of minimizing damage from the hazard events that threaten Callaway, the Comprehensive Plan has adopted the following objectives and policies which are grouped into 3 hazard areas: storm surge, flood hazards and general other/combined hazards.

Storm Surge
Policy 1.1.2: The City shall not utilize public funds for infrastructure expansion or improvements in the coastal high-hazard area unless such funds are necessary to:

- To protect public health, safety and welfare;
- The service provided by the facility cannot be located at another location outside the coastal high hazard area;
- To restore and/or enhance natural resources;
- Provide for needs of water-dependent uses.

Objective 2.2: Identify the coastal high hazard area.

Policy 2.2.2: Modify the coastal high hazard area periodically based on scientific analyses of storm events where flooding from storm surge, waves or storm-driven water has occurred causing damage to structures and infrastructure.
Policy 2.2.3: Make available to the public a map depicting the coastal high hazard area.
Policy 2.2.4: Notify owners of property in the coastal high hazard area of property designation to increase public awareness of hurricane hazard.

Objective 2.4: Limit public fund expenditures for public facilities and infrastructure in the coastal high hazard area.

Objective 2.10: Incorporate the recommendations of the hazard mitigation plan into the Comprehensive Plan.

Objective 7: Scrutinize proposed developments within the coastal high hazard areas to ensure that development of the high-hazard densities do not exceed the capacity for hurricane evacuation or shelter.
Policy 7.1: The City shall limit the density of dwelling units in the coastal area so as not to exceed hurricane evacuation capabilities.
Policy 7.2: The City shall prohibit the location of hospitals, nursing homes, convalescent homes or other similar high density institutions in the Coastal High Hazard Area.
Policy 7.14: There shall be a 50 foot building setback from the shore line of East Bay and its tributaries, as measured from the Mean High Water Line (MHWL). The building setback shall not apply to uses and activities allowed in Conservation Policy 7.5.

**Flood Hazard**
Goal: Provide adequate stormwater management including reasonable protection from flooding, protection of the quality of receiving waters, and protection of investments in existing facilities.
Policy 1.1: Callaway shall prioritize the identified drainage needs and maintain a five year schedule for their construction, to be updated annually and in conformance with the review process of the Capital Improvements Element of this plan.
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Appendix D – Plan Evaluation and Maintenance

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Recent Development/Redevelopment

Miami-Dade County Regulatory and Environmental Resources (RER) maintains a Comprehensive Development Master Plan (CDMP) to guide future development looking out to the year 2030. A copy of the elements of the CDMP may be found in Part 4, Appendix H with a review of how these elements support mitigation measures and areas for consideration. As identified in Land Use (LU) Element, Miami-Dade is looking to emphasize development around centers of activities, development of well-designed communities containing variety of uses, renewal and rehabilitation of blighted areas and contiguous urban expansion when warranted, rather than sprawl. LU-3D identified that the County shall coordinate with municipalities in Coastal High Hazard Areas and areas with repetitive losses to minimize demand for facilities and services in areas that result in redevelopment and increases in residential densities. LU-3E addresses an analysis on climate change and the impacts on the built environment addressing development standards and regulations related to investments of infrastructure, development/redevelopment and public facilities in hazard prone areas. LU-3K identifies an initiative to determine the feasibility of designating Adaptation Action Areas, areas that may be vulnerable to storm surge and sea level rise impacts and LU-3L identifies that the County will work with the local municipalities to do the same. There are currently nine projects identified in Part 2 of the LMS that specifically address sea level rise.

Recent years have also shown increased vulnerabilities as the modeling and mapping capabilities improve and as more information is gathered on the potential impacts of climate change and sea level rise. This version of the plan integrates updated information on storm surge and sea level rise and climate change into our hazards, mitigation measures, mapping and project list. LMSWG members continue to identify LMS projects to address aging infrastructure to deal with current and emerging threats. There are currently over 600 projects identified for infrastructure improvements identified in Part 2. As an example, Miami Beach has been very proactive in installing new drainage infrastructure and pump systems to mitigate seasonal king tides, which are perhaps a preview of what sea level rise may bring to some of our coastal communities. In October 2014, the elements of the mitigation projects that had been installed were tested by the seasonal high tide and were very successful in limiting sea water from coming up through the storm drains. Our communities continue to include mitigation in their development and redevelopment projects through inclusion in their Master Plans and Capital Improvement plans. Agencies are proactively including mitigation projects into their internal funding and capital improvement budgets, over 150 projects have been identified with these funding sources identified.

A 2014 analysis of our housing stock shows that 48% of our housing stock was built before the first FIRM maps were developed and 22% of our housing stock was built before there were any special elevation requirements implemented by Miami-Dade County. The continued efforts to identify flood mitigation projects is reflected by the 237 identified flood and storm surge projects in Part 2 of the LMS. The LMS Project Board allows us to track mitigation measures by flood basins with the intent that we can
coordinate efforts in areas of RL and SRL. As the FEMA FIRM maps were updated in September 2009 and new Coastal Flood maps are currently being studied and developed, and with the proposals of changes to flood policy rates, the LMS has embraced additional measures to help integrate CRS initiatives to assist communities with maintaining or improving their rating. Hurricane Andrew brought about improved building code requirements and currently about 26% of our housing stock has been built to higher wind mitigation standards since they have been adopted. In the Community Survey conducted by OEM, 57% of the respondents said they do have adequate materials to protect their home from storms and hurricanes. When we compared those that had experienced previous damages to those who did not we saw that 67% of those that had experienced previous major or catastrophic damage had materials to protect their home as compared to 41% who had never experienced any damages.

As many of the areas of our county are already developed, new development and re-development provide opportunities for structures to be built to or retrofitted to higher building code standards that include wind and flood mitigation considerations. The Beacon Council reported that in fiscal year 2012-13 that companies interested in doing business in Miami-Dade invested $535 million in new capital investment projects. According to the first quarter Analysis of Current Economic Trends, prepared by the Regulatory and Economic Resources Department, the construction sector has grown 11% since last year but still remains lower than the 2007 peak. Foreclosure rates have declined significantly since 2014, 55% less. More than 1 million square feet of new industrial space has been constructed over the year and 1.7 million additional square feet are under construction.

Representatives from RER and other local and regional planning entities are involved in the Miami-Dade LMS and continue to provide input and guidance to our plan.
### M2 – Progress in Local Mitigation Efforts Example 1: Project List with Current Status

**Flagler County, LMS 2016**

#### Completed Initiatives

<table>
<thead>
<tr>
<th>File #</th>
<th>Project Name</th>
<th>Project Description</th>
<th>Hazards/ Type</th>
<th>Agency Representation</th>
<th>Funding Source(s)</th>
<th>New or Existing Buildings/ Infrastructure</th>
<th>2011 Goal/ Objective</th>
<th>2016 Goal/ Objective</th>
<th>Status</th>
<th>Last Updated</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pier Hardening</td>
<td>Pierce Hardening</td>
<td>Reinforcement of existing pier including the installation of pressure-pressed fiberglass reinforced plastic jackets on 1822 timber piles, modernization of existing design, and replacement of a limited number of timber piles</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Palm Vista Subdivision and South Maple Avenue, 289-1110 streets</td>
<td>Improve roadway conveyance systems including construction of swales, catch basins, and pipe connections to improve outfalls. Stormwater: 160 LF of 18&quot; RCP, 383 LF of 16&quot; HDPE, 1844 LF.</td>
<td>Improve roadway conveyance systems including construction of swales, catch basins, and pipe connections to improve outfalls. Stormwater: 160 LF of 18&quot; RCP, 383 LF of 16&quot; HDPE, 1844 LF.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Northeast Gateway Acquisition Area</td>
<td>Acquisition of approximately 11 acres adjacent to the west side of the intersection of Old Kings Road and the northeast gateway</td>
<td>Acquisition of approximately 11 acres adjacent to the west side of the intersection of Old Kings Road and the northeast gateway</td>
<td>Flooding</td>
<td>City of Palm Coast</td>
<td>Acquisition</td>
<td>Natural Resources Protection</td>
<td>Completed</td>
<td>7/15/2015</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>GIS Development</td>
<td>Address emergency management capabilities, including some municipal infrastructure assets in ESRI, increase internal and external public access to GIS via web applications</td>
<td>Address emergency management capabilities, including some municipal infrastructure assets in ESRI, increase internal and external public access to GIS via web applications</td>
<td></td>
<td>City of Palm Coast</td>
<td>Palm Coast &amp; Volusia</td>
<td>Existing Infrastructure</td>
<td>2.3 improve communications between agencies</td>
<td>Completed</td>
<td>7/12/2015</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BML-1</td>
<td>City of Bunnell Safety Complex</td>
<td>Barricade to assist in Safety Complex for Public Safety, Emergency Operations, and Public Safety</td>
<td>Barricade</td>
<td>City of Bunnell</td>
<td>City of Bunnell</td>
<td>CDD’S, IMCO</td>
<td>Barricade</td>
<td>New Barricade</td>
<td>Goal 2: Minimize Impacts</td>
<td>In progress</td>
<td>9/3/2014</td>
</tr>
</tbody>
</table>

