



# Hazard Mitigation Grant Program State-Wide Applicant Briefing

Audio available via conference line

**1-888-585-9008**

Conference Room# **249-440-235**



# General Webinar Info

- Audio
  - Call-in: 1-888-585-9008
  - Conference Room: 249-440-235
- **All lines will be muted for the duration of the webinar.**
- If you have a question or issue during the presentation please submit it through the webinar chat.
- Any questions not answered during the presentation will be answered in the meeting minutes and made available to the public.



# Welcome and Introductions



THE FLORIDA DIVISION OF EMERGENCY MANAGEMENT



# What does Mitigation do?

Mitigation breaks the cycle of disaster, damage, reconstruction and repeated damage



*\$6 is saved in future disaster costs for every \$1 of hazard mitigation spent*

Natural Hazard Mitigation Saves: 2019 Interim Report  
(<https://www.nibs.org/projects/natural-hazard-mitigation-saves-2019-report>)



# Where Does Mitigation Fit?

## Mitigation

Reducing the loss of life and property by lessening the impact of disasters



## Recovery

Putting a community back together after a disaster



## Preparedness

Getting people and equipment ready to quickly and effectively respond to a disaster before it happens

## Response

Saving life and property during and immediately after a disaster



# Rule 27P-22, F.A.C

Hazard Mitigation Grant Program (HMGP)

■ ■ ■

Outlines a project selection process *implemented at the local level*

■ ■ ■

Requires brief annual updates from each LMS working group regarding local risk & effort

■ ■ ■

Unique funding allocation process maximizes post-disaster federal funding use



# Funding

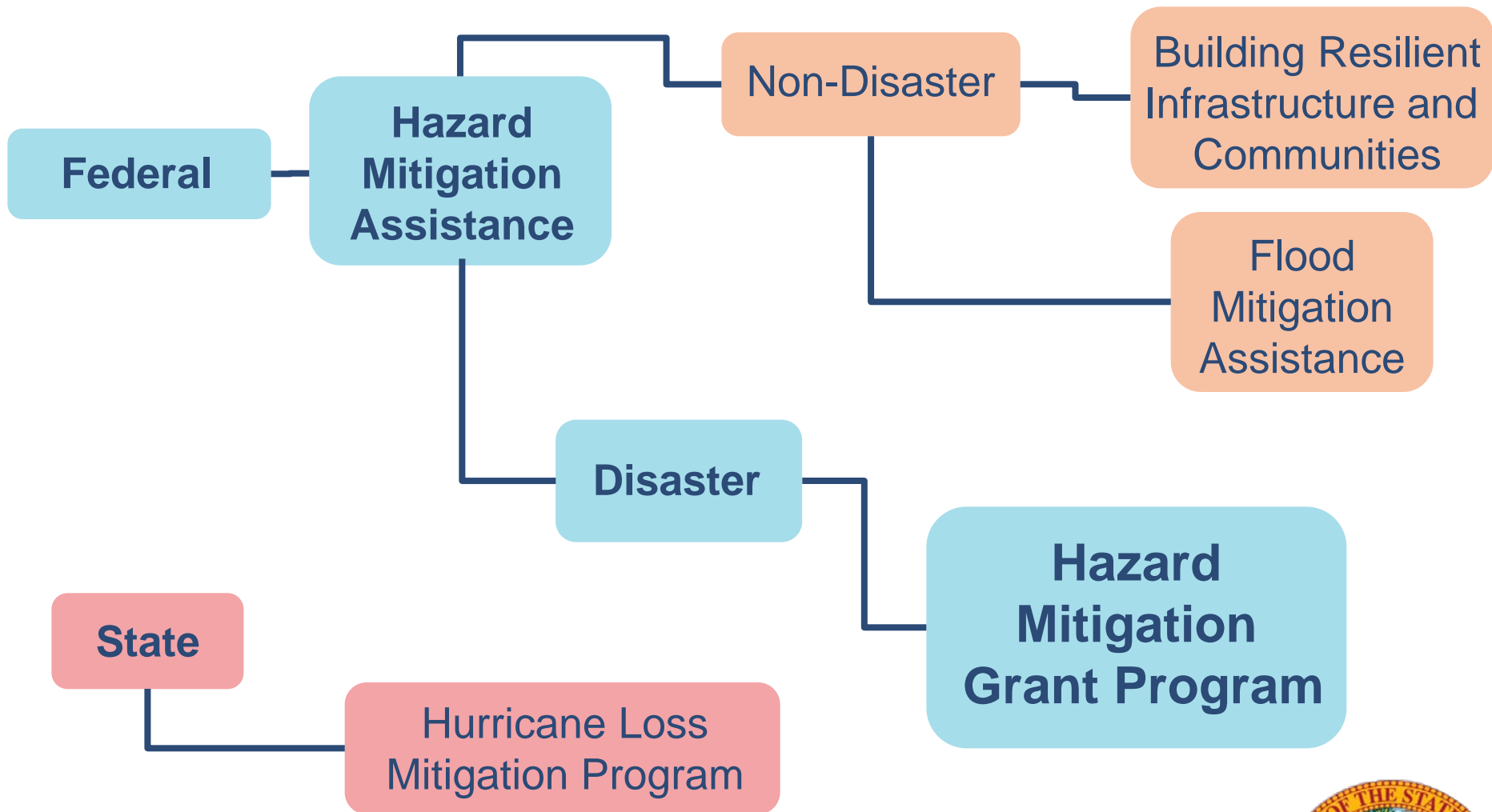
Who can  
apply?

What are the  
different  
funding options  
available?

Am I  
eligible?



# Mitigation Funding Programs





# Who Can Apply?

## Private Non-Profit Organizations

Examples: Medical, Residential Health Care Facilities, Educational, Emergency Utility, Houses of Worship\*

*\*If you have been considered eligible for PA, you are most likely an eligible applicant.*

## Government Entities

- State Agencies
- Local Governments and Agencies
- Special and Regional Districts

All must go through the Local Mitigation Strategy Working Group of the county where the project will take place.

## Tribal Nations



# Minimum Applicant Eligibility Criteria

Applicant's jurisdiction must have a FEMA-approved local mitigation plan as a condition of receiving a project grant



All jurisdictions included in multi-jurisdictional plan must have formally adopted their respective Local Mitigation Strategy (LMS)



All jurisdictions must participate in the NFIP (communities on probation or suspended from the NFIP are not eligible).



# Eligibility Criteria

All mitigation measures submitted to the state for funding consideration must:

- Be consistent with the State Hazard Mitigation Plan
- Provide a long-term solution
- Be located in a vulnerable area as identified in Local Mitigation Strategy (LMS)
- Be technically feasible and meet cost effectiveness and environmental conformity
- The measure must identify a non-federal match (75/25)



# Disaster Funding Programs

404/406  
Mitigation

Tier  
Funding  
Process

Eligibility

Process



# Post-Disaster Mitigation Funding

## Hazard Mitigation Grant Program (404)

- Vulnerable to any natural event, not just declared event
- **Can be** used on private property
- Project can not be eligible under any other federal program
- Must be cost effective and meet other performance criteria

## Public Assistance (406)

- Damaged by the event-site specific mitigation
- Located within defined declaration area
- **Can not be** used for private property
- Project can not be eligible under any other federal program
- Facility must be in active use at time of the disaster



# Program Funding

- HMGP is a cost-reimbursement grant program
  - All approved eligible project costs are financed by the subgrantee with reimbursement requested from the State
- FEMA may fund up to 75% of the eligible costs of each project
- Sub-Recipient Management Costs Available
- Project Cost-Share
  - The applicant must provide a 25% match, which can be fashioned from a combination of cash and in-kind sources (44CFR 206.432(c)), and project (global) match



# Three-Tiered Funding System

- FEMA provides State with initial HMGP funding amount
- State determines County allocations based on the prorated share of federal disaster funds spent in their county on:
  - Public Assistance (PA)
  - Individual Assistance (IA)
  - Small Business Administration (SBA)
- State publishes a Notice of Funding Availability (NOFA) which contains allocations of all designated counties



# Three-Tiered Funding System (cont'd)

## **Tier One**

Initial allocation of submitted and eligible projects will be funded in order of priority as endorsed by the LMS Working Group

## **Tier Two**

Any allocation remaining after all eligible projects in any designated county are funded will go to another designated county Working Group with a partially funded project contained in original submission.

## **Tier Three**

If funds remain after the Tier Two funding process, the un-obligated funds will be provided to any applicant statewide with a project application submitted within the application period, on a first-come-first-serve basis until all available funds are obligated.