122
### Deleted Initiatives

<table>
<thead>
<tr>
<th>File #</th>
<th>Score</th>
<th>Project Name</th>
<th>Project Description</th>
<th>Hazard/Jurisdiction</th>
<th>Agency Representative</th>
<th>Possible Funding Source(s)</th>
<th>New or Existing Buildings/Infrastructure</th>
<th>Status</th>
<th>Last Updated</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>17</td>
<td></td>
<td>Gravity Sewer Smoke Testing</td>
<td>Perform smoke testing in areas of gravity sewer that has a history of hydraulic overloading during wet weather</td>
<td>Hood's Palm Coast</td>
<td>City of Palm Coast</td>
<td>Ad Valorem Tax</td>
<td>Existing Infrastructure</td>
<td>Deleted</td>
<td>12/4/2014</td>
<td>Waiting from PC to figure out why this project should be removed from list. Unsure if it is complete or just no longer a project.</td>
</tr>
<tr>
<td>25</td>
<td></td>
<td>Sand Bag Machine</td>
<td>Purchase sand bag machine for protection of property from effects of flooding</td>
<td>Floods/All Jurisdictions</td>
<td>City of Palm Coast</td>
<td>Palm Coast Ad Valorem Tax</td>
<td>New Infrastructure</td>
<td>Deleted</td>
<td>12/2/2014</td>
<td>Not mitigation - Removed by UI on 2/2/2014. Verify this is ok with PC.</td>
</tr>
<tr>
<td>17</td>
<td></td>
<td>Storm Shutter for Palm Coast Public Works</td>
<td>Retrofit existing facility to withstand hurricane force winds</td>
<td>Hurricanes/Palm Coast</td>
<td>City of Palm Coast</td>
<td>HMGP, CBGs, Palm Coast Ad Valorem Tax</td>
<td>Existing Infrastructure</td>
<td>Deleted</td>
<td>12/5/2014</td>
<td>PC said to delete this project.</td>
</tr>
<tr>
<td>44</td>
<td></td>
<td>Backup Generator &amp; Government Services Complex - Rods 5, 9, 11 &amp; Fuel Farm</td>
<td>Purchase 100kW stationary generator</td>
<td>Wind &amp; Flood/Flagler County</td>
<td>Flagler County BOC</td>
<td>HMGP: DR-4177</td>
<td>Existing Buildings</td>
<td>deleted</td>
<td>9/18/2014</td>
<td>After further review this project was not feasible. A 500kW generator already exists to power some buildings, the reminder are on a different power grid and would be too expensive to require all to be on one</td>
</tr>
<tr>
<td>24</td>
<td></td>
<td>Herbicide Equipment to Control Weeds in Canal</td>
<td>Purchase weed harvester, airboat or other equipment to control aquatic weeds in the canal to maintain stormwater system</td>
<td>Hood's Palm Coast</td>
<td>City of Palm Coast</td>
<td>Palm Coast Ad Valorem Tax</td>
<td>Existing Infrastructure</td>
<td>Deleted</td>
<td>15/4/2014</td>
<td>Delete - not mitigation</td>
</tr>
<tr>
<td>25</td>
<td></td>
<td>Stormwater System Maintenance/Repair Equipment</td>
<td>Long reach hydraulic excavator to perform maintenance and repair stormwater system prearrangements to prevent flooding</td>
<td>Hood's Palm Coast</td>
<td>City of Palm Coast</td>
<td>HMGP, CBGs, Ad Valorem Tax</td>
<td>Existing Infrastructure</td>
<td>Deleted</td>
<td>12/4/2014</td>
<td>Maintenance/repair; Not eligible for Federal Mitigation Funds</td>
</tr>
<tr>
<td>n/e</td>
<td></td>
<td>Enhance Storage Capabilities</td>
<td>Harden a City facility for an emergency potable water storage facility that dually serves to store critical equipment</td>
<td>Wind &amp; Flood/Palm Coast</td>
<td>City of Palm Coast</td>
<td>TBO</td>
<td>Existing Buildings</td>
<td>New</td>
<td>12/5/2014</td>
<td>New City hall opened in October 2015</td>
</tr>
<tr>
<td>n/e</td>
<td></td>
<td>Enhance Egress Route Coordination</td>
<td>Extend and widen Old Kings Road North, Matanzas Wood Preserve -“Landing US-1 to southbound ramps Phase 1, southbound ramps to Old Kings Road (Phase 2), Old Kings Road South Widening (Town Center to Palm Coast Pkwy)</td>
<td>Wind, Flood, Wildlife/All Jurisdictions</td>
<td>City of Palm Coast</td>
<td>TBO</td>
<td>Existing Infrastructure</td>
<td>Deleted</td>
<td>12/4/2014</td>
<td>Deleted, left up to planning dept. and public works dept.</td>
</tr>
<tr>
<td>n/e</td>
<td></td>
<td>Enhance FCSO Storage Capabilities</td>
<td>Harden facility which exceeds standard building codes for the storage of emergency equipment and materials. *Alternate use as a pet-friendly shelter</td>
<td>All Hazards/All Jurisdictions</td>
<td>Flagler County Sheriff's Office</td>
<td>HMGP, Ad Valorem Tax</td>
<td>New Building</td>
<td>9/14/2013</td>
<td>2/15/2016</td>
<td>Deleted. New Sheriff's Operations Center was completed in 2016 and has much more space</td>
</tr>
<tr>
<td>Portable Generator</td>
<td></td>
<td>Purchase a 3 phase 240v generator with trailer to help power lift stations and assist with power to treatment facility emergency power</td>
<td>Wind &amp; Flood / City of Bunnell</td>
<td>City of Bunnell</td>
<td>HMGP, PDM</td>
<td>Existing Infrastructure</td>
<td>10/22/2014</td>
<td>2/16/2016</td>
<td>Outdated project. City no longer needs a portable generator of this size.</td>
<td></td>
</tr>
</tbody>
</table>
M2 – Progress in Local Mitigation Efforts Example 2: Project List with Current Status

**Martin County, LMS 2015**

<table>
<thead>
<tr>
<th>Jurisdiction</th>
<th>Project Description</th>
<th>Cost</th>
<th>Project Status (Pending, Completed, Denied, Withdrawn, etc.)</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ocean Breeze Park</td>
<td>Inspect, repair and replace mobile homes - reduce vulnerability to high winds and moving waters</td>
<td>$150,000</td>
<td>Removed</td>
<td>Ocean Breeze is under complete change in organization, including replacement of mobile homes with manufactured homes</td>
</tr>
<tr>
<td>Town of Jupiter island</td>
<td>Community wide retention/detention/treatment of storm and flood waters.</td>
<td>$850,000</td>
<td>Completed</td>
<td></td>
</tr>
<tr>
<td>Town of Jupiter island</td>
<td>Eliminate storm water hazard to traffic during storm events</td>
<td>$450,000</td>
<td>Completed</td>
<td></td>
</tr>
<tr>
<td>Town of Jupiter island</td>
<td>Install security fencing around Lots 5 and 6.</td>
<td></td>
<td>Removed</td>
<td>Lowered priority</td>
</tr>
<tr>
<td>Town of Jupiter island</td>
<td>Run fiber optic under the river to the Public Works installation on Suzanne Drive and provide security cameras.</td>
<td></td>
<td>Removed</td>
<td>Provided service via alternate technology</td>
</tr>
<tr>
<td>Town of Jupiter island</td>
<td>Harden Jupiter Island Public Works Building</td>
<td>N/A</td>
<td>Removed</td>
<td>Lowered priority</td>
</tr>
<tr>
<td>Town of Jupiter island</td>
<td>Gomez Road Drainage (140 Gomez, 60 Gomez, and between 30 and 40 Gomez, 104 Gomez, Bunker Hill and Gomez)</td>
<td>N/A</td>
<td>Completed</td>
<td>Completed</td>
</tr>
<tr>
<td>Town of Jupiter island</td>
<td>North Beach and Bridge Drainage (22 North Beach and North Beach and Bridge)</td>
<td>N/A</td>
<td>Removed</td>
<td>Pending redesign</td>
</tr>
<tr>
<td>Town of Jupiter island</td>
<td>Debris Storage property acquisition near Bridge Road</td>
<td>N/A</td>
<td>Removed</td>
<td>Property unavailable at this time</td>
</tr>
<tr>
<td>Town of Jupiter island</td>
<td>Australian pine removal along evacuation routes</td>
<td>N/A</td>
<td>Removed</td>
<td>Lowered priority</td>
</tr>
<tr>
<td>Town of Jupiter island</td>
<td>Wildland Fire Mitigation at Lots 5 and 6 on Suzanne Drive</td>
<td>N/A</td>
<td>Removed</td>
<td>Lowered priority</td>
</tr>
<tr>
<td>Town of Jupiter island</td>
<td>Acquire hazardous chemical and flammable liquids cabinet</td>
<td>N/A</td>
<td>Removed</td>
<td>Completed</td>
</tr>
<tr>
<td>Town of Jupiter island</td>
<td>Acquire VHF radios</td>
<td>N/A</td>
<td>Removed</td>
<td>Changing technology, moving away from equipment</td>
</tr>
<tr>
<td>Town of Jupiter island</td>
<td>Terrorism Monitoring</td>
<td>N/A</td>
<td>Removed</td>
<td>Ongoing</td>
</tr>
<tr>
<td>Town of Jupiter island</td>
<td>Underground Electric Lines</td>
<td>N/A</td>
<td>Removed</td>
<td>Completed</td>
</tr>
<tr>
<td>Town of Jupiter island</td>
<td>Replace Portable Fuel Station with permanently mounted fueling station at new Public Safety Building</td>
<td>N/A</td>
<td>Removed</td>
<td>Completed</td>
</tr>
<tr>
<td>Town of Jupiter island</td>
<td>Enhance signage and access control for hurricane evacuations</td>
<td>N/A</td>
<td>Removed</td>
<td>Lowered priority</td>
</tr>
<tr>
<td>Town of Jupiter island</td>
<td>Enhance reverse 911 system and provide training</td>
<td>N/A</td>
<td>Removed</td>
<td>Completed</td>
</tr>
<tr>
<td>Jurisdiction</td>
<td>Project Description</td>
<td>Cost</td>
<td>Project Status (Pending, Completed, Denied, Withdrawn, etc.)</td>
<td>Notes</td>
</tr>
<tr>
<td>-------------------</td>
<td>--------------------------------------------------------------------------------------</td>
<td>--------</td>
<td>-------------------------------------------------------------</td>
<td>-------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Town of Sewall's Point</td>
<td>Sediment control program 10 year - remove seament from cancin basins, street roadways and cutback vegetation in Town right-of-way to alleviate stoppages in Town Storm water Management System.</td>
<td>$160,000</td>
<td>Removed</td>
<td>Clean out of basins is happening yearly by the Town-this is done in a 3 year cycle. All outfall areas per year plus 1/3 of remaining basins per year for total cleanout cycle of 3 years.</td>
</tr>
<tr>
<td>Town of Sewall's Point</td>
<td>Periwinkle subdivision improvements - Storage of water upstream of the intersection within the subdivision exfiltration used.</td>
<td>$50,000</td>
<td>Removed</td>
<td>Pipes are functioning properly and are monitored with yearly clean out of basins.</td>
</tr>
<tr>
<td>Town of Sewall's Point</td>
<td>Knowles subdivision improvements - Storage of water upstream of the intersection within the subdivision, exfiltration will be used</td>
<td>$50,000</td>
<td>Removed</td>
<td>Pipes are functioning properly and are monitored with yearly clean out of basins.</td>
</tr>
<tr>
<td>Town of Sewall's Point</td>
<td>Quail Run retention Area - provide stormwater storage along North Sewall's Point Road which is a major thoroughfare (wetland) in Martin County</td>
<td>$60,000 - Land $75,000 - Const</td>
<td>Completed</td>
<td>Construction completed May 2013</td>
</tr>
</tbody>
</table>
### M3 – Changes in Priorities Example: Record of Changes

**Collier County, LMS 2015**

#### SUMMARY OF CHANGES

This page will indicate where changes have been made before the Collier County Board of County Commissioners adopts the Local Mitigation Strategy on March 10, 2015. Some annexes, where indicated, change frequently since they are a repository of information based on actions of the Local Mitigation Strategy Working Group at properly noticed public meetings and therefore the reader must go to the annex to see the most recent information.