# Eligible Types of Projects

## Acquisition

Acquiring and relocating, or demolishing, structures from hazard-prone areas

## Retrofit

Retrofitting structures to protect them from floods, high winds, earthquakes, or other natural hazards

## Elevation

Elevating existing structures to avoid flooding damages

## Drainage

Constructing certain types of minor and localized flood control projects

## Wildfire

Defensible space/vegetation barriers; retrofitting with fire-resistant materials and vegetation management



# Previously Funded HMGP Projects

- Acquisition/relocation
- Elevation of structures
- Elevation of critical infrastructure
- Catch basins/water retention projects
- Wetland restoration
- Flood proofing of non-residential structures
- Drainage improvements
- Flood control gates
- Sewer backup protection

- Erosion and sediment control projects
- Lift/pump stations retrofits
- Structural hazard control or protective actions
- Retrofitting wastewater treatment plant
- Water diversion
- Shuttering/wind protection measures



# What Makes An Eligible HMGP Project?

- Conformance with 44CFR Part 201 (Mitigation Planning Req.)
- Provides beneficial impact
- Conformance - 44 CFR part 9 Flood Plain Management and Protection of Wetlands, and 44 CFR part 10 Environmental Considerations
- Solves a problem
- Be technically feasible
- Meets all applicable state and local codes



# Project Eligibility (cont'd)

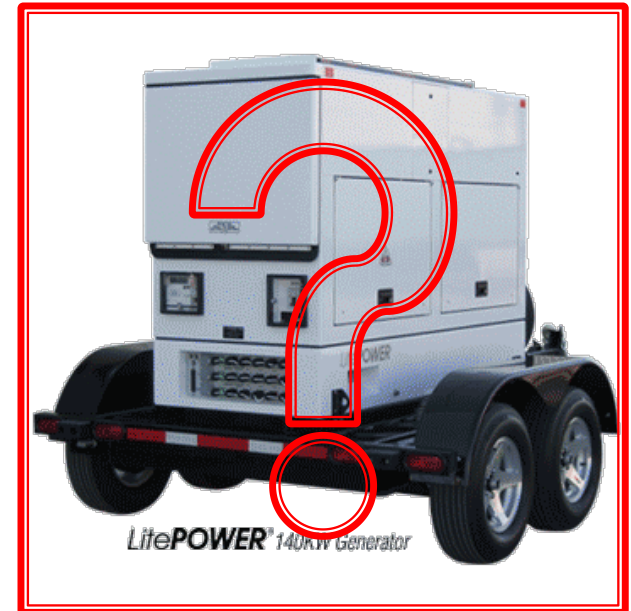
- Be cost-effective and substantially reduce the risk of future damage, hardship, loss, or suffering resulting from a major disaster. The grantee must demonstrate this by documenting that the project:
  - Addresses a repetitive problem or a significant risk
  - Will not cost more than the anticipated value of the benefits
  - Has been determined the most practical, effective, and environmentally sound alternative after consideration of a range of options
  - Contributes to a long-term solution
  - Considers long-term changes to the area and has manageable maintenance and modification requirements

44CFR 206.434



# Ineligible Activities

- Generators (unless...)\*
- Communications equipment
- Warning systems
- New construction (unless...)\*
- Potable water supply
- Studies only
- Sewage extensions in undeveloped areas
- Project for which work commences prior to awarding of grant
- Emergency pumps

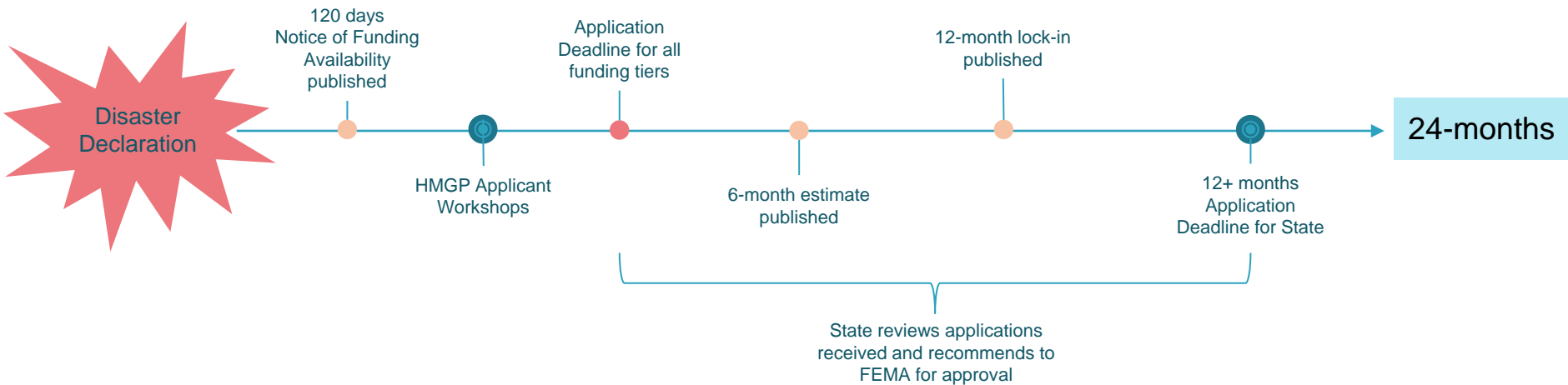


# HMGP Process

- Notice of Funding Availability
- Applicant development workshops
- LMS Working Group submits priority list to state
- Applications submitted to state for eligibility review
- State conducts project reviews
- State submits eligible projects to FEMA for final approval and potential funding consideration
- Upon FEMA approval, State begins the project/grant management process



# Time Frame and Expectations



- ▶ State submits local applications to FEMA up to 12 months after the disaster declaration (w/o PAS)
- FEMA's goal is to obligate all funds within 24 months of disaster declaration
- Program Administration by States
  - More responsibility on state during review process/project management.
  - Overall quicker state and FEMA approvals.



# Role of the Applicant

Develop/submit eligible and **complete** project applications by the deadline outlined in the appropriate Notice of Funding Availability:

- **FM-5307: May 10, 2021**
- **DR-4468: May 24, 2021**
- **DR-4564: April 2021**

- Complete State contracting process as timely as possible
- Perform project in accordance with approved scope of work and milestone schedule
- Manage project and funds received
- Submit quarterly reports to State (due no later than the **15th** of the month after quarter end)
- Audit projects in accordance with 44 CFR Part 14





# HMGP Application Process

- Use the HMGP Application Checklist as a guide for completing the application
- Make sure the disaster is identified
  - (FEMA-####-DR-FL)
- The descriptive project title (i.e., Volusia County, City of DeBary, West Side Emergency Flood Management System, Drainage)



# General Applicant Information

- Name of Applicant Organization
- Applicant type
- County/Counties
- State Legislative/Congressional District(s)
- Federal Tax Identification Number
- FIPS Code
- DUNS number
- FFATA

- Point of Contact
- National Flood Insurance Program (NFIP) Community Identification Number
- Application Preparer Information
- Duly Authorized Representative
- LMS Letter



# LMS Endorsement Letter

- Must have priority number and budget (federal share)
- Must identify how project meets LMS goals and objectives
- Signed by LMS Chair
- Applications without a LMS endorsement letter will NOT be processed.



# Pre-Award Costs

- Pre-construction soft costs
  - Activities such as engineering, modeling, permitting, environmental study, etc.
- Only eligible costs incurred after Presidential Declaration Date
- Must be approved by State and FEMA
- A request form must be submitted with application
- Cannot include construction
- If the project is not approved, pre-award costs will be the sole responsibility of the applicant



# Project (Global) Match

- Any eligible project type under HMGP
- Funded 100% by non-federal funds
- Project must meet HMGP criteria

- Match project must **NOT** begin prior to approval from FEMA.
- Requires separate project application
- Cannot be Phased



# Budget Development

Provide detailed costs of the project. This information will be used for the Benefit-Cost Analysis  
*(Do not include contingency costs or maintenance costs in the budget)*

- Materials costs (include all in-kind matches)
- Labor costs (include all in-kind matches)
- Other costs/fees (permitting, engineering, etc.)
- **DO NOT** include Sub-Recipient Management Costs here

*For more information see 44 CFR §13.24*



# Budget Development (cont'd)

Detail all anticipated project costs

- Lump sum is not acceptable
  - Whenever possible, quantify or provide additional breakdown of large lump sum cost items

- Provide the source of the estimate
  - i.e., documented local costs
  - vendor quotes



# Budget Development (cont'd)

- Funding Sources

- Estimated FEMA Share (maximum federal share is 75%)
- Non-Federal Share
  - 25% (Cash, In-Kind, Project Global Match)

I. **Funding Sources** (round figures to the nearest dollar)

*The maximum FEMA share for HMGP projects is 75%.* The other 25% can be made up of State and Local funds as well as in-kind services. HMGP funds may be packaged with other Federal funds, but other Federal funds (except for Federal funds that lose their Federal identity at the State level, such as CDBG, and certain tribal funds) may not be used for the Non-Federal share of the costs.