<table>
<thead>
<tr>
<th>Section 1</th>
<th>Change</th>
<th>Comments/Purpose</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>PARA 1.3.1</td>
<td>ADDED “NOTE”</td>
<td>DIRECTED READER TO ANNEX J FOR FLOODPLAIN MANAGEMENT INFO.</td>
<td>1/26/2010</td>
</tr>
<tr>
<td>PARA 1.2.1 &amp; PARA 1.3.1</td>
<td>SEE YELLOW HIGHLIGHTS</td>
<td>NECESSARY CHANGE FOR SCHOOL DISTRICT ADOPTION</td>
<td>7/19/2013</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Section 2</th>
<th>Change</th>
<th>Comments/Purpose</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>PARA 2.5, 2.7, &amp; 2.8.4</td>
<td>SEE YELLOW HIGHLIGHTS</td>
<td>NECESSARY CHANGE FOR SCHOOL DISTRICT ADOPTION</td>
<td>7/19/2013</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Section 3</th>
<th>Change</th>
<th>Comments/Purpose</th>
<th>Date</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Section 4</th>
<th>Change</th>
<th>Comments/Purpose</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>PARA 4.1.2.1</td>
<td>REPLACED A SENTENCE</td>
<td>FORMALIZED THE PROCESS AND DATE TO HAVE A SPECIFIC TIME TO KNOW WHEN AGENCIES WILL NOTIFY THE LMSWG THAT THEY WILL APPLY FOR A SPECIFIC HMGP OPPORTUNITY</td>
<td>11/30/2012</td>
</tr>
</tbody>
</table>

In 2007, the LMS Working Group voted to add two paragraphs (4.1.4 & 4.1.5) in order to account for good mitigation initiatives which could not be quantified on the score sheet but should be accepted as a projects that achieves our mitigation goals (para 4.1.1). Para 4.1.5 was added because we did not have, at the time, a mechanism to jump the initiative priority listing should the working group feel that an initiative needed to be given higher priority based on the disaster event for which HMGP monies were allocated, e.g., for a wind-event disaster, the LMSWG might feel that wind-initiatives would be a better focus for a vulnerable community than a higher priority project on the listing which addresses flooding or wildfire.
<table>
<thead>
<tr>
<th>SECTION 5</th>
<th>CHANGE</th>
<th>COMMENTS/PURPOSE</th>
<th>DATE</th>
</tr>
</thead>
<tbody>
<tr>
<td>PARA 5.2.2</td>
<td>ELIMINATED A SENTENCE.</td>
<td>ELIMINATED AN INCONSISTENCY WITH ANNEX I</td>
<td>11/30/2012</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SECTION 6</th>
<th>CHANGE</th>
<th>COMMENTS/PURPOSE</th>
<th>DATE</th>
</tr>
</thead>
<tbody>
<tr>
<td>PAGE 3, PARA. 6.1.5</td>
<td>ADDED NOTE EXPLAINING THE CURRENT LMS APPROVAL PROCESS &amp; ADDED DATE FOR ANNEX A’S APPROVAL</td>
<td>CLARIFIED THE APPROVAL PROCESS AND ADDED THE OMITTED DATE WHERE INDICATED.</td>
<td>1/20/2010</td>
</tr>
</tbody>
</table>
M4, M5, and M6 – Monitoring, Evaluation, and Update Schedule Example: Outlining Monitoring, Evaluating, and Updating Process

Section V: Plan Evaluation and Maintenance

A. Monitoring, Evaluating, and Updating the Plan

Monitoring
The Sarasota County Emergency Management Department has the primary responsibility of monitoring and supporting the LMS Plan. This effort shall include technical and clerical support for the benefit of the LMS Work Group. The Department will monitor the status of LMS-supported projects throughout the year; and on a semi-annual basis (i.e., January and June) will assess the Plan against the LMS Work Group and the Florida Division of Emergency Management established evaluation criteria to determine if any changes to the Plan are necessary. If, based on this cursory review, the Plan requires a further, formal evaluation and update; the LMS Work Group Chair will call a LMS Plan Committee meeting. Additionally, if a significant event occurs in Sarasota County, for which a LMS-supported project may be eligible for grant funding, a special meeting of the LMS Plan Committee will be called by the Chair.

Evaluating
If no potential changes have been identified in the aforementioned Monitoring phase, the LMS Plan Committee will meet at least once annually to review and evaluate the LMS Plan against FDEM and LMS Work Group established evaluation criteria. The annual review will take place during the first quarter of each calendar year and no later than the second quarter of each calendar year to complete the review process prior to the onset of hurricane season.

The LMS Work Group evaluation criteria utilized by the Sarasota County Emergency Management Department and the LMS Work Group and/or the LMS Plan Committee are not limited to, but shall include:

1. Are there any new or changing laws, regulations or policies that require changes to the Local Mitigation Strategy?
2. Have there been any mandates from Federal, State or local agencies that require changes to the Local Mitigation Strategy?
3. Do the goals and objectives of the LMS Work Group address current and expected conditions for Sarasota County?
4. Have the nature, magnitude, and/or type of risks changed for Sarasota County?
5. Are current resources appropriate for implementing the plan?
6. Are there implementation challenges, such as technical, political, legal financial, or coordination issues with other agencies?
7. Have the outcomes occurred as expected?
8. Are the jurisdictions and other partners participating as originally planned?
9. Are there recommendations or lessons-learned from any incident or event during this review cycle?
**Updating**

In the event that the LMS Plan Committee determines an update or change to the LMS Plan is required, the committee will prepare the update or change, along with supporting documentation, for this information to be presented to the LMS Work Group. The presentation for changes may be made at a regularly-scheduled meeting or a special meeting called by the Chair. The significance of the update or change will determine the LMS Work Group course of actions. If the actions are minor (determined by County administrator, City/Town manager or Work Group Chair) the LMS Work Group voting members can approve the update or change, and it will be adopted accordingly. If the actions are major (determined by County administrator, City/Town manager or Work Group Chair) the LMS Work Group voting members may approve the update or change, and each jurisdiction will complete their respective Resolution process.

As part of the annual review and update process for the five-year cycle, Table 17 identifies the tentative meeting date, attendees, and the minimum agenda items to be discussed.

**Table 17 LMS Work Group Schedule**

<table>
<thead>
<tr>
<th>DATE</th>
<th>ATTENDEE</th>
<th>AGENDA ITEM</th>
</tr>
</thead>
<tbody>
<tr>
<td>December 2010</td>
<td>Work Group</td>
<td>Review Projects &amp; Action Items</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Review 27-P annual requirements</td>
</tr>
<tr>
<td>March 2011</td>
<td>Work Group</td>
<td>Review Jurisdiction Planning Mechanisms</td>
</tr>
<tr>
<td>June 2011</td>
<td>Work Group</td>
<td>Review Public Outreach Strategy</td>
</tr>
<tr>
<td>September 2011</td>
<td>Work Group</td>
<td>Review Risk Assessment</td>
</tr>
<tr>
<td>Date</td>
<td>Group/Committee</td>
<td>Action/Review</td>
</tr>
<tr>
<td>--------------</td>
<td>--------------------------</td>
<td>---------------------------------------------------</td>
</tr>
<tr>
<td>December 2011</td>
<td>Work Group</td>
<td>Review Projects &amp; Action Items</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Review 27-P annual requirements</td>
</tr>
<tr>
<td>March 2012</td>
<td>Work Group</td>
<td>Review Jurisdiction Planning Mechanisms</td>
</tr>
<tr>
<td>June 2012</td>
<td>Work Group</td>
<td>Review Public Outreach Strategy</td>
</tr>
<tr>
<td>September 2012</td>
<td>Work Group</td>
<td>Review Risk Assessment</td>
</tr>
<tr>
<td>December 2012</td>
<td>Work Group</td>
<td>Review Projects &amp; Action Items</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Review 27-P annual requirements</td>
</tr>
<tr>
<td>March 2013</td>
<td>Work Group</td>
<td>Review Jurisdiction Planning Mechanisms</td>
</tr>
<tr>
<td>June 2013</td>
<td>Work Group</td>
<td>Review Public Outreach Strategy</td>
</tr>
<tr>
<td>September 2013</td>
<td>Work Group</td>
<td>Review Risk Assessment</td>
</tr>
<tr>
<td>December 2013</td>
<td>Work Group</td>
<td>Review Projects &amp; Action Items</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Review 27-P annual requirements</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Establish Planning Committee for Plan Update</td>
</tr>
<tr>
<td>January 2014</td>
<td>Planning Committee</td>
<td>Review Previous Planning Process</td>
</tr>
<tr>
<td>February 2014</td>
<td>Planning Committee</td>
<td>Draft Update Planning Process</td>
</tr>
<tr>
<td>March 2014</td>
<td>Work Group</td>
<td>Review Jurisdiction Planning Mechanisms</td>
</tr>
<tr>
<td>March 2014</td>
<td>Planning Committee</td>
<td>Review Identification of Hazards</td>
</tr>
<tr>
<td>April 2014</td>
<td>Planning Committee</td>
<td>Review Profile Hazards</td>
</tr>
<tr>
<td>May 2014</td>
<td>Planning Committee</td>
<td>Review Profile Hazards</td>
</tr>
<tr>
<td>June 2014</td>
<td>Work Group</td>
<td>Review Public Outreach Strategy</td>
</tr>
<tr>
<td>June 2014</td>
<td>Planning Committee</td>
<td>Review Profile Hazards</td>
</tr>
<tr>
<td>July 2014</td>
<td>Planning Committee</td>
<td>Review Vulnerability Assessment</td>
</tr>
<tr>
<td>August 2014</td>
<td>Planning Committee</td>
<td>Review Vulnerability Assessment</td>
</tr>
<tr>
<td>September 2014</td>
<td>Work Group</td>
<td>Review Risk Assessment</td>
</tr>
<tr>
<td>September 2014</td>
<td>Planning Committee</td>
<td>Review Repetitive Loss Program</td>
</tr>
<tr>
<td>October 2014</td>
<td>Planning Committee</td>
<td>Review Structures/Economic Loss</td>
</tr>
<tr>
<td>November 2014</td>
<td>Planning Committee</td>
<td>Review Development Trends</td>
</tr>
<tr>
<td>December 2014</td>
<td>Work Group</td>
<td>Review Projects &amp; Action Items</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Review 27-P annual requirements</td>
</tr>
<tr>
<td>December 2014</td>
<td>Planning Committee</td>
<td>Review Goals and Objectives</td>
</tr>
<tr>
<td>January 2015</td>
<td>Planning Committee</td>
<td>Review Mitigation Actions</td>
</tr>
<tr>
<td>February 2015</td>
<td>Planning Committee</td>
<td>Review National Flood Insurance Program</td>
</tr>
<tr>
<td>March 2015</td>
<td>Work Group</td>
<td>Review Jurisdiction Planning Mechanisms</td>
</tr>
<tr>
<td>March 2015</td>
<td>Planning Committee</td>
<td>Review Plan Maintenance Process</td>
</tr>
<tr>
<td>April 2015</td>
<td>Planning Committee</td>
<td>Complete Draft for Review by Work Group</td>
</tr>
<tr>
<td>May 2015</td>
<td>Planning Committee</td>
<td>Review Draft Changes and Amendments</td>
</tr>
<tr>
<td>June 2015</td>
<td>Work Group</td>
<td>Review Public Outreach Strategy</td>
</tr>
<tr>
<td>June 2015</td>
<td>Planning Committee</td>
<td>Submit Draft Plan for Review</td>
</tr>
<tr>
<td>September 2015</td>
<td>Work Group</td>
<td>Review Risk Assessment</td>
</tr>
<tr>
<td>September 2015</td>
<td>Jurisdictions</td>
<td>Board Resolutions</td>
</tr>
</tbody>
</table>

130
1.7.3 Continued Public Involvement

Brevard Prepares, via the Steering Committee, will continue efforts to develop and implement a year-round program to engage the community in the mitigation planning process and to provide them with mitigation-related information and education. These efforts will be to invite public comments and recommendations regarding the mitigation goals for the community, the priorities for planning, and the unique needs of each community for mitigation-related public information.

Public Comment Period

<table>
<thead>
<tr>
<th>Date</th>
<th>Activity Type</th>
<th>Purpose of Activity</th>
<th>Audience Type</th>
<th>Outreach Method</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>12/15/14</td>
<td>Public comment period</td>
<td>Solicit public comments and involvement in the final draft of the 2015 update of the mitigation plan.</td>
<td>General public</td>
<td>Upon incorporation of required and recommended revisions received from the State of Florida and FEMA on the 2015 update, a final plan was prepared and posted for public review on the Internet at <a href="http://www.embrevard.com">http://www.embrevard.com</a>. A press and social media releases were also done. A hard copy of the plan was also made available. Other opportunities for public comment will occur at the various adoption hearings.</td>
<td>During the comment period one inquiry was received asking if there was a connection to the NFIP CRS rating system. They had not read the plan. The plan purpose was described to the person inquiring and they had no suggested changes or further comments.</td>
</tr>
</tbody>
</table>
The public is also invited to participate during the adoption hearing process. These and other informational activities will continue to educate the community about the planning process through the presentation of specific topics or programs related to hazard mitigation.