1.	<b>Estimated Federal Share</b>	<input type="checkbox"/>	<input type="checkbox"/>	% of Total (Maximum 75%)
2.	<b>Non-Federal Shares</b>			
3.	Estimated Local Shares	<input type="checkbox"/>	<input type="checkbox"/>	% of Total (Cash)
4.		<input type="checkbox"/>	<input type="checkbox"/>	% of Total (In-Kind**)
5.		<input type="checkbox"/>	<input type="checkbox"/>	% of Total (In-House***)
6.		<input type="checkbox"/>	<input type="checkbox"/>	% of Total (Global Match****)
7.	<b>Other Agency Share</b> <i>(Identify Non-Federal Agency and availability date)</i>	<input type="checkbox"/>	<input type="checkbox"/>	% of Total
	<input type="checkbox"/>			
	<input type="checkbox"/>			
8.	<b>Total Funding sources from above</b>	<input type="checkbox"/>	<input type="checkbox"/>	<b>\$0.00</b> <b>0.00%</b> <b>Total</b> (Equals 100%)

- \*\*Identify proposed eligible activities directly related to project to be considered for In-Kind services in Section IV.C. Fees
- \*\*\*Identify proposed eligible activities directly related to project to be considered for In-House services in Section IV.C. Fees
- \*\*\*\*Separate project applications must be submitted for each Global Match project.

Global Match Project Number and Title:

Example -  
page 8 of  
HMGP  
application





# Sub-Recipient Management Costs

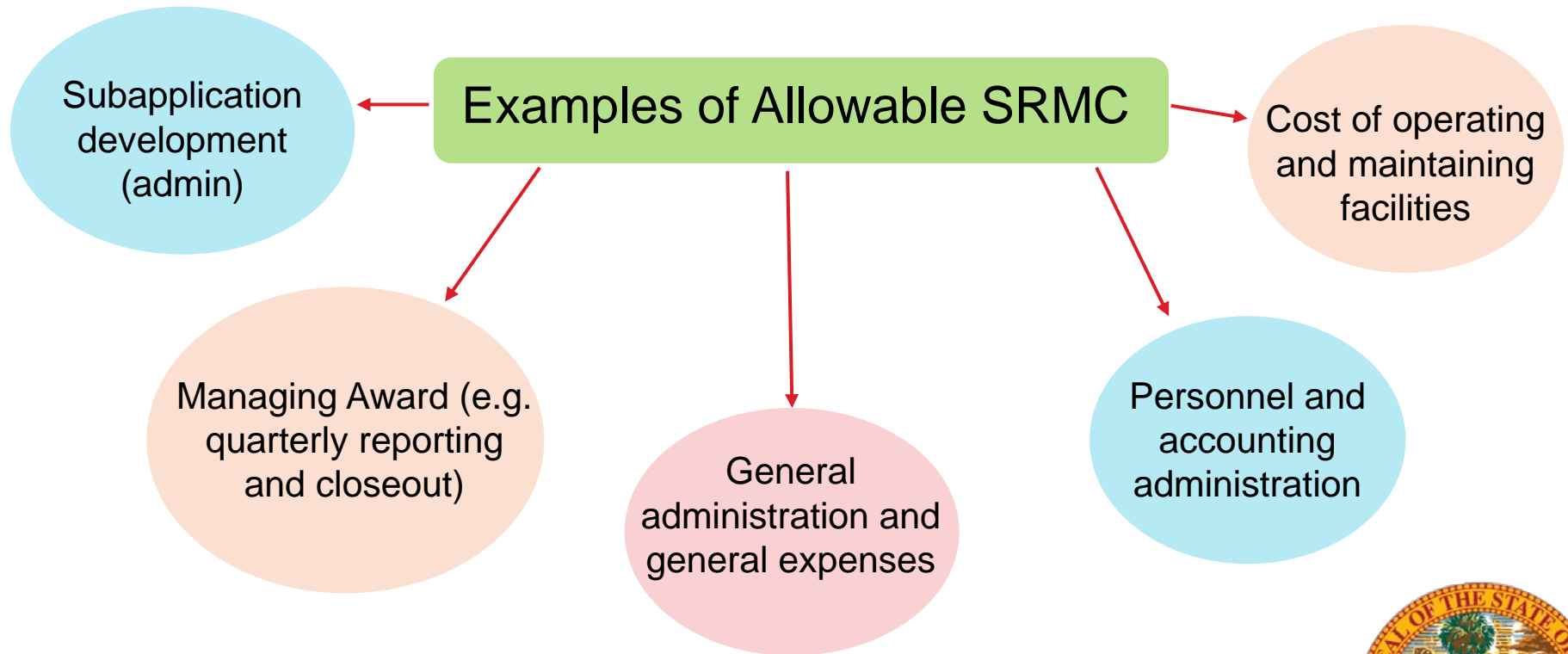
- SRMC is now available upon request
  - 5 percent of the HMGP award set-aside for subrecipients for every disaster
  - Keeps management funds and project funds separate.
  - Requested at the time of application and must be specific
  - Can only be used for indirect costs and/or administrative expenses associated with the project.
  - Per project SRMC cannot exceed 5% of the total project costs (75/25) or 5% of the proportional federal share if cost-share falls below 75%.\*

\*Application assumes 75/25 cost-share in calculation, but if Fed cost-share ends up <75%, SRMC will be lower based on new proportion.



# Sub-Recipient Management Costs

Management costs are any indirect costs and administrative expenses that are reasonably incurred by a Recipient or subrecipient in administering an award or subaward



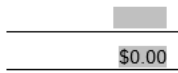
\*These activities are not an exhaustive list and are subject to State/FEMA approval





# SRMC (Cont.)

- SRMC is calculated to show available and requested amounts based on full 75/25 cost-share.

9.	<i>Total Estimated Management Costs</i>	<i>Requested Available</i>		5% of Total (Max Allowed)
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Example from pg. 8 of HMGP application

- An SRMC calculator will be available on the state HMGP website to help applicants determine the available SRMC for projects with a Fed cost-share below 75%.



# Project Milestones

- **Project Schedule of Work** (cannot exceed a 3 year period)
  - Identify project milestones, include all phases of the project
  - Milestone example: project design
  - Number of days to complete example: 6 months
  - Keep in mind **Strategic Funds Management**



# Strategic Funds Management

- **Strategic Fund Management (SFM)**
  - Intended to help FEMA reduce amount of unexpended obligations through incremental obligations.
  - Eligible projects will need to have their budgets broken down per year for the expected life of the project.
  - Federal funding will be available in increments according to the above schedule.
  - State will assist subrecipients with their projects, as needed.



# Strategic Funds Management

- Not all projects are appropriate candidates, such as:
  - Projects with federal share less than \$1 million
  - Projects that require an approved source of funding (full obligation) by the State procurement process in order for the subapplicant to enter procurement and contracting.
  - Projects for which most of the funds will be disbursed within 6 months.



# Application Process Changes

- A fully digital option is available for the following HMGP grants.
  - FM-5307 (Open)
  - DR-4468 (Open)
- Applications must be submitted through FDEM's Sharepoint System.
- Hard copies are still accepted but will still require a digital submission through Sharepoint.





# Application Process Changes

Request Access ASAP

See NOFA for access request instructions

**Deadline to request access to the Sharepoint System closes @5:00PM (EST) on the application deadline date**

**All applications are due by 11:59PM (EST) on the application deadline date.**



# Important Dates

Disaster	Sharepoint Access Request Deadline	Hard-Copy Submittal Deadline	Sharepoint Submittal Deadline
<b>FM-5307</b>	Monday May 10, 2021 5:00PM (EST)	Monday May 10, 2021 5:00PM (EST)	Monday May 10, 2021 11:59PM (EST)
<b>DR-4468</b>	Monday May 24, 2021 5:00PM (EST)	Monday May 24, 2021 5:00PM (EST)	Monday May 24, 2021 11:59PM (EST)



# Application Review

PROJECT MANAGEMENT



ENGINEERING



ENVIRONMENTAL

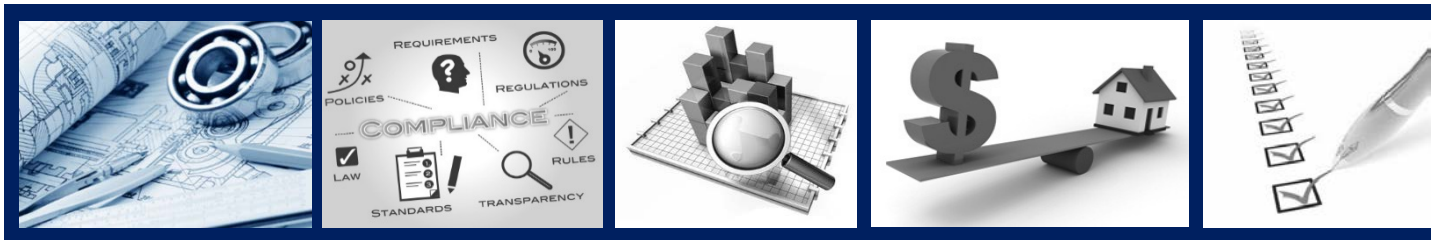


State Mitigation  
TECHNICAL UNIT



# Engineering Review - TechUnit

- ▶ **PAS / TechUnit is responsible for ensuring that projects are:**
  - ▶ Good MITIGATION stand-alone projects
  - ▶ In compliance with all requirements
  - ▶ SOW represents best alternative to solve the problem
  - ▶ Feasible
  - ▶ Reasonable cost
  - ▶ Cost effective – State runs a Benefit Cost Analysis (BCA)



# Cost-Effective Projects

“The Grantee must demonstrate (that the project is cost effective) by documenting that the project...will not cost more than the anticipated value of the reduction in both direct damages and subsequent negative impacts to the area if future disasters were to occur”

44 CFR Part 206, Section 206.434 Eligibility (c) (5) (ii)



# Cost Effectiveness - BCA

The analysis is done utilizing FEMA's Benefit Cost Analysis (BCA) tool (version 6.0)

$$\frac{\text{Benefits}}{\text{Project Cost}} = 1.0 \text{ or greater (Ratio)}$$



# Cost Effectiveness- BCA

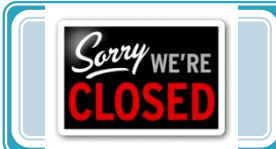
## ▶ TYPICAL BENEFITS



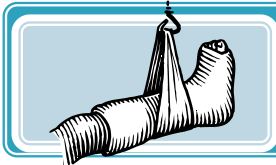
Avoided Physical Damages



Avoided Emergency Response Costs



Avoided Loss-of-Function Impacts



Avoided Injuries and Casualties



Non-Traditional Benefits




# BCA Exemptions

U.S. Department of Homeland Security  
500 C Street, SW  
Washington, DC 20472



MEMORANDUM FOR: Regional Administrators  
Regions I-X

ATTENTION: Regional Mitigation Division Directors  
Hazard Mitigation Assistance Branch Chiefs

FROM: David L. Miller   
Associate Administrator  
Federal Insurance and Mitigation Directorate

SUBJECT: Cost Effectiveness Determinations for Acquisitions and Elevations in Special  
Flood Hazard Areas Using Pre-calculated Benefits

This memorandum supersedes the August 15, 2013 version and clarifies the use of pre-calculated benefits to determine cost effectiveness of elevations and acquisitions in Special Flood Hazard Areas (SFHA). The Risk Reduction Division analyzed over 11,000 structures acquired or elevated and found that the average benefits for each project type are \$276,000 and \$175,000 respectively. Therefore, FEMA has determined that the acquisition or elevation of a structure located in the 100-year floodplain as delineated on the Flood Insurance Rate Map (FIRM) or based on best available data, that costs less than or equal to the amount of benefits listed above is considered cost effective. For projects that contain multiple structures, the average cost of all structures in the project must meet the stated criterion.

This methodology is available for all Hazard Mitigation Assistance (HMA) grant programs and can be applied to new applications as well as pending projects where the application period has expired. Additionally, pre-calculated benefits can be used to evaluate cost overruns for approved projects, if a new cost effectiveness review is being performed.

The specific geographic location of structures can increase acquisition and elevation costs. The benefit amounts identified above may be adjusted by using the most current locality multipliers included in industry accepted construction cost guides. If a multiplier is used, a copy of the source document must be included as part of the grant application.

The applicant or subapplicant must provide a map that clearly identifies the structure's footprint and delineates the 100-year SFHA, using the FIRM or best available data. If any part of the structure lies within the 100-year SFHA, the applicant or subapplicant can use the pre-calculated benefit value to demonstrate cost effectiveness. As an alternative, First Floor Elevation (FFE) and Base Flood Elevation (BFE) can be provided for each structure. If the FFE is lower than the BFE, pre-calculated benefits can be used to demonstrate cost effectiveness. No other detailed analysis is required. These pre-calculated benefits can be used in 100-year floodplains in riverine and coastal areas.

**Acquisitions** under  
\$276,000

**Elevations** under  
\$175,000  
(Includes Mitigation  
Reconstruction)

Requirement: to be located  
in the **Special Flood  
Hazard Area.**

(August 15, 2013)





# BCA Exemptions (Con't)

U.S. Department of Homeland Security  
500 C Street, SW  
Washington, DC 20472




FEMA

March 1, 2018

MEMORANDUM FOR: Regional Administrators  
Regions I-X

ATTENTION: Regional Mitigation Division Directors  
Hazard Mitigation Assistance Branch Chiefs

FROM: Michael Grimm   
Assistant Administrator, Mitigation  
Federal Insurance and Mitigation Administration

SUBJECT: Cost Effectiveness Determination for Non-Residential Hurricane Wind  
Retrofit Measures Funded by FEMA

This memorandum establishes the use of pre-determined benefits for wind retrofit projects on non-residential buildings in wind borne debris regions.

Two mitigation packages, Option 1 and Option 2, are considered eligible for the pre-determined benefits:

- Option 1 consists of (1) opening protection for doors, windows, and louvers against wind borne debris, wind driven rain, and high wind pressure, and (2) roof retrofit, which consists of securing roof top equipment, replacing roof decking and covering
- Option 2 consists of (1) opening protection, (2) roof retrofit, and (3) improvement to or creating a continuous load path from the roof to the foundation

Eligible structures must have primary structural framing that consists of steel, concrete, or reinforced masonry; structures composed of other building materials, such as wood, steel stud, and unreinforced masonry are not eligible for this pre-determined benefit. When retrofitted, structures will comply with the loading requirements of latest edition of the International Building Code (IBC), International Existing Building Code (IEBC), American Society of Civil Engineers, Minimum Design Loads for Buildings and Other Structures (ASCE 7), FEMA P-577, and the requirements of the locally enforced building code.

Applicants must provide maps with structures clearly indicated as being in a wind borne debris region to be eligible to use the pre-determined benefits. Additionally, the project must have a useful life of at least 25 years.

Mitigation projects meeting the above criteria are considered cost effective if the *mitigation project costs less than 10% of the building replacement value*. This eliminates the requirement for applicants to conduct a separate benefit cost analysis for eligible projects. The benefits are based on FEMA's existing methodology

[www.fema.gov](http://www.fema.gov)

**Wind Retrofit for Non-Residential Buildings** with mitigation cost under **10%** of the Building Replacement Value.

Requirement: Must have structural framing that consists on **steel, concrete or reinforced masonry.**

(March 1, 2018)



# BCA Exemptions (Con't)



## Job Aid

### Federal Insurance and Mitigation Administration

#### Cost Effectiveness Determination for Residential Hurricane Wind Retrofit Measures Funded by FEMA

This Job Aid establishes the use of pre-determined benefits to demonstrate the cost-effectiveness of wind retrofit projects that comply with FEMA P-804, *Wind Retrofit Guide for Residential Buildings*, December 2010 (available at <https://www.fema.gov/media-library/assets/documents/21082>). This eliminates the requirement for

Applicants/subapplicants to conduct a separate benefit-cost analysis for a hurricane wind retrofit project that meets the criteria identified in the table below. The benefits are based on FEMA's existing methodology for evaluating the cost-effectiveness of residential wind retrofit projects and use updated 2014 construction costs for the measures outlined in FEMA P-804.

To qualify for these pre-determined benefits, residential structures as identified in FEMA P-804 (does not include manufactured homes) must be located in the 120-mile-per-hour (mph) basic wind speed zone for Occupancy Category II Buildings per the American Society of Civil Engineers (ASCE) / Structural Engineering Institute (SEI) standard ASCE 7-10, *Minimum Design Loads for Buildings and Other Structures*.

Grant applications must include maps that clearly indicate the structures to be retrofitted as being in this wind zone to be eligible to use the pre-determined benefits. A list of States, boroughs, counties, parishes, and territories that meet the 120 mph requirement is attached:

- **States, Boroughs, Counties, Parishes, and Territories That Meet the Qualification Requirements for Pre-Determined Benefits** This includes areas that are completely located within the 120 mph wind zone. These areas are automatically eligible to use the pre-determined benefit costs as long as the application includes a map with the structures clearly indicated on it (see **List 1**).
- **States, Boroughs, Counties, Parishes, and Territories That Are Partially Located in the 120 mph Wind Zone** For structures located in these areas FEMA will need to make the determination on a case by case basis if the pre-determined benefits can be used. Applicants/subapplicants will need to submit a map with the structures clearly indicated on it to FEMA, who will then determine if the structure is located in the wind zone and can use the pre-determined benefits (see **List 2**).

The residential wind retrofit projects for the intermediate and advanced package, as discussed in FEMA P-804, are cost effective as long as the total project costs are less than the maximum costs listed in the table below.

Mitigation Package Type	Roof Replacement Project	Maximum Costs
Intermediate Protection	No	\$13,153.00
Intermediate Protection	Yes	\$24,920.00
Advanced Protection	No	\$40,252.00
Advanced Protection	Yes	\$52,018.00

Cost estimates submitted for a hurricane wind retrofit project that use the pre-determined benefits must be developed using industry-accepted cost-estimation standards, vendor estimates, or other sources. The costs identified in this Job Aid cannot be used to estimate or develop application project costs. Only documented, eligible costs for completed work will be reimbursed. The estimated costs above may be adjusted by the Applicant or subapplicant using the most current

"FEMA's mission is to support our citizens and first responders to ensure that as a nation we work together to build, sustain, and improve our capability to prepare for, protect against, respond to, recover from, and mitigate all hazards."