Upon completion of this plan update, it will be made available to the Brevard Prepares Steering Committee for comment. Following the incorporation of relevant input, the participating jurisdictions would take comments from the public during a publicly noticed meeting. Once adopted by all municipalities, the Brevard Board of County Commissioners would consider adoption at their meeting, thus providing another opportunity for public engagement.
Appendix E – Plan Adoption

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A1 – Proof of Formal Adoption Example: Certified Meeting Minutes .............................................. 134
A2 – Multi Jurisdiction Verification of Adoption Examples: Adoption Resolutions ...................... 137

Remainder of page intentionally left blank.
SANTA ROSA ISLAND AUTHORITY  
PENSACOLA BEACH, FLORIDA  
REGULAR BOARD MEETING  
OCTOBER 13, 2010  
5:00 P.M.

1. CALL TO ORDER
2. PLEDGE OF ALLEGIANCE
3. MOMENT OF MEDITATION
4. APPROVAL OF MINUTES (Regular Board Meeting- 09/08/2010)
5. CHANGES OR ADDITIONS TO AGENDA
6. ADOPTION OF AGENDA
7. CHAIRWOMAN’S COMMENTS
8. PENSACOLA BEACH VISITOR’S INFORMATION CENTER

CONSENT AGENDA

9. COMMITTEE REPORTS
   A. DEVELOPMENT & LEASING COMMITTEE,(9-22-2010) ELWYN GUERNSEY, CHAIRMAN, VERNON PRATHER AND TAMMY BOHANNON, MEMBERS

   Item # 1 – Report regarding the possibility of allowing the use of four wheeled vehicles by Beach Rental Services. (Referred from September 8, 2010 Regular Board meeting) (Staff report by Bob West)

   The Committee unanimously approves holding this item in Committee.

   Item # 2 – Mr. Tom Almon, President of Lafitte Cove Homeowners Association (H.O.A.)- Request for Lease modification to transfer responsibility for maintenance of the channel and canal from the H.O.A. to the SRIA. (Staff report by Paolo Ghi) 

   The Committee unanimously approves holding this item in Committee.
B. ARCHITECTURAL & ENVIRONMENTAL COMMITTEE. (9-22-2010) MR. FRED GANT, CHAIRMAN, MR. DAVE PAVLOCK AND DR. THOMAS CAMPANELLA, MEMBERS.

Item # 1 - Warren L. Holmes – 237 Sabine Drive, Lot 72, Block “B”, Villa Sabine – Construct a 4’ x 150’ pier, with an 8’ x 12’ terminal platform, 3’ x 33.6’ catwalk and uncovered boatlift. (Staff report by Paolo Ghio)

The Committee unanimously approves staff’s recommendation.

Item # 2 – Resolution adopting the 2010 Revised Multi-Jurisdictional Local Mitigation Strategy (Staff report by Sue Smith)

The Committee unanimously approves staff’s recommendation.

Item # 3 – Mr. Jim Wiseman – Land Shark Landing on behalf of Little Sabine, Inc., d/b/a Margaritaville Beach Hotel – 163 Fort Pickens Road - (Gulf side) – Request to add bathrooms and decking on the existing Land Shark Landing Bar/Pavilion (Staff report by Paolo Ghio)

The Committee unanimously approves staff’s recommendation.

C. ADMINISTRATIVE COMMITTEE. (9-22-2010) MR. DAVE PAVLOCK, CHAIRMAN, MR. ELWYN GUERNSEY, MR. VERNON PRATHER, MEMBERS

Item # 1 – Report on Financial Statements and Expenditures. (Staff report by Dottie Ford)

The Committee unanimously recommends acceptance of the Financial Statements and Expenditures as presented.

REGULAR AGENDA

10. COMMITTEE REPORTS

A. ADMINISTRATIVE COMMITTEE, (9-22-2010) MR. DAVE PAVLOCK, CHAIRMAN

Item # 1 - Item # 2 - Report regarding violation’s of the Large Gathering/Wedding Events Application/ Permit guidelines for 902 Ariola Drive. (Referred from the September 22, 2010 Committee meeting) (Staff report by Jayne Bell)

B. NEW BUSINESS

Item # 1 – Ms. Amy Martin – Crabs We got ‘em - #6 Casino Beach Boardwalk – Request that the allotted 250 parking spaces for “Crabs We got’ em” will not be taken by the De Luna Fest event.
11. REPORTS
   A. EXECUTIVE DIRECTOR’S REPORT
   B. ATTORNEY’S REPORT
   C. ENGINEER’S REPORT

12. VISITOR’S FORUM

13. BOARD MEMBERS FORUM

14. ADJOURN

   TAMMY BOHANNON, CHAIRWOMAN
   ELWYN GUERNSEY, VICE - CHAIRMAN
   DAVID A. PAVLOCK, SECRETARY-TREASURER
   VERNON PRATHER, MEMBER
   THOMAS CAMPANELLA, MEMBER
   FRED GANT, MEMBER
   W.A. "BUCK" LEE, EXECUTIVE DIRECTOR

(Please note that the Santa Rosa Island Authority does not make verbatim transcripts of its meetings, although the meetings are tape-recorded. Any person desiring a verbatim transcript of a meeting of the Santa Rosa Island Authority will need to independently secure such verbatim transcript.)
PROPOSED RESOLUTIONS
The final step in the planning process will be the adoption of the plan by the legislative bodies of Pasco County and its municipalities. The next six pages include draft proposals acceptance of the LMS plan for use by the Pasco County Board of County Commissioners; the City of Dade City Board of City Commissioners; the City Council of the City of New Port Richey; the City Council of the City of Port Richey; the City of San Antonio City Commissioners; the Town of St. Leo Board of Town Commissioners; and the City Council of the City of Zephyrhills.

Each of these legislative bodies represents their communities by the authority of their corporate charter. As the popularly-elected officials of their community, they have the authority to support and carry out the recommendations put forth in the 2014 Pasco County Local Mitigating Strategy.
RESOLUTION NO. 2014-11

A RESOLUTION OF THE CITY COMMISSION OF THE CITY OF DADE CITY, FLORIDA SUPPORTING AND ADOPTING THE PASCO COUNTY AUGUST 2014 REVISION OF THE LOCAL MITIGATION STRATEGY.

WHEREAS, the City of Dade City is located in an area that is vulnerable to natural and man-made disasters; and

WHEREAS, the City supports reasonable efforts to make the community better prepared for future disasters and better able to recover after disaster strikes, and

WHEREAS, the State of Florida has stipulated that a Local Mitigation Strategy is the first step in the process of making a community better prepared to manage disasters; and

WHEREAS, by adopting the Pasco County August 2014 Revision of the Local Mitigation Strategy, the framework for future mitigation efforts and post-disaster recovery may be made easier and faster; and

WHEREAS, the Pasco County August 2014 Revision of the Local Mitigation Strategy is in compliance with the local hazard mitigation requirements of Section 322 of the Disaster Mitigation Act of 2000 as implemented in 44 C.F.R., Part 201.

NOW, THEREFORE, be it resolved by the City Commission of the City of Dade City, Florida, in regular session duly assembled that:

Section 1. The City Commission of the City of Dade City does hereby approve and adopt the Pasco County August 2014 Revision of the Local Mitigation Strategy and recommends it be adopted by the Pasco County Board of County Commissioners.

Section 2. That this resolution shall take effect as provided by the City Charter.

NOW, THEREFORE BE IT PASSED by the City Commission of the City of Dade City, Florida in an open meeting, sitting in regular session this 26th day of August, 2014.

Attest: Suzanne DeAugustino, City Clerk

Camille Hernandez, Mayor

Approved as to legal form and legal content

Karla S. Owens, City Attorney
RESOLUTION 14-11

A RESOLUTION BY THE CITY COUNCIL OF THE CITY OF PORT RICHEY, FLORIDA, SUPPORTING AND ADOPTING THE PASCO COUNTY 2014 REVISION OF THE LOCAL MITIGATION STRATEGY; PROVIDING AN EFFECTIVE DATE.

WHEREAS, Section 322 of the Robert T. Stafford Disaster Relief and Emergency Assistance Act, 42 U.S.C. 5165, as amended by the Disaster Mitigation Act of 2000 (DMA2K) 406-390 requires local governments to undertake a risk-based approach to reducing threats to natural hazards through the development of a Local Mitigation Strategy (LMS). and;

WHEREAS, 44 CFR Part 201.6 requires local governments to have a Federal Emergency Management Agency (FEMA) approved LMS and requires the review and revision of the LMS to reflect changes in development, progress in local mitigation efforts, and changes in priorities, and resubmit it for FEMA approval every five (5) years in order to apply for or receive project grants, and;

WHEREAS, the Pasco County Local Mitigation Strategy was most recently updated, submitted to and approved by FEMA in August 2014, and;

WHEREAS, The National Flood Insurance Act of 1968, as amended, 42 U.S.C. 4001 et seq., reinforced the need and requirement for mitigation plans, linking flood mitigation assistance grant programs to the LMS document, and;

WHEREAS, FEMA's direction for local appointment of a Mitigation Planning Committee per regulations published in the National Flood Insurance Program Coordinator's Manual 2014, Section 510, provides updated guidance no longer consistent with the current committee structure established by the Pasco County Board of County Commissioners through Resolution 98-211, and;
WHEREAS. The Pasco County Office of Emergency Management has consolidated the three subcommittees formed in 1998 into one group called the Mitigation Planning Committee to ensure that at least one-half of the members are representatives of the public stakeholders, and:

WHEREAS. FEMA requires re-adoption of the approved LMS by local governing bodies in order to continue eligibility for federal disaster and pre-disaster grant assistance, and;

NOW, THEREFORE. BE IT RESOLVED by the City Council of the City of Port Richey, Florida in regular session duly assembled this date, that:

1. The Pasco County Local Mitigation Strategy 2014 Revision is hereby adopted and authorized for implementation.

2. The Pasco County Mitigation Planning Committee is hereby reconstituted according to current FEMA guidelines, to include an increased representation by public stakeholders.

3. This resolution shall be in effect immediately upon its adoption.

DONE AND RESOLVED WITH A QUORUM PRESENT AND VOTING THIS DAY OF SEPTEMBER 23, 2014.

(SEAL)

ELOISE TAYLOR
MAYOR
CITY OF PORT RICHEY

ATTEST:
RESOLUTION #2015-01


WHEREAS, the City of New Port Richey is located in an area that is vulnerable to natural and man-made disasters; and

WHEREAS, the City supports reasonable efforts to make the community better prepared for future disasters and better able to recover after disaster strikes; and

WHEREAS, the State of Florida has stipulated that a Local Mitigation Strategy is the first step in the process of making a community better prepared to manage disaster; and

WHEREAS, by adopting the Pasco County August 2014 Revision of the Local Mitigation Strategy, the framework for future mitigation efforts and post-disaster recovery may be built faster and safer; and

WHEREAS, the Pasco County August 2014 Revision of the Local Mitigation Strategy is in compliance with the local hazard mitigation requirements of Section 322 of the Disaster Mitigation Act of 2000 as implemented in 44 C.F.R., Part 201.

NOW, THEREFORE, be it resolved by the City Council of New Port Richey, Pasco County, Florida, in regular session duly assembled that:

Section 1. The City Council of New Port Richey does hereby approve and adopt the Pasco County August 2014 Revision of the Local Mitigation Strategy and recommends it be approved by the Pasco County Board of County Commissioners.