## Wind Retrofit for Residential Buildings

under the cost of specific packages listed on FEMA's job aid.

Requirement: Must comply with all activities under each package.

(December 2010)



# Project Review - BCA

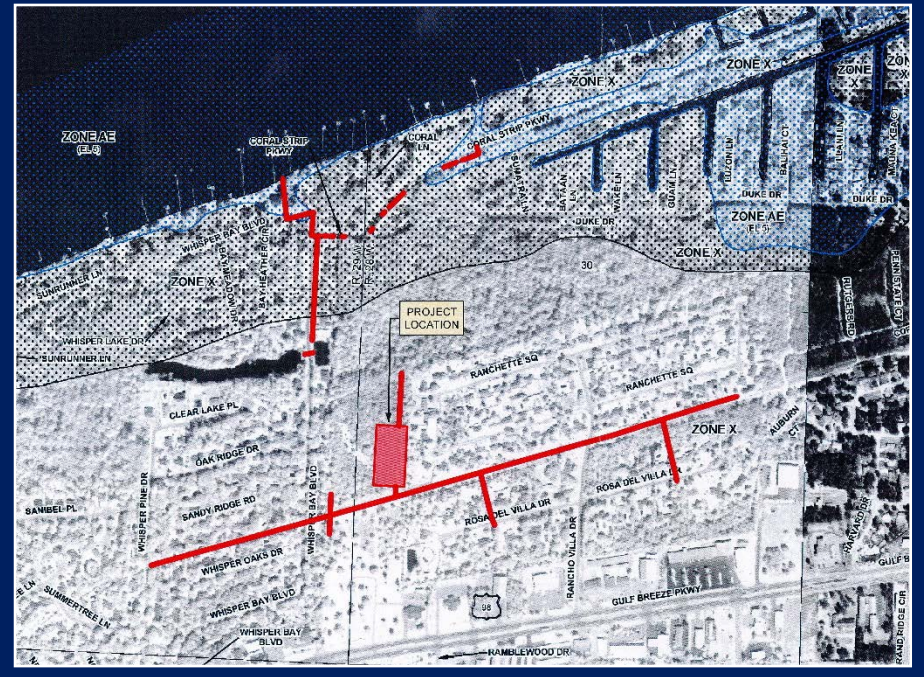
What do we look for on your application?

- ▶ Clear explanation of the purpose of the project, identifying the problem.
- ▶ Detailed Scope of Work identifying the best solution.



# Project Review - BCA (Con't)

- ▶ Project maps identifying the area (location Map, FIRM Map and topographic Maps)



# Project Review - BCA (Con't)

- ▶ Design drawings, if available.



# Project Review – BCA (Con't)

- ▶ Project's Budget with a break down of every item that is included on the final project cost.
- ▶ Project's Milestone Schedule clearly identifying the stages of the project until completion.
- ▶ Complete **Project Worksheet** according to the type of project.



# Project Worksheet - BCA



- ▶ **Worksheet is a fundamental part of the application.**
- ▶ Your answers should reflect the benefits of your project.
- ▶ Answers are used to run a preliminary BCA.
- ▶ It is **VERY** important to answer **ALL** questions.



# Project Worksheets - BCA

## WIND RETROFIT WORKSHEET

For preliminary Benefit Cost Analysis conducted by the State Mitigation Technical Unit

Applies for the following mitigation activities: **WIND RETROFIT** which includes Opening Protection, Load Path, Roof, Code Plus activities. For assistance, contact the State of Florida Mitigation Technical Unit.

IMPORTANT: This worksheet is required as part of your application. The State of Florida Mitigation Technical Unit will conduct a Benefit Cost Analysis (BCA) for your project.

Project Name \_\_\_\_\_  
 Applicant \_\_\_\_\_  
 Point of Contact \_\_\_\_\_

## FLOOD CONTROL - DRAINAGE IMPROVEMENT WORKSHEET

Applies for the following mitigation activities: **ACQUISITION, ELEVATION, DRY FLOOD PROOFING, DRAINAGE IMPROVEMENTS, FLOOD CONTROL, REBASINS, FLOODPLAIN AND STREAM RESTORATION AND FLOOD DIVERSION**. For assistance, contact the State of Florida Mitigation Technical Unit.

IMPORTANT: This worksheet is required as part of your application. The State of Florida Mitigation Technical Unit will conduct a Benefit Cost Analysis (BCA) for your project.

Project Name \_\_\_\_\_  
 Applicant \_\_\_\_\_  
 Point of Contact \_\_\_\_\_

## GENERATOR WORKSHEET

Applies for the following mitigation activities: **PERMANENT, PORTABLE GENERATORS, AND PERMANENT EMERGENCY STANDBY PUMPS**. For assistance, contact the State of Florida Mitigation Technical Unit.

IMPORTANT: This worksheet is required as part of your application. The State of Florida Mitigation Technical Unit will conduct a Benefit Cost Analysis (BCA) for your project and the following information is needed to evaluate cost effectiveness. Once a preliminary BCA is completed, the results will be shared with you to assist in project decision-making.

**SECTION I - PROJECT GENERAL INFORMATION**

Project Name \_\_\_\_\_  
 Applicant \_\_\_\_\_  
 Point of Contact \_\_\_\_\_  
 Name \_\_\_\_\_  
 Address (Please include City, State and Zip code) \_\_\_\_\_  
 Phone number \_\_\_\_\_  
 Email \_\_\_\_\_

HMA Program (HMA, FEMA, FIRM, etc.) \_\_\_\_\_

**SECTION II - STRUCTURE GENERAL INFORMATION**

Select the space or critical facility to mitigate:  Critical Facility Building  Utility/Infrastructure  Other \_\_\_\_\_

Address \_\_\_\_\_  
 In case of multiple units, list the address for the unit to be analyzed in the BCA worksheet provided with this project.

City, State and Zip Code \_\_\_\_\_  
 County \_\_\_\_\_  
 Is this a historical building?  Yes  No  Other \_\_\_\_\_  
 Year Built: \_\_\_\_\_  
 In the case of multiple units, provide the year of construction of the oldest unit in the average age of the structure. If no records have been kept, provide your best estimate.

**SECTION III - HAZARD / MITIGATION INFORMATION**

Please select the hazard that will be mitigated with this project:

Accident  Elevation  Dry Flood Proofing  Drainage   
 Leak/Control Measure  Flood and Flood Resistor  Flood Diversion   
 Other  Flood Resistor

## HURRICANE SAFE ROOM WORKSHEET

For preliminary Benefit Cost Analysis conducted by the State Mitigation Technical Unit

Applies for the following mitigation activities: **NEW SAFE ROOM AND RETROFIT OF EXISTING STRUCTURE**. For assistance, contact the State of Florida Mitigation Technical Unit.

IMPORTANT: This worksheet is required as part of your application. The State of Florida Mitigation Technical Unit will conduct a Benefit Cost Analysis (BCA) for your project.

Project Name \_\_\_\_\_  
 Applicant \_\_\_\_\_  
 Point of Contact \_\_\_\_\_

## WILDFIRE WORKSHEET

Applies for the following mitigation activities: **DEFENSIBLE SPACE, HAZARDOUS FUELS REDUCTION, IGNITION RESISTANT CONSTRUCTION, OTHER ACTIVITIES RELATED**. For assistance, contact the State of Florida Mitigation Technical Unit.

IMPORTANT: This worksheet is required as part of your application. The State of Florida Mitigation Technical Unit will conduct a Benefit Cost Analysis (BCA) for your project and the following information is needed to evaluate cost effectiveness. Once a preliminary BCA is completed, the results will be shared with you to assist in project decision-making.

Project Name \_\_\_\_\_  
 Applicant \_\_\_\_\_  
 Point of Contact \_\_\_\_\_

## DROUGHT WORKSHEET

Applies for the following mitigation activities: **AQUIFER AND STORAGE RESTORATION, OTHER ACTIVITY RELATED**. For assistance, contact the State of Florida Mitigation Technical Unit.

IMPORTANT: This worksheet is required as part of your application. The State of Florida Mitigation Technical Unit will conduct a Benefit Cost Analysis (BCA) for your project and the following information is needed to evaluate cost effectiveness. Once a preliminary BCA is completed, the results will be shared with you to assist in project decision-making.

**SECTION I - PROJECT GENERAL INFORMATION**

Project Name \_\_\_\_\_  
 Applicant \_\_\_\_\_  
 Point of Contact \_\_\_\_\_  
 Name \_\_\_\_\_  
 Address (Please include City, State and Zip code) \_\_\_\_\_  
 Phone number \_\_\_\_\_  
 Email \_\_\_\_\_

HMA Program (HMA, FEMA, FIRM, etc.) \_\_\_\_\_

**SECTION II - STRUCTURE GENERAL INFORMATION**

Address \_\_\_\_\_  
 In case of multiple units, list the address for the unit to be analyzed in the BCA worksheet provided with this project.