Section 2. This resolution shall take effect as provided by City Charter.

Done and Resolved in open and regular meeting on the 7th day of October, 2014

[Signatures]

Approved As To Form:

Nicole Nate
City Attorney
RESOLUTION No. 01-2014

A RESOLUTION OF THE CITY COMMISSION OF THE CITY OF SAN ANTONIO, FLORIDA, SUPPORTING AND ADOPTING THE PASCO COUNTY 2014 REVISION OF THE LOCAL MITIGATION STRATEGY, PROVIDING AN EFFECTIVE DATE.

WHEREAS, Section 322 of the Disaster Relief and Emergency Assistance Act, 42 U.S.C. 5165, as amended by the Disaster Mitigation Act of 2000 (DMA2K) (P.L. 106-390) provides for local governments to undertake a risk-based approach to reducing risks to natural hazards through mitigation planning, and the National Flood Insurance Act of 1968, as amended, reinforced the need and requirement for mitigation plans, linking flood mitigation assistance programs to Local Mitigation Strategy (LMS), and

WHEREAS, The Federal Emergency Management Agency (FEMA) has implemented various hazard mitigation planning provisions requiring local governments to have a FEMA approved LMS in order to apply for and/or receive project grants, and

WHEREAS, local jurisdictions are required to review and revise their LMS and resubmit it for approval within five (5) years in order to continue to be eligible for mitigation project grant funding, and

WHEREAS, the Pasco County Local Mitigation Strategy which was updated and submitted to the Federal Emergency Management Agency, in 2009, will expire on August 27, 2014, and

WHEREAS, the 2014 Revision of the LMS was transmitted to FEMA through the Florida Division of Emergency Management (FDEM) and found in compliance with the local mitigation requirements of the DMA2K as implemented in 44 C.F.R., Part 201.

NOW, THEREFORE, BE IT RESOLVED by the City Commission of the City of San Antonio, Florida, in regular session duly assembled this date, that:

Section 1. The City Commission of the City of San Antonio does hereby approve and adopt the Pasco County 2014 Revision of the Local Mitigation Strategy.

Section 2. This resolution shall take effect immediately upon its adoption.

DONE AND RESOLVED in open and regular meeting on the 28th day of

CITY OF SAN ANTONIO, FLORIDA

Timothy Newton, Mayor

ATTEST:

Barbara A. Sessa, City Clerk

Gerald T. Buhr, City Attorney
RESOLUTION 14-08

A RESOLUTION OF THE TOWN OF ST. LEO, FLORIDA, TOWN COMMISSION SUPPORTING AND ADOPTING THE PASCO COUNTY 2014 REVISION OF THE LOCAL MITIGATION STRATEGY; PROVIDING AN EFFECTIVE DATE.

WHEREAS, the Town of St. Leo is located in an area that is vulnerable to natural and man-made disasters; and

WHEREAS, The Town of St. Leo supports reasonable efforts to make the community better prepared for future disasters and better able to recover after disaster strikes; and

WHEREAS, by adopting the Pasco County 2014 Revision of the Local Mitigation Strategy, the framework for future mitigation efforts and post-disaster recovery may be made easier and faster; and,

WHEREAS, the Pasco County 2014 Revision of the Local Mitigation Strategy was transmitted to FEMA through the Florida Division of Emergency Management (FDEM) and found in compliance with the local mitigation requirements of Section 322 of the Disaster Mitigation Act of 2000 as implemented in the Interim Final Rule of Chapter 44 Code of Federal Regulation, Part 201.

NOW, THEREFORE, be it resolved by the Town of St. Leo, Florida, Town Commission, Pasco County, Florida, in regular session duly assembled that;

Section 1. The Town of St. Leo does hereby approve and adopt the Pasco County 2014 Revision of the Local Mitigation Strategy and recommends it be adopted by the Pasco County Board of County Commissioners.

Section 2. That this resolution shall take effect as provided by the Town Charter.

DONE AND RESOLVED in open and regular meeting this 11th day of August 2014.

Attest:

Joan Miller, MMC

Patricia Petruff, Town Attorney

Richard H. Cillistman, Mayor

Approved as to form:

Ben A. Rebuff
RESOLUTION NO. 680-14


WHEREAS, the City of Zephyrhills is located in an area that is vulnerable to natural and man-made disasters; and

WHEREAS, the City supports reasonable efforts to make the community better prepared for future disasters and better able to recover after disaster strikes; and

WHEREAS, the State of Florida has stipulated that a Local Mitigation Strategy is the first step in the process of making a community better prepared to manage disasters; and

WHEREAS, by adopting the Pasco County August 2014 Revision of the Local Mitigation Strategy, the framework for future mitigation efforts and post-disaster recovery may be made easier and faster; and

WHEREAS, the Pasco County August 2014 Revision of the Local Mitigation Strategy is in compliance with the local hazard mitigation requirements of Section 322 of the Disaster Mitigation Act of 2000 as implemented in 44 C.F.R., Part 201.

NOW, THEREFORE, be it resolved by the City Council of the City of Zephyrhills, Florida, in regular session duly assembled that:

Section 1. The City Council of the City of Zephyrhills does hereby approve and adopt the Pasco County August 2014 Revision of the Local Mitigation Strategy and recommends it be adopted by the Pasco County Board of County Commissioners.

Section 2. That this resolution shall take effect as provided by the City Charter.

NOW, THEREFORE BE IT PASSED by the City Council of the City of Zephyrhills, Florida in an open meeting, sitting in regular session this 25th day of August, 2014.

Attest:
Linda Beauch, City Clerk

Charles E. Proctor, Council President

Approved as to legal form and legal content

Joseph A. Poblick, City Attorney
THE BOARD OF COUNTY COMMISSIONERS

RESOLUTION No. 11-02

A RESOLUTION BY THE BOARD OF COUNTY COMMISSIONERS
OF PASCO COUNTY, FLORIDA, SUPPORTING AND ADOPTING
THE PASCO COUNTY 2014 REVISION OF THE LOCAL
MITIGATION STRATEGY, PROVIDING AN EFFECTIVE DATE.

WHEREAS, Section 322 of the Robert T. Stafford Disaster Relief and Emergency
Assistance Act, 42 U.S.C. 5165, as amended by the Disaster Mitigation Act of 2000 (DMA2K),
requires local governments to undertake a risk-based approach to reducing threats
to natural hazards through the development of a Local Mitigation Strategy (LMS), and;

WHEREAS, 44 CFR Part 201.6 requires local governments to have a Federal Emergency
Management Agency (FEMA) approved LMS, and requires the review and revision of the LMS
to reflect changes in development, progress in local mitigation efforts, and changes in priorities,
and re-submit it for FEMA approval every five (5) years, in order to apply for and/or receive
project funds, and;

WHEREAS, the Pasco County Local Mitigation Strategy was most recently submitted to and approved by FEMA in August 2014, and;

reinforced the need and requirement for mitigation plans, linking flood mitigation assistance
grant programs to the LMS document, and;

WHEREAS, FEMA’s direction for local appointment of a Mitigation Planning Committee,
per regulations published in the National Flood Insurance Program Coordinator’s Manual 2014,
Section 510, provides updated guidance no longer consistent with the current committee structure
established by the Pasco County Board of County Commissioners through Resolution 98-211, and;

WHEREAS, The Pasco County Office of Emergency Management has consolidated the
three subcommittees formed in 1998 into one group called the Mitigation Planning Committee to
ensure that at least one-half of the members are representatives of the public stakeholders, and;

WHEREAS, FEMA requires re-adoption of the approved LMS by local governing bodies
in order to continue eligibility for federal disaster and pre-disaster grant assistance, and;

NOW, THEREFORE, BE IT RESOLVED by the Board of County Commissioners of
Pasco County, Florida in regular session duly assembled this date, that:

1. The Pasco County Local Mitigation Strategy 2014 Revision is hereby adopted
and authorized for implementation.
2. The Pasco County Mitigation Planning Committee is hereby reconstituted according to current FEMA guidelines to include an increased representation by public stakeholders.

3. This resolution shall be in effect immediately upon its adoption.

DONE AND RESOLVED WITH A QUORUM PRESENT AND VOTING THIS 30th DAY OF SEPTEMBER, '2014.

(SEAL)

/MARiano
CHAIRMAN, 13TH RD OF COUNTY COMMISSIONERS OF PASCO COUNTY, FLORIDA

PAULA S. O'NEIL
CLERK AND COMPTROLLER
Appendix F – Resources

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PUBLIC AND STAKEHOLDER INVOLVEMENT

Mitigation plans should include how the public and stakeholders were involved in the planning process, plan drafting, and the implementation process.

**Requirement:** Documentation of the opportunity for stakeholders to be involved in the planning process; documentation of how the public was involved in the planning process during the drafting stage; discussion of how the community will continue public participation in the plan maintenance process. [44 CFR 201.6(b)(2); 44 CFR 201.6(b)(1) and 44 CFR 201.6(c)(1); 44 CFR 201.6(c)(4)(iii)] [Florida Review Tool Elements P4-6 and M7]

**Intent:** To demonstrate a deliberative planning process that involves stakeholders with the data and expertise needed to develop the plan, with responsibility or authority to implement hazard mitigation activities, and who will be most affected by the plan’s outcomes. To ensure citizens understand what the community is doing on their behalf, and to provide a chance for input on community vulnerabilities and mitigation activities that will inform the plan’s content. Public involvement is also an opportunity to educate the public about hazards and risks in the community, types of activities to mitigate those risks, and how these impact them. To identify how the public will continue to have an opportunity to participate in the plan’s maintenance and implementation over time.

Communities must include stakeholders and neighboring communities in the mitigation planning process. Plans must document how stakeholders and neighboring communities were invited and given the opportunity to participate in the planning process. Simply stating that stakeholders were invited will not suffice; documentation must be provided.

For stakeholders and neighboring communities, the plan must provide the agency or organization represented and the person’s position or title within the agency. Stakeholders must include local and regional agencies involved in mitigation, agencies that have the authority to regulate development, and neighboring communities. Examples of formal stakeholder invitations may include: E-mails and distribution lists, phone calls, advertisements in local newspapers and websites, etc.

Communities must also include the public in the mitigation planning process. Plans must document how the public was invited and given the opportunity to participate in the planning process (prior to the final draft for public comment) and how their feedback was incorporated into the plan. Again, simply stating that the public was invited will not suffice; documentation, such as newspaper advertisements or website postings, must be provided. Additionally, plans must document how public participation will continue after approval during the implementation, monitoring, and evaluation phases.

The plan must document how the community would incorporate feedback even if no suggestions were received. Examples of efforts to continue active public participation include periodic presentations to community groups or schools, annual questionnaires, surveys, active meetings, posting on social media, and utilizing websites for the public to review, comment, or suggestions.
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## RISK ASSESSMENT RESOURCES

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Description</th>
<th>Resources Available</th>
</tr>
</thead>
<tbody>
<tr>
<td>201.6(c)(2)(i)</td>
<td>Plan shall include description of type, location, and extent of identified natural hazards that can affect the jurisdiction. Plan shall include information on previous occurrences of hazard events and on the probability of future hazard events.</td>
<td>NCEI Storm Events Database <a href="https://www.ncdc.noaa.gov/stormevents/">https://www.ncdc.noaa.gov/stormevents/</a></td>
</tr>
</tbody>
</table>
| 201.6(c)(2)(ii) | Plan shall include a description of the jurisdiction’s vulnerability to the hazards described in paragraph (c)(2)(i) of this section. This description shall include an overall summary of each hazard and its impact on the community. Must also address NFIP insured structures that have been repetitively damaged by floods. Plan should describe vulnerability in terms of: | NCEI Storm Events Database [https://www.ncdc.noaa.gov/stormevents/](https://www.ncdc.noaa.gov/stormevents/)  
FEMA Hazard Sheets [https://www.fema.gov/media-library/collections/618](https://www.fema.gov/media-library/collections/618)  
General Hazard Info [https://www.ready.gov/be-informed](https://www.ready.gov/be-informed)  

### Dam Failure

- Florida DEP [https://www.arcgis.com/home/webmap/viewer.html?webmap=d92332e11b444877b42325d81db60482](https://www.arcgis.com/home/webmap/viewer.html?webmap=d92332e11b444877b42325d81db60482)  
- Dam Safety Fact Sheets/Advisories, FEMA [https://www.fema.gov/media-library/assets/documents/164575](https://www.fema.gov/media-library/assets/documents/164575)  
  - Click “Tier 1” tab at right, select “DamLines” to view locations of dams
<table>
<thead>
<tr>
<th>Category</th>
<th>Resources</th>
</tr>
</thead>
</table>
| **Drought** | - Association of State Dam Safety Officials [https://www.damsafety.org/](https://www.damsafety.org/)  
- US Drought Monitor [https://droughtmonitor.unl.edu/](https://droughtmonitor.unl.edu/)  
- NWS [https://www.weather.gov/safety/drought](https://www.weather.gov/safety/drought)  
- National Drought Mitigation Center [https://drought.unl.edu/Home.aspx](https://drought.unl.edu/Home.aspx)  |
- Florida DEP Map Direct Gallery [https://ca.dep.state.fl.us/mapdirect/#Division%20of%20Water%20Resource%20Management%20(DWRM)](https://ca.dep.state.fl.us/mapdirect/#Division%20of%20Water%20Resource%20Management%20(DWRM))  |
| **Flood** | - FIRM [https://msc.fema.gov/portal/home](https://msc.fema.gov/portal/home)  
- RL and SRL properties  
- Sea Level Rise [https://sealevelrise.org/states/florida/](https://sealevelrise.org/states/florida/)  
- National Wetlands Inventory [https://www.fws.gov/wetlands/](https://www.fws.gov/wetlands/)  
- NOAA National Severe Storms Laboratory [https://www.nssl.noaa.gov/research/flood/](https://www.nssl.noaa.gov/research/flood/)  
- Floodplain Mapping Software [https://www.fema.gov/software](https://www.fema.gov/software)  |
<table>
<thead>
<tr>
<th>Category</th>
<th>Resources</th>
</tr>
</thead>
</table>
- ASFPM [https://www.floods.org/](https://www.floods.org/)  
- Non-Structural Flood Mitigation, USACE [https://www.usace.army.mil/Missions/Civil-Works/Project-Planning/nnc/](https://www.usace.army.mil/Missions/Civil-Works/Project-Planning/nnc/)  
| Freeze/ Winter Storm           | - NWS Cold Weather [https://www.weather.gov/safety/cold](https://www.weather.gov/safety/cold)  
- NWS Winter Weather [https://www.weather.gov/safety/winter](https://www.weather.gov/safety/winter)  
- NOAA National Severe Storms Laboratory [https://www.nssl.noaa.gov/research/winter/](https://www.nssl.noaa.gov/research/winter/) |
| Hurricane/ Tropical Storm      | - Wind Speed, AT Council [https://hazards.atcouncil.org/#/](https://hazards.atcouncil.org/#/)  
- NOAA National Hurricane Center [https://www.nhc.noaa.gov/](https://www.nhc.noaa.gov/)  
- Historical Hurricane Tracks Mapper, NOAA [https://coast.noaa.gov/hurricanes/?redirect=301ocm](https://coast.noaa.gov/hurricanes/?redirect=301ocm) |
- Seismic Loads, AT Council Tornado Wind Speed, AT Council [https://hazards.atcouncil.org/#/](https://hazards.atcouncil.org/#/)  
|---|---|
| Sinkholes | • Sinkhole Report, FGS DEP [https://floridadisaster.org/contentassets/c6a7ead876b1439caad3b38f7122d334/appendix-h_sinkhole-report.pdf](https://floridadisaster.org/contentassets/c6a7ead876b1439caad3b38f7122d334/appendix-h_sinkhole-report.pdf)  
• Subsidence Incident Reports, FGS DEP [https://ca.dep.state.fl.us/mapdirect/#Florida%20Geological%20Survey%20(FGS)](https://ca.dep.state.fl.us/mapdirect/#Florida%20Geological%20Survey%20(FGS)) |
| Tornado | • Tornado Wind Speed, AT Council [https://hazards.atcouncil.org/#/](https://hazards.atcouncil.org/#/)  
• Tornado Project Online [http://www.tornadoproject.com/alltorns/fltorn.htm](http://www.tornadoproject.com/alltorns/fltorn.htm)  
• NOAA National Severe Storms Laboratory [https://www.nssl.noaa.gov/research/tornadoes/](https://www.nssl.noaa.gov/research/tornadoes/) |
• FireWise Public Education [https://www.nfpa.org/Public-Education](https://www.nfpa.org/Public-Education)  
• USFS Wildland Fire Assessment System [https://www.wfas.net/](https://www.wfas.net/)  
• SouthWRAP [https://www.southernwildfirerisk.com/](https://www.southernwildfirerisk.com/)  
• National Interagency Fire Center [https://www.nifc.gov/](https://www.nifc.gov/)  
• Landfire [https://www.landfire.gov/](https://www.landfire.gov/) |
| 201.6(c)(2)(ii)(B) | An estimate of the potential dollar losses to vulnerable structures identified in this section and a description of the methodology used to prepare the estimate  
• HAZUS-MH  
<table>
<thead>
<tr>
<th>201.6(c)(2)(ii)(C)</th>
<th>Providing a general description of land uses and development trends within the community so that mitigation options can be considered in future land use decisions</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>• Community Comprehensive Plan and other community land use plans</td>
</tr>
<tr>
<td></td>
<td>• American Planning Association <a href="https://www.planning.org/nationalcenters/hazards/">https://www.planning.org/nationalcenters/hazards/</a></td>
</tr>
<tr>
<td></td>
<td>• Planners Web <a href="http://plannersweb.com/">http://plannersweb.com/</a></td>
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</tbody>
</table>

**Note:** this is not a complete list and other resources may be used for risk assessments. Please send suggestions for changes to this resource list to the Mitigation Planning Unit.

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VULNERABILITY SUMMARIES

Vulnerability summaries should include why your jurisdictions are particularly vulnerable to a hazard. The easiest way to do this is through problem statements.

**Requirement:** Description of each identified hazard’s impact on the community as well as an overall summary of the community’s vulnerability for each jurisdiction? [44 CFR 201.6(c)(2)(ii)] [Florida Review Tool Element R8]

**Intent:** For each jurisdiction to consider their community as a whole and analyze the potential impacts of future hazard events and the vulnerabilities that could be reduced through hazard mitigation actions.

**Definitions:**
- **Vulnerability** – characteristics of community assets that make them susceptible to damage from a given hazard.
- **Vulnerable assets and potential losses** – more than a list of the total exposure of population, structures, and critical facilities in the planning area.

Plans **must** provide an overall summary of each jurisdiction’s vulnerability to the identified hazards. The overall summary of vulnerability identifies structures, systems, populations, or other community assets as defined by the community that are susceptible to damage and loss from hazard events.

**Plans should** describe vulnerability in terms of:

A. The types and numbers of existing and future buildings, infrastructure, and critical facilities located in the identified hazard areas;

B. An estimate of the potential dollar losses to vulnerable structures identified in this section and a description of the methodology used to prepare the estimate.

C. Providing a general description of land uses and development trends within the community so that mitigation options can be considered in future land use decisions.

Overall vulnerability summaries can be used to create problem statements and identify mitigation actions to reduce risk. An example of an overall summary is a list of key issues or problem statements that clearly describes the community’s greatest vulnerabilities and that will be addressed in the mitigation strategy. Although all assets may be affected by hazards, some assets are more vulnerable because of their physical characteristics or socioeconomic uses. Consider certain buildings or concentrations of buildings may be more vulnerable because of their location, age, construction type, condition, or use. These characteristics should be described in the vulnerability summaries. Also include populations that may have unique vulnerabilities or be less able to respond and recover during a disaster.

The risk assessment process generates large amounts of information regarding hazards, vulnerable assets, and potential impacts and losses. This information needs to be summarized so that the community can understand the most significant risks and vulnerabilities. The plan must provide an overall summary of each jurisdiction’s vulnerability to the identified hazards.
Recommendation

One recommended approach is to develop problem statements. For instance, your analysis of impacts and losses helps you to identify which critical facilities are located in identified hazard areas, the neighborhood that has experienced the most flood damage in the past, or which hazard-prone areas are zoned for future development. This information can be summarized into problem statements, such as in the examples below. The planning team may evaluate the impacts and develop problem statements for each hazard, as well as identify the problems or issues that apply to all hazards.

- The North Creek Sewage Treatment Plant is located in the 100-year floodplain and has been damaged by past flood events. It serves 10,000 residential and commercial properties.
- Newberg City recently annexed the South Woods area located in the wildland-urban interface. The City’s land use and building codes do not address wildfire hazard areas. Future development in South Woods will increase vulnerability to wildfires.
- The City of Greenville is located in a seismic hazard area subject to severe ground shaking and soil liquefaction. HAZUS-MH predicts a 6.0 magnitude event would result in $10.5 million in structural losses and $40 million in non-structural losses. Damage will be greatest to the 100 unreinforced masonry buildings (pre-building code) located in the downtown business district.
- The schools are a central focus of the community and offer opportunities to educate the public about hazards, risk, and mitigation. In addition, many school facilities are vulnerable to one or more hazards, including flooding, earthquake, tornado, and severe winter storms.

Plan updates will need to revise the problems statements to reflect the current risk assessment. This may include developing new statements and removing or revising ones that are no longer valid because mitigation projects have addressed the risk or other conditions have changed.

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### Description (R1)

The plan must include a description of the natural hazards that can affect the jurisdiction(s) in the planning area.

Briefly describe the hazard itself. A definition from NOAA or NWS will suffice.

A hurricane is a type of tropical cyclone, which is a generic term for a low-pressure system that generally forms in the tropics. The cyclone is accompanied by thunderstorms and in the Northern Hemisphere, a counterclockwise circulation of winds near the earth’s surface. Tropical cyclones are classified as follows:

- **Tropical Depression**: an organized system of clouds and thunderstorms with a defined surface circulation and maximum sustained winds of 38 mph (33 kt) or less. Sustained winds are a 1-minute average wind measured at about 33 ft (10 meters) above the surface. While 1 knot equals 1 nautical mile per hour or 1.15 statute miles per hour and is abbreviated as “kt.”
- **Tropical Storm**: an organized system of strong thunderstorms with a well-defined surface circulation and maximum sustained winds of 39-73 mph (34-63 kt).
- **Hurricane**: an intense tropical weather system of strong thunderstorms with a well-defined surface circulation and maximum sustained winds of 74 mph (64 kt) or higher.