City, State and Zip Code \_\_\_\_\_  
 County \_\_\_\_\_

**SECTION IV - PROJECT COST INFORMATION**

Mitigation Project Cost \$ \_\_\_\_\_  
 Annual Maintenance Cost \$ \_\_\_\_\_  
 In the case of multiple units, provide the average age of the structure. If no records have been kept, provide your best estimate.





# Project Worksheets - BCA

FLORIDA DIVISION OF EMERGENCY MANAGEMENT  
Mitigation Bureau - Technical Unit  
October 2017

## FLOOD CONTROL - DRAINAGE IMPROVEMENT WORKSHEET

for preliminary Benefit Cost Analysis conducted by the State Mitigation Technical Unit

Applies for the following mitigation activities: **ACQUISITION, ELEVATION, DRY FLOOD PROOFING, DRAINAGE IMPROVEMENTS, FLOOD CONTROL MEASURES, FLOODPLAIN AND STREAM RESTORATION AND FLOOD DIVERSION.** For assistance, contact the State of Florida Mitigation Technical Unit.

**IMPORTANT:** This worksheet is required as part of your application. The State of Florida Mitigation Technical Unit will conduct a Benefit Cost Analysis (BCA) for your project and the following information is needed to evaluate cost effectiveness. Once a preliminary BCA is completed, the reviewer will contact you to collect support documentation.

SECTION I - PROJECT GENERAL INFORMATION

<b>Project Name</b>	
<b>Applicant</b>	
<b>Point of Contact</b>	Name:
	Address (Please include City, State and Zip Code):

HMA Program (FMA, PDM, HMGP, ...)

SECTION I

Select the type of critical facility to

**Address**  
In case of multiple sites, attach

**City, State and Zip Code**

**County**

Is this a historical building?

**Year Built**  Source (BX: Property Appraiser):

In the case of utility infrastructure, provide the year of construction of the oldest structure or the average age of the structure. If improvements have been completed over the years, due to land development.

Page 3 of 5

## WORKSHEET I

for preliminary Benefit Cost Analysis conducted by the State Mitigation Technical Unit

Applies for the following mitigation activities: **ACQUISITION, ELEVATION, DRY FLOOD PROOFING, DRAINAGE IMPROVEMENTS, FLOOD CONTROL MEASURES, FLOODPLAIN AND STREAM RESTORATION AND FLOOD DIVERSION.** For assistance, contact the State of Florida Mitigation Technical Unit.

**IMPORTANT:** This worksheet is required as part of your application. The State of Florida Mitigation Technical Unit will conduct a Benefit Cost Analysis (BCA) for your project and the following information is needed to evaluate cost effectiveness. Once a preliminary BCA is completed, the reviewer will contact you to collect support documentation.

SECTION I - PROJECT GENERAL INFORMATION

**Project Name**



# Worksheet- General Info

## GENERAL INFORMATION

### ▶ PROJECT COST

- ▶ Estimate from Engineering Department
- ▶ Public Works Data
- ▶ Vendor's Estimate
- ▶ Similar projects


**IMPORTANT NOTE:** It cannot be a lump sum.

Construction Cost Estimate Worksheet				
Applicant Name		Project Name		
125 Fountain Avenue, L.P.		Liberty Apartments		
Trade/Item	Unit	Quantity	Unit Cost	Total
<b>Division 1: General Requirements</b>				
1 Mobilization	LS		\$20,000.00	\$20,000.00
2 Temporary facilities	LS		\$30,000.00	\$30,000.00
3 Sidewalk Bridge/Safety	LS	1	\$90,000.00	\$90,000.00
4 Dumpsters	EA	85	\$1,100.00	\$93,500.00
5 Engineering and Testing	LS	1	\$75,000.00	\$75,000.00
6 Plans and Specs	LS	1	\$15,000.00	\$15,000.00
7 General Labor	LS		\$80,500.00	\$80,500.00
8				\$0.00
9				\$0.00
10				\$0.00
<b>Division 1 Total</b>				<b>\$404,000.00</b>
<b>Division 2: Sitework</b>				
1 Surveying	LS	1	\$15,000.00	\$15,000.00
2 Clear and grub/drainage	LS	2	\$15,000.00	\$30,000.00
3 Excavation/obstructions	CY	3964	\$50.00	\$198,200.00
4 Shoring/ shoring engineer	LS	775	\$40.00	\$31,000.00
5 Backfilling/Misc Machine days	Days	25	\$1,500.00	\$37,500.00
6 Plantings	EA	90	\$383.00	\$34,470.00
7 Paving/Pavers/fencing/curbs			\$110,678.00	\$110,678.00
8 Sidewalk with removal			88,652	\$88,652.00
9 Site furnishings/play equipment/safety surface			\$54,500.00	\$54,500.00
10				\$0.00
<b>Division 2 Total</b>				<b>\$600,000.00</b>
<b>Division 3: Concrete</b>				
1 Perimeter walls	CY	145	\$550.00	\$79,750.00
2 Interior Walls	CY	85	\$550.00	\$46,750.00
3 Perimeter and interior footings/stairs/misc. footings	CY	414	\$450.00	\$186,300.00
4 Misc. Concrete/rat slab	CY	56	\$400.00	\$22,400.00
5 Precast Concrete Plank	SF	49118	\$15.00	\$736,770.00
6 Precast stairs	FLT	7	\$5,000.00	\$35,000.00
7 Edge stops	LF	5112	\$4.50	\$23,004.00
8 Rebar	LBS	36953	\$1.50	\$55,429.50
9 Pump days	EA	10	\$1,575.00	\$15,750.00
10				\$0.00
<b>Division 3 Total</b>				<b>\$1,201,153.50</b>
<b>Division 4: Masonry</b>				
1 Interior CMU Block	SF	9482	\$14.00	\$132,748.00
2 Exterior Block and Brick	SF	17420	\$31.00	\$540,020.00
3 Precast lintels, sills and bands	LF	2488	\$35.00	\$87,080.00
4 Grouting	SF	7073	\$3.00	\$21,219.00
5 Parapets	LF	575	\$130.00	\$74,750.00
6 Flashing/Scaffold Installation	LS	1	\$24,500.20	\$24,500.20
7 Washdown	LS	21613	\$1.50	\$32,419.50
8				\$0.00
9				\$0.00
10				\$0.00
<b>Division 4 Total</b>				<b>\$912,736.70</b>



# Worksheet – General Info (con't)

- ▶ **MAINTENANCE COST**
  - ▶ Required for software to escalate that cost over project useful life
  - \*Only for BCA purposes.
  
- ▶ **PROPERTY INFORMATION**
  - ▶ Location
  - ▶ Property details (SF, BRV)
    - ▶ Property Appraisal
    - ▶ Previous assessment
    - ▶ RS Means
    - ▶ Other



**Department of Public Works**  
SANTA ROSA COUNTY, FLORIDA  
Milton, Florida 32583

**AVIS WHITFIELD**  
Director of Public Works  
6075 Old Bagdad Hwy.  
626-0191 • 904-5721 • 623-2221  
Fax 623-1331


**Stephen L. Furman**  
Assistant  
Public Works Director  
6075 Old Bagdad Hwy.  
626-0191 • 904-5721 • 623-2221  
623-1669 • 623-1877

**Thad Allen**  
Department Head  
Building Maintenance/Utilities  
P.O. Box 604  
623-1669 • 623-1877


**Memorandum**

From: Stephen L. Furman P.E.  
Sent: Thursday, March 5, 2015  
To: To Whom It May Concern  
Subject: Re: Ranchettes, Northridge and Whisper Bay Drainage Improvements

The Santa Rosa County Public Works Department will perform all necessary maintenance on the above HMGP Project at an expected cost of \$3,600.00 per year. Should additional information be needed, please do not hesitate to contact me.

  
 Stephen L. Furman P.E.  
 Assistant Public Works Director  
 Santa Rosa County  
[StephenF@sanrosacountyfl.gov](mailto:StephenF@sanrosacountyfl.gov)  
 (850)981-7121

**ATTACHMENT**



**Santa Rosa County Property Appraiser**  
Gregory S. Brown, CFA

390215 Santa Rosa County Property Appraiser's Web Site

Parcel ID	Fractional Parcel	Block/Parcel	PLM Definition	Assessed Multi-Parcel	Santa Rosa Home
2884 BAY F GARAGE, CTR			Single-Family		

**Parcel Information**

2011 Certified Values 2013 Certified Values 2014 Certified Values

Assessed Value	\$108,000	\$122,250	\$130,250
Market Value	\$6,117	16,650	17,000
Land Value	\$29,000	119,000	119,000
Land Agricultural Value	\$0	\$0	\$0
Agricultural (Market) Value	\$0	\$0	\$0
Just (Market) Value*	\$147,117	138,600	147,250
Assessed Value	\$147,117	138,600	147,250
Market Value	\$70,000	138,000	138,000
Variable Value	\$77,117	0	9,250

\*Based on the "best use" determination. This value is the value established by the Property Appraiser for all other purposes. This value does not represent a proposed selling price.