Hurricanes are categorized according to the strength of their winds using the Saffir-Simpson Hurricane Scale. A Category 1 storm has the lowest wind speeds, while a Category 5 hurricane has the strongest. These are relative terms, because lower category storms can sometimes inflict greater damage than higher category storms, depending on where they strike and hazards they bring. In fact, tropical storms can also produce significant damage and loss of life, mainly due to flooding.

### Location (R3)

Location means the geographic areas in the planning area that are affected by the hazard.

Describe, using either a map or narrative description, which areas of the county are susceptible to the hazard.

- The areas of our county that are highly susceptible to wildfires are the areas that have a high wildland-urban interface. These areas include residential areas east of Zebra Highway.
- All areas of the county are equally susceptible to tornadoes.
- The map to the right shows flood zones in the county.

### Previous Occurrences (R5)

The plan must include the history of previous hazard events for each of the identified hazards.

This includes dates of events since the last update, and any significant events prior to that. If the most recent event was more than a few years ago, state when the last occurrence was, particularly if it was prior to the last update.

Our last period of drought was May – August 2005.

We had 4 wildfires in 2014; April 1, April 16, May 7, and June 14.

Below is a list of previous tropical storms:

- June 15, 2014 Hurricane Frank
- May 14, 2012 Tropical Storm Alycia
- August 28, 2010 Tropical Storm Tiffany
- August 12, 2001 Hurricane Deloris
- June 19, 1992 Hurricane Hades

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<table>
<thead>
<tr>
<th>Element Name</th>
<th>Definition (FEMA) and Explanation</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>Description (R1)</td>
<td>The plan must include a description of the natural hazards that can affect the jurisdiction(s) in the planning area. Briefly describe the hazard itself. A definition from NOAA or NWS will suffice.</td>
<td>A hurricane is a type of tropical cyclone, which is a generic term for a low-pressure system that generally forms in the tropics. The cyclone is accompanied by thunderstorms and in the Northern Hemisphere, a counterclockwise circulation of winds near the earth’s surface. Tropical cyclones are classified as follows: - <strong>Tropical Depression</strong>: an organized system of clouds and thunderstorms with a defined surface circulation and maximum sustained winds of 38 mph (33 kt) or less. Sustained winds are a 1-minute average wind measured at about 33 ft (10 meters) above the surface. While 1 knot equals 1 nautical mile per hour or 1.15 statute miles per hour and is abbreviated as “kt.” - <strong>Tropical Storm</strong>: an organized system of strong thunderstorms with a well-defined surface circulation and maximum sustained winds of 39-73 mph (34-63 kt). - <strong>Hurricane</strong>: an intense tropical weather system of strong thunderstorms with a well-defined surface circulation and maximum sustained winds of 74 mph (64 kt) or higher. Hurricanes are categorized according to the strength of their winds using the Saffir-Simpson Hurricane Scale. A Category 1 storm has the lowest wind speeds, while a Category 5 hurricane has the strongest. These are relative terms, because lower category storms can sometimes inflict greater damage than higher category storms, depending on where they strike and hazards they bring. In fact, tropical storms can also produce significant damage and loss of life, mainly due to flooding.</td>
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<td>Our last period of drought was May – August 2005. We had 4 wildfires in 2014; April 1, April 16, May 7, and June 14. Below is a list of previous tropical storms: - June 15, 2014 Hurricane Frank - May 14, 2012 Tropical Storm Alycia - August 28, 2010 Tropical Storm Tiffany - August 12, 2001 Hurricane Deloris - June 19, 1992 Hurricane Hades</td>
</tr>
<tr>
<td>Impacts (R7)</td>
<td>Impact means the consequence or effect of the hazard on the community and its assets. Impacts comes from previous occurrences unless this hazard has never happened or hasn’t happened recently. In which case, general impacts or an estimate of future impacts will satisfy this requirement.</td>
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<tr>
<td>June 15, 2014 Hurricane Frank was a category 3 storm that arrived onshore 12 miles north of our county. There was over 40 tons of debris generated, 4 shelters were opened which housed more than 2,000 citizens for up to seven days. Zebra Highway was blocked for two days by the downed trees. Over 50,000 citizens were out of power for the first three days. The county courthouse suffered broken windows and a partial roof collapse resulting in more than $200,000 in damages. Storm surge was estimated at 4 feet along the coast. Four injuries were reported, mostly from debris removal, and no deaths occurred.</td>
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<td>April 1, 2014 a 273-acre wildfire was caused by lightning. One non-residential structure was destroyed resulting in $2,000 in damage. No injuries were reported.</td>
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<td>While our county has never been affected by a tsunami, the possible impacts include up to 5 feet of flood waters as far as 2 miles inward.</td>
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<td>Probability (R6)</td>
<td>Probability means the likelihood of the hazard occurring and may be defined in terms of general descriptors, historical frequencies, statistical probabilities, or hazard probability maps. If general descriptors are used, then they must be defined in the plan. Probability needs to have a distinct timeframe and definition.</td>
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<tr>
<td>In the last 50 years we have been affected by 10 hurricanes; therefore, there is a 20% chance of a hurricane affecting our county in any given year. We could see a flood once every 1-5 years. We could have 20 severe thunderstorms per year. The probability of a sinkhole is low.</td>
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<tr>
<td>Low = greater than 0% but less than 35% annually</td>
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<tr>
<td>Medium = greater than 35% but less than 66% annually</td>
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<tr>
<td>High = greater than 66%</td>
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<tr>
<td>Extent (R4)</td>
<td>Extent means the strength or magnitude of the hazard. For example, extent could be described in terms of the specific measurement of an occurrence on a scientific scale or other hazard factors, such as duration and speed of onset. This is the “worst case” scenario expected or what is expected annually.</td>
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<tr>
<td>We could see up to an EF-3 in our county.</td>
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<tr>
<td>We could get up to 4 ft of floodwaters west of Zebra Hwy and up to 2 ft of floodwaters east of Zebra Hwy.</td>
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<tr>
<td>Our area has a lightning density of 4 to 8 flashers per square kilometer per year.</td>
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<td>A sinkhole in our area could be up to 10 feet in diameter and 20 feet deep.</td>
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<tr>
<td>A worst-case scenario wildfire would burn up to 1200 acres.</td>
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<tr>
<td>A winter freeze in our area could consist of temperatures as low as 12 degrees for up to 3 days.</td>
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<tr>
<td>Vulnerability Summary (R8)</td>
<td>The plan must provide an overall summary of each jurisdiction’s vulnerability to the identified hazards. Vulnerable assets and potential losses is more than a list of the total exposure of population, structures, and critical facilities in the planning area. These summaries should answer the question “why is the jurisdiction, specifically, vulnerable to this hazard?” and lead to problem statements that identify gaps where projects can be implemented.</td>
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<tr>
<td>While temperatures do not generally have an impact on structures, our county is particularly vulnerable to extreme temperatures due to our population consisting of 42% elderly citizens, as well as a relatively high homeless population estimates at around 1,100 people. Similarly, our more than 5,500 acres of citrus and vegetable crops could be adversely affected by extremely high or low temperatures having an impact on our economy.</td>
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<tr>
<td>47% of our residential building stock consists of untied down manufactured homes or structures that were built before the most recent building code and unable to withstand tropical storm force winds. That in combination with our numerous canopy roads and above ground power lines makes our county particularly vulnerable to high winds.</td>
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<td>While there is a dam within our county, the dam only holds enough water to cover 100 acres of land with 1 foot of water. If the dam were to fail, the area the water would inundate is part of a state park and would therefore have no impacts of people or structures. For this reason, we are not vulnerable to dam failure in our county. (*this could also be an omission justification)</td>
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</tbody>
</table>
PROJECT LISTS

Plans must analyze a comprehensive list of projects for each hazard but only identify (include on your list) the projects which are most feasible and beneficial.

**Requirement:** Identification and analysis of a comprehensive range of specific mitigation actions and projects for each jurisdiction being considered to reduce the effects of hazards, with emphasis on new and existing buildings and infrastructure? [44 CFR 201.6(c)(3)(ii) and 44 CFR 201.6 (c)(3)(iv)] [Florida Review Tool Element S5]

**Intent:** To ensure the hazard mitigation actions are based on the identified hazard vulnerabilities, are within the capability of each jurisdiction, and reduce or avoid future losses. This is the heart of the mitigation plan and is essential to leading communities to reduce their risk.

**Definitions:**

- **Mitigation actions** – a hazard mitigation action, activity or process (for example, adopting a building code, or educating the public) designed to reduce or eliminate the long-term risks from hazards.
- **Mitigation projects** – a physical project (for example, elevating structures or retrofitting critical infrastructure) designed to reduce or eliminate the long-term risks from hazards.
- **Comprehensive range** – consists of different hazard mitigation alternatives that address the vulnerabilities to the hazards that the jurisdiction(s) determine are most important.

The plan **must**:

1. Analyze actions and projects that the jurisdiction considered to reduce the impacts of hazards identified in the risk assessment.
2. Identify the actions and projects that the jurisdiction intends to implement.
3. Include mitigation actions specific to each jurisdiction participating in the plan.
4. Reduce risk to existing buildings and infrastructure (including a consideration of actions that address the built environment) as well as limit any risk to new development and redevelopment.

**Minimum project list requirements:**

- Priority rank or score
- Name of project
- Description
- Jurisdiction
- Agency responsible for implementation
- Potential funding sources
- Status (i.e. new, completed, deleted, or deferred; if delete or deferred, must provide reason)
- Estimated timeframe for completion
- Estimated costs
Recommendations

- Planning teams may list possible actions within hazard profiles or in a separate section to represent the analysis of options while listing only the most suitable options within their project list.
- Projects are not limited to projects requesting FEMA grant funding; locally funded or recurring actions should be included.
- Projects may benefit more than one jurisdiction.
- While an analysis is required for each hazard, an identified project is not. However, each jurisdiction is required to identify at least 1 project and include it on the final list.
- Some hazards may not have many impacts, or the impacts may already be mitigated. In this case, fewer mitigation actions may be identified than for a hazard causing more frequent or severe impacts.
- For certain hazards, you may not have enough information about a particular situation to recommend a specific mitigation action. In these cases, the mitigation action can be to recommend further study. (For example, if your community has 20 critical facilities that are threatened, further technical study may be needed to determine which facilities should be addressed first. Your recommendation could be “Conduct an assessment of the 20 critical facilities over the next 3 years to determine the most appropriate mitigation actions.”)
- Not all of the identified actions are required to be included in the final action plan because of technical feasibility, political acceptance, lack of funding, and other constraints. The planning team will evaluate and prioritize the most suitable mitigation actions for the community to implement.
Funding Sources

Identifying funding sources is a very real component of a successful mitigation strategy and is a required component of FDEM’s and FEMA’s approval regulations. Communities may not always have the necessary resources to implement important projects; but there are many resources that can allow communities to successfully accomplish these goals. The tables below identify federal and state funding sources. Please note: this list is not exhaustive and there may be other funding sources available.