**Extra Features Data**

Description	Number of Items	Year	Extra Feature Value
SWIMMING POOL	1	1993	\$5,000
CARPORTS	1	1995	\$1,000

**Land Information**

Item	Land Code	Description	zoning	Frontage	Depth	Unit Type	Land Data	Land Value
1	000100	SFR	RS	107	117	1	LT	\$14,000

**Sale Information**

Year	Sale Price	Environment	Sold Book	Sold Page	Sale Classification	Vendor as Occupant	Qualifier
10-01-1998	\$ 129,000	Arms/Length	383	222	Qualified	Occupant	
05-01-1997	\$ 189,000	Arms/Length	311	285	Qualified	Occupant	
05-01-1995	\$ 16,000	Arms/Length	228	88	Qualified	Vendor	
07-01-1994	\$ 23,000	Arms/Length	224	243	Qualified	Vendor	

**Parcel and Multi-Parcel Search**

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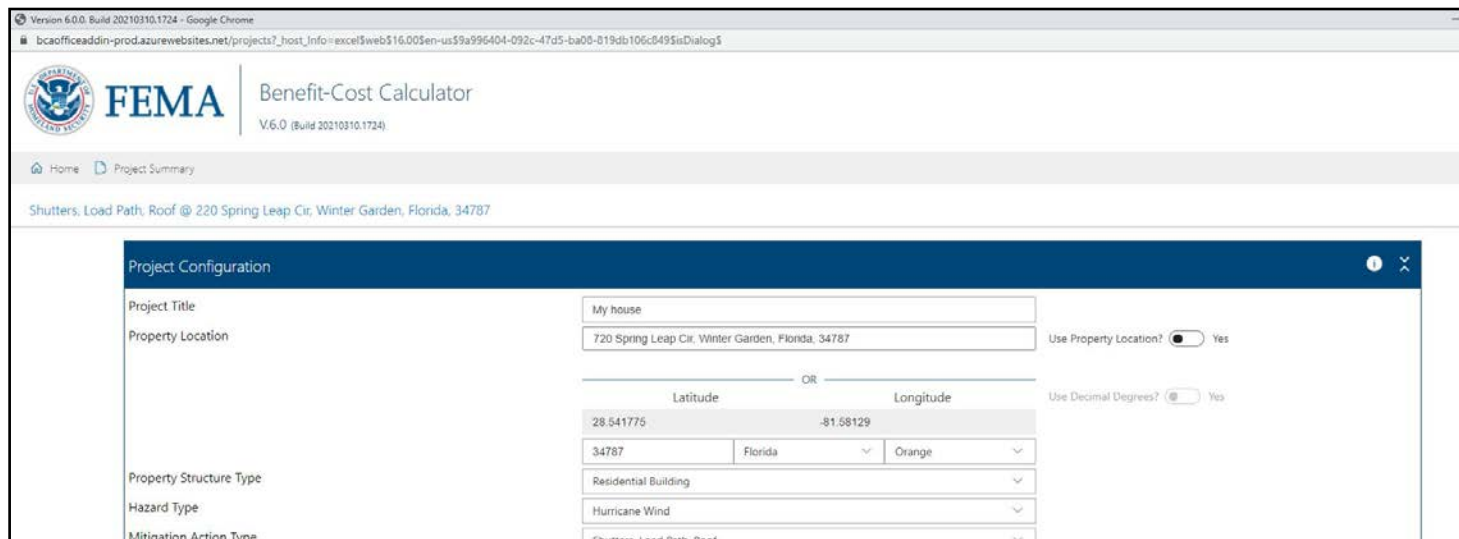
# BCA – Methodology

## BENEFIT COST ANALYSIS METHODOLOGY

Three ways to run a BCA:

- ▶ **Historical Damages**, applying available historical data
- ▶ **Modeled damages**, on which the tool calculates losses using technical available data (FIS, H&H, etc)
- ▶ **Professional Expected Damages**, using completed technical data (final designs, H&H, etc.).

\*Expected methodology for project ready for construction.



The screenshot displays the FEMA Benefit-Cost Calculator interface. The browser address bar shows the URL: `lbcofficeadlin-prod.azurewebsites.net/projects?_host_info=excel$web$16.005en-us$9a996404-092c-47d5-ba05-819db106c8495inDialog$`. The page header includes the FEMA logo and the text "Benefit-Cost Calculator V.6.0 (Build 20210310.1724)". A navigation bar shows "Home" and "Project Summary". The main content area displays the project configuration for "Shutters, Load Path, Roof @ 220 Spring Leap Cir, Winter Garden, Florida, 34787". The configuration form includes the following fields:

Project Configuration	
Project Title	My house
Property Location	720 Spring Leap Cir, Winter Garden, Florida, 34787
Use Property Location? <input checked="" type="checkbox"/> Yes	
OR	
Latitude	Longitude
28.541775	-81.58129
34787	Florida Orange
Property Structure Type	Residential Building
Hazard Type	Hurricane Wind
Mitigation Action Type	Shutters, Load Path, Roof

\*In some specific cases historical and expected could be combined.

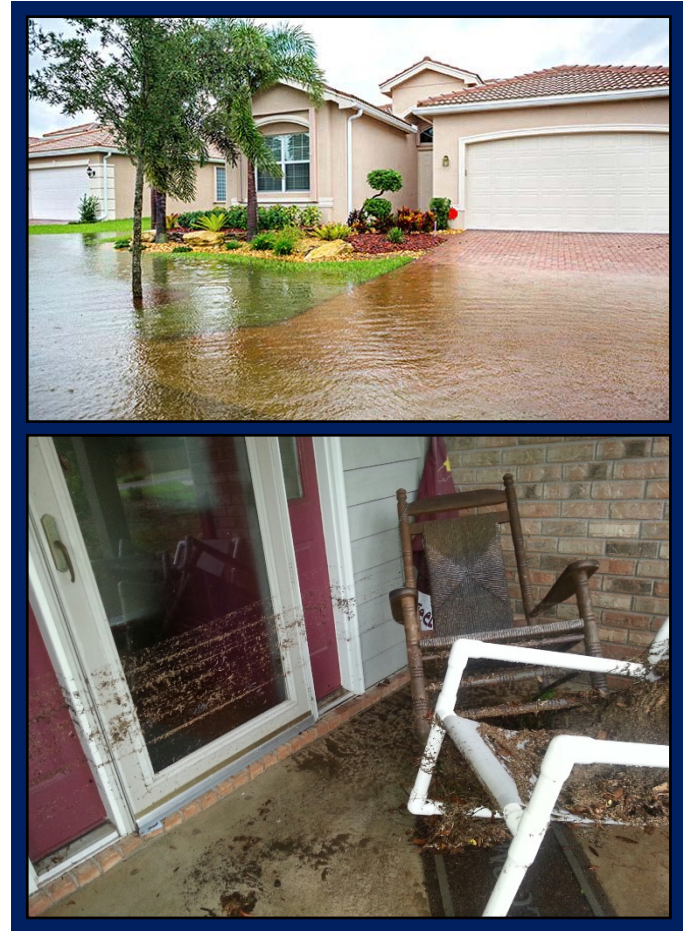
THE FLORIDA DIVISION OF EMERGENCY MANAGEMENT



# BCA – Historical Damages

## HISTORICAL DAMAGES

- ▶ Description of what happened
- ▶ Photographs
  - ▶ Flooded streets, neighborhood pictures.
  - ▶ Pictures of home damages.
- ▶ Insurance Claims
- ▶ Receipts from past repairs.
- ▶ Homeowners affidavits
  - ▶ Specific date
  - ▶ Specific flood depth