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<th>Federal Agency</th>
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<td>US Department of Homeland Security/Federal</td>
<td>• Pre-Disaster Mitigation Grant Program</td>
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<tr>
<td>Emergency Management Agency</td>
<td>• Flood Mitigation Assistance Grant Program</td>
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<td></td>
<td>• Hazard Mitigation Grant Program</td>
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<td></td>
<td>• Public Assistance – 406 (Mitigation) Funding</td>
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<tr>
<td>US Department of Agriculture/Farm Services Agency</td>
<td>• Conservation Reserve Program</td>
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<tr>
<td>US Department of Agriculture/Natural Resources</td>
<td>• Emergency Watershed Protection Program</td>
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<tr>
<td>Conservation Service</td>
<td>• Wetlands Reserve Program</td>
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<tr>
<td>US Department of Agriculture/Rural Development</td>
<td>• Single Family Housing Repair Loans &amp; Grants</td>
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<td>• Electric Infrastructure Loan &amp; Loan Guarantee Program</td>
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<td>• Water &amp; Waste Disposal Loan &amp; Grant Program</td>
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<td>• Community Facilities Direct Loan &amp; Grant Program</td>
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<td></td>
<td>• Economic Impact Initiative Grants</td>
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<td></td>
<td>• Multi-Family Housing Direct Loans</td>
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<tr>
<td>US Department of Commerce/Economic Development</td>
<td>• Disaster Supplemental Funding</td>
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<tr>
<td>Administration</td>
<td>• Economic Adjustment Assistance Project Grants</td>
</tr>
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<td>US Department of Commerce/National Oceanic and</td>
<td>• National Coastal Zone Management Program</td>
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<tr>
<td>Atmospheric Administration</td>
<td>• Florida Coastal Partnership Initiative</td>
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<tr>
<td>US Department of Defense/US Army Corps of Engineers</td>
<td>• Emergency Streambank and Shoreline Stabilization Program</td>
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<td>• Silver Jackets/Flood Risk Management Program</td>
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<td></td>
<td>• Aquatic Ecosystem Restoration Program</td>
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<td>US Department of Housing and Urban Development</td>
<td>• Capital Fund Program</td>
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<td>• Community Development Block Grant Program</td>
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<td>o Florida Small Cities Program</td>
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<td></td>
<td>• Community Development Block Grant – Disaster Recovery Program</td>
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<tr>
<td>US Department of the Interior/Bureau of Indian</td>
<td>• Housing Improvement Program</td>
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<td>Affairs</td>
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<tr>
<td>US Department of the Interior/Bureau of Land</td>
<td>• Land and Water Conservation Fund</td>
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<td>Management</td>
<td>• Land Purchases and Acquisitions</td>
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<td>US Department of the Interior/Fish and Wildlife</td>
<td>• North American Wetlands Conservation Act Grants Program</td>
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<td>• Partners for Fish and Wildlife Program</td>
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<td>State Agency</td>
<td>Programs</td>
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<tr>
<td>US Department of the Interior/National Park Service</td>
<td>• Federal Lands to Parks Program</td>
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<tr>
<td>US Small Business Administration</td>
<td>• Disaster Assistance Program</td>
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<tr>
<td>Division of Emergency Management</td>
<td>Hurricane Loss Mitigation Program</td>
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<tr>
<td>Department of Environmental Protection</td>
<td>Florida Communities Trust Fund</td>
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<tr>
<td>Department of Environmental Protection</td>
<td>Florida Resilient Coastlines Program</td>
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</tbody>
</table>

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The goal of integrating the LMS into other planning mechanisms is to document the use of mitigation strategies throughout all possible areas within jurisdictions participating in the plan. This can be as simple as drafting a narrative describing how the plan was reviewed and how the strategies and goals have been incorporated. The narrative must document the actual process used and which areas the plan has been incorporated into for all jurisdictions covered under the LMS. The narrative should also include the specific planning mechanisms that integrate the goals and strategies of the LMS.

**Requirement:** Description of a process by which local governments will integrate the requirements of the mitigation plan into other planning mechanisms, such as comprehensive or capital improvement plans, when appropriate? 44 CFR 201.6(c)(4)(ii) [Florida Review Tool Elements S9-11]

**Intent:** To assist communities in capitalizing on all available mechanisms that they have at their disposal to accomplish hazard mitigation and reduce risk.

**Definitions:**
- **Planning mechanisms** – governance structures that are used to manage local land use development and community decision-making, such as comprehensive plans, capital improvement plans, or other long-range plans.

**Plans must:**
- Describe the community’s process to integrate the data, information, and hazard mitigation goals and actions into other planning mechanisms.
- Identify the local planning mechanisms where hazard mitigation information or actions may be incorporated.

**Multi-jurisdictional plans must:**
- Describe each participating jurisdiction’s individual process for integrating hazard mitigation actions, applicable to their community, into other planning mechanisms.

**Updated plans must:**
- Explain how the jurisdiction(s) incorporated the mitigation plan, when appropriate, into other planning mechanisms as a demonstration of progress in local hazard mitigation efforts
- Continue to describe how the mitigation strategy, including the goals and hazard mitigation actions, will be incorporated into to other planning mechanisms.

Planning mechanisms can include the Comprehensive Emergency Management Plan (CEMP), local legislation, local comprehensive plans, building codes, Community Rating System (CRS), and Floodplain Management plans.
**Examples**
An example of incorporating mitigation actions into other planning mechanisms would be to identify the goals and strategies of the LMS and document how they have been used to further mitigation efforts in other areas.

- To ensure the full and complete implementation of the County LMS, all participating local governments shall incorporate references to the LMS into their respective comprehensive plan following the procedures outlined in 163.3191, FS. The County has many plans, other than the Comprehensive Plan, that implement hazard mitigation activities including pre-disaster mitigation, event coordination and post disaster redevelopment.

- Pinellas County and its municipalities currently have several existing programs and plans related to hazard mitigation and post-disaster redevelopment. This involves identifying strengths and weaknesses, and where weaknesses are identified, remedial actions will be identified in the form of recommended actions and assignments made to follow up. The next section is an analysis of local and regional programs and policies that have either a direct or indirect impact on mitigation. The table references the goals and objectives implemented by the program or policy, the relation to local planning and any specific analysis undertaken, a discussion of the strengths, weaknesses and any remedial actions recommended or implemented.
### JURISDICTION SPECIFICITY

Each time the guidance or review tool specifies “each jurisdiction,” the plan must be specific to each jurisdiction. The Florida Review Tool has 17 elements that refers to “each jurisdiction.”

<table>
<thead>
<tr>
<th>Planning Process (P2-3)</th>
<th>Risk Assessment (R1, R3-9)</th>
</tr>
</thead>
<tbody>
<tr>
<td>List each jurisdiction that will seek approval and keep that list consistent throughout the plan.</td>
<td>For each element of each hazard profiled, be sure to include variations between jurisdictions, if they exist. If not, be sure to specifically state the element is the same across the entire county.</td>
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<table>
<thead>
<tr>
<th>Strategy: Existing Authorities (S2)</th>
<th>Strategy: NFIP (S3)</th>
</tr>
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<tbody>
<tr>
<td>There must be not only identification, but also discussion of ability to expand on and improve the policies and programs identified. Be specific when listing or describing the existing authorities, policies, programs, and resources for each jurisdiction. Each jurisdiction will have similar but different existing authorities, policies, programs, and resources, so be sure to specify by jurisdiction.</td>
<td>Be specific about which jurisdictions participate in the NFIP, but also about how they will continue to comply with NFIP requirements. Specifically list the ways in which a jurisdiction will comply, such as various floodplain and development ordinances. Do this for each jurisdiction in the county.</td>
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<tr>
<th>Strategy: Mitigation Actions (S5)</th>
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<tbody>
<tr>
<td>There must be at least one project on the project list that corresponds to each individual jurisdiction. If a project reduces risk countywide, the plan or list must specifically explain that the project applies to all jurisdictions. Remember that actions do not necessarily have to be structural projects. Examples include: the ability to regulate future development, the ability to incorporate stricter NFIP standards into new housing projects and expanding current outreach programs to provide tips to homeowners to mitigation their individual properties. This requirement should encourage the LMS working group to think creatively to identify the local resources available and discuss ways in which their capabilities can be maximized and expanded upon.</td>
</tr>
</tbody>
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<thead>
<tr>
<th>Strategy: Plan Integration and Incorporation (S10-11)</th>
<th>Adoption (A1-2)</th>
</tr>
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<tbody>
<tr>
<td>Consider the various planning mechanisms of each individual jurisdiction and how the mitigation plan will be or could be incorporated. This is an element of plan development with which members of the LMS Working Group from each jurisdiction can assist. Aim to have more than a list of plans. Discuss how the mitigation plan has already been incorporated into other community plans. Be specific for plans in each jurisdiction.</td>
<td>Each jurisdiction must adopt the updated and approved plan and provide documentation of the adoption.</td>
</tr>
</tbody>
</table>
PLAN EVALUATION AND MAINTENANCE

The LMS update process does not end after the LMS is approved and pick back up six months before its next expiration date; it is a continuous cycle.

**Requirement:** Description of the method and schedule for keeping the plan current (monitoring, evaluating and updating the mitigation plan within a 5-year cycle)? [44 CFR 201.6(c)(4)(i)] [Florida Review Tool Elements M4-6]

**Intent:** To establish a process for jurisdictions to track the progress of the plan’s implementation. This also serves as the basis of the next plan update.

**Definitions:**
- **Monitoring** – tracking the implementation of the plan over time.
- **Evaluating** – assessing the effectiveness of the plan at achieving its stated purpose and goals.
- ** Updating** – reviewing and revising the plan at least once every five years.

The LMS is a living document that guides action over time. As conditions change and new information becomes available, or as actions progress over the life of the plan, plan adjustments may be necessary to maintain its relevance. Approval of the LMS marks the time to establish a schedule and method for keeping the plan current over the next five years. One of the most important steps in updating your plan is to refine the community’s mitigation strategy, particularly considering experiences gained from the implementation of the previous plan.

To continue to be an effective representation of the county’s overall strategy for reducing risk to natural hazards, the updated local mitigation plan must reflect current conditions and progress in mitigation efforts. This involves establishing a meeting plan with your LMS Working Group and continuously engaging with local jurisdictions in revising the plan with any major changes (including the local hazard assessment as well as changes in personnel), tracking the status of projects and mitigation actions (including adding new projects and removing other projects), and evaluating the effectiveness of the plan at achieving its intended goals and objectives (and making any changes as necessary).

Be sure the there is a clear responsible party, timeline, and procedure listed for how the plan will be monitored, evaluated, and updated throughout the life of the plan. The annual F.A.C. 27P-22 update (due to the FDEM Mitigation Planning Unit in January) is a simple way to conduct these activities on a predetermined annual basis.
CONSISTENCY CHECK

Plan reviewers often find minor inconsistencies in submitted plans. It is recommended that someone who has not been involved with the update on a daily basis, such as another member of the planning committee, review the plan prior to submission with the specific intention of looking for inconsistencies. Common inconsistencies include referring to the F.A.C. 27P-22 as the 9G-22 update, hazard lists, jurisdiction lists, and lists of previous occurrences.

During a plan update, it is simple to forget a table or paragraph with information that was changed elsewhere in the plan. By conducting a consistency review on the plan prior to submittal, the inconsistencies can be caught before plan reviewers, which can speed the review and required revisions process.

PLAN ADOPTION

Plans must be submitted to DEM at least 6 months prior to expiration. This is because reviews may take up to 45 days. This 6-month period accounts for the time it takes for required revisions to be made and subsequent reviews to take place.

However, this 6-month window does not account for adoption. In some cases, the adoption process can take multiple weeks to complete. If this is the case in your jurisdiction, please be sure to account for that by submitting your plan prior to the 6-month deadline.

Any plan that is not adopted prior to the expiration date will expire and all jurisdictions covered by that plan will be ineligible for all mitigation funds (HMGP, FMA, and PDM) until the plan is adopted. There are no extensions or waivers given by Florida or FEMA if the LMS plan expires. Please note that a plan that is Approved Pending Adoption will still expire without an adoption resolution.