# BCA - Historical Damages

## HISTORICAL DAMAGES con't

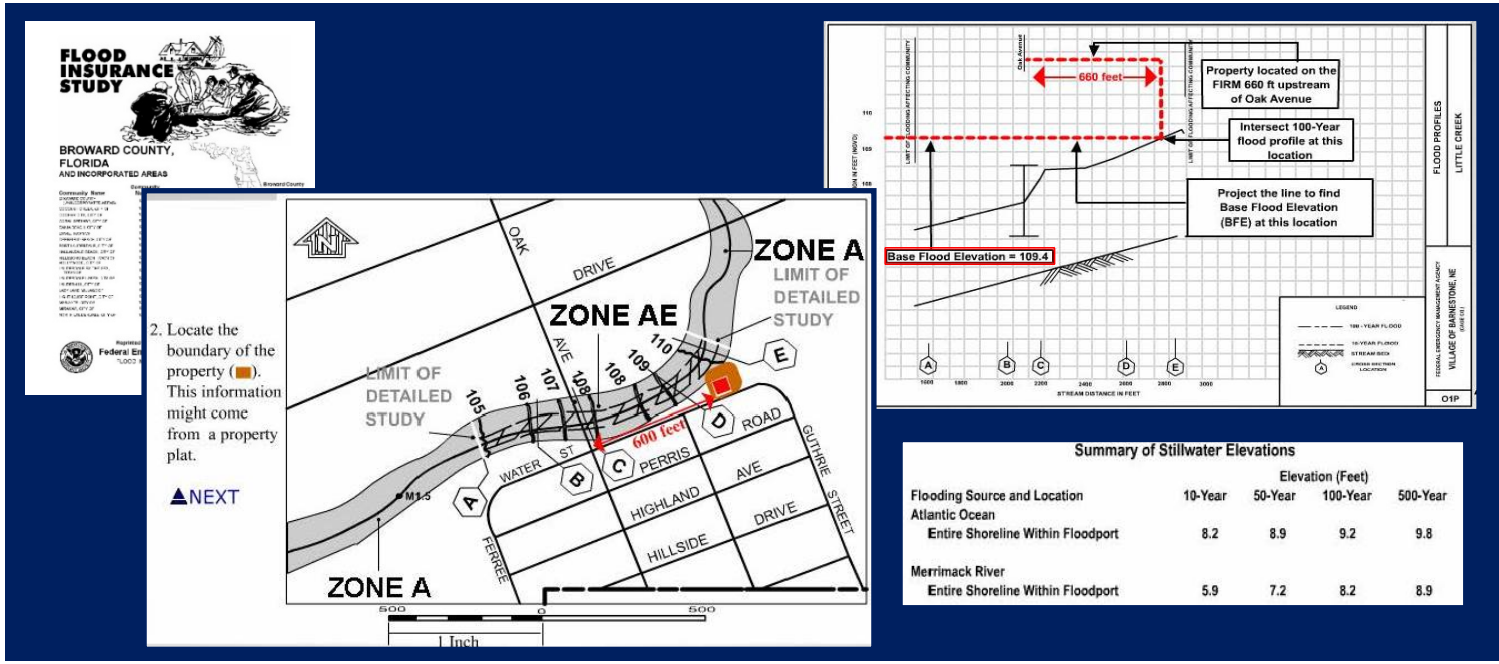
- ▶ Road closures
  - ▶ Duration of flooding
  - ▶ Traffic count in the affected area
- ▶ 911 phone call records.
- ▶ Any expenses while attending the emergency.
  
- ▶ Utility Infrastructure
  - ▶ Outages
  - ▶ Protective measures to avoid outages
  - ▶ Affected customers



# BCA – Modeled Damages

## ▶ MODELED DAMAGES

Using available technical data like FIS STUDY to demonstrate that property is at risk



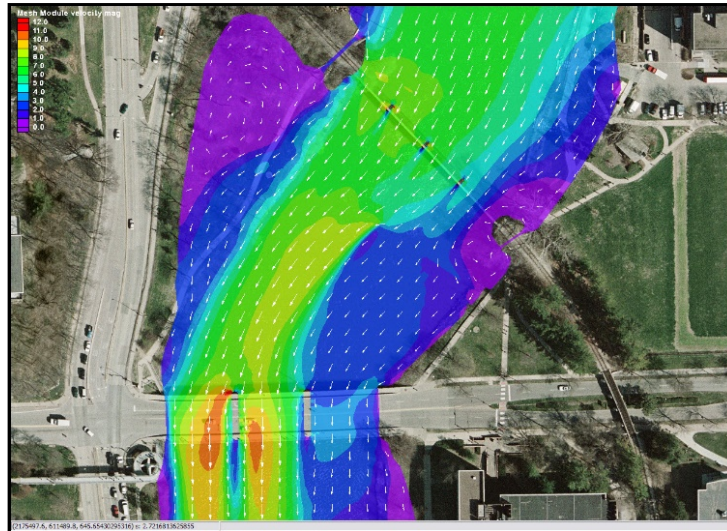
\*to be used for specific structures in Coastal or Riverine areas



# BCA – Professional Expected Damages

## Using H&H Study:

- ▶ Maps identifying the studied area.
- ▶ Preliminary designs
- ▶ H&H results
  - ▶ Existing Conditions
  - ▶ After Mitigation conditions (level of protection)





# BCA – Professional Expected Damages

## Using H&H Study (con't):

- ▶ List of structures that could be affected indicating:
  - ▶ Building Replacement Value BRV
  - ▶ Finished Floor Elevation
    - ▶ Survey
    - ▶ Lidar
    - ▶ GIS information
    - ▶ Others

**RANCHETTES SUBDIVISION - MAXIMUM STAGES (feet)**  
- Proposed Conditions -

Address	FFE	Critical Duration Storm Frequency Elevations						
		2-Year	3-Year	5-Year	10-Year	25-Year	50-Year	100-Year
2998 Ranchette Square	17.73	14.87	15.13	15.29	15.44	15.73	15.91	16.01
3011 Ranchette Square	18.52	15.45	15.92	16.38	17.13	17.62	18.10	18.32
3012 Ranchette Square	18.16	15.45	15.92	16.38	17.13	17.62	18.10	18.32
3013 Ranchette Square	18.57	15.45	15.92	16.38	17.13	17.62	18.10	18.32
3014 Ranchette Square	18.41	15.45	15.92	16.38	17.13	17.62	18.10	18.32
3053 Rosa Del Villa Drive	18.58	15.45	15.92	16.38	17.13	17.62	18.10	18.32
3061 Rosa Del Villa Drive	18.65	15.45	15.92	16.38	17.13	17.62	18.10	18.32
2822 Whisper Oaks Drive	19.02	17.13	17.64	18.06	18.28	18.56	18.86	19.06

**RANCHETTES SUBDIVISION - MAXIMUM STAGES (feet)**  
- Existing Conditions -

Address	FFE	Critical Duration Storm Frequency Elevations						
		2-Year	3-Year	5-Year	10-Year	25-Year	50-Year	100-Year
2998 Ranchette Square	17.73	15.98	16.30	16.57	16.87	17.19	17.55	17.76
3011 Ranchette Square	18.52	18.51	18.53	18.56	18.59	18.65	18.72	18.76
3012 Ranchette Square	18.16	18.51	18.53	18.56	18.59	18.65	18.72	18.76
3013 Ranchette Square	18.57	18.51	18.53	18.56	18.59	18.65	18.72	18.76
3014 Ranchette Square	18.41	18.51	18.53	18.56	18.59	18.65	18.72	18.76
3053 Rosa Del Villa Drive	18.58	18.51	18.53	18.56	18.59	18.65	18.72	18.76
3061 Rosa Del Villa Drive	18.65	18.51	18.53	18.56	18.59	18.65	18.72	18.76
2822 Whisper Oaks Drive	19.02	19.31	19.35	19.36	19.38	19.41	19.46	19.48

**RANCHETTES SUBDIVISION - FLOOD DEPTH (feet)**  
- Existing Conditions -

Address	FFE	Critical Duration Storm Frequency Elevations						
		2-Year	3-Year	5-Year	10-Year	25-Year	50-Year	100-Year
2998 Ranchette Square	17.73	1.75	1.43	1.16	0.86	0.54	0.18	-0.03
3011 Ranchette Square	18.52	0.01	-0.01	-0.04	-0.07	-0.13	-0.20	-0.24
3012 Ranchette Square	18.16	-0.35	-0.37	-0.40	-0.43	-0.49	-0.56	-0.60
3013 Ranchette Square	18.57	0.06	0.04	0.01	-0.02	-0.08	-0.15	-0.19
3014 Ranchette Square	18.41	-0.10	-0.12	-0.15	-0.18	-0.24	-0.31	-0.35
3053 Rosa Del Villa Drive	18.58	0.07	0.05	0.02	-0.01	-0.07	-0.14	-0.18
3061 Rosa Del Villa Drive	18.65	0.14	0.12	0.09	0.06	0.00	-0.07	-0.11
2822 Whisper Oaks Drive	19.02	-0.28	-0.33	-0.34	-0.37	-0.39	-0.44	-0.46

**RANCHETTES SUBDIVISION - FLOOD DEPTH (feet)**  
- Existing Conditions -

Address	FFE	Critical Duration Storm Frequency Elevations						
		2-Year	3-Year	5-Year	10-Year	25-Year	50-Year	100-Year
2998 Ranchette Square	17.73	1.75	1.43	1.16	0.86	0.54	0.18	-0.03
3011 Ranchette Square	18.52	0.01	-0.01	-0.04	-0.07	-0.13	-0.20	-0.24
3012 Ranchette Square	18.16	-0.35	-0.37	-0.40	-0.43	-0.49	-0.56	-0.60
3013 Ranchette Square	18.57	0.06	0.04	0.01	-0.02	-0.08	-0.15	-0.19
3014 Ranchette Square	18.41	-0.10	-0.12	-0.15	-0.18	-0.24	-0.31	-0.35
3053 Rosa Del Villa Drive	18.58	0.07	0.05	0.02	-0.01	-0.07	-0.14	-0.18
3061 Rosa Del Villa Drive	18.65	0.14	0.12	0.09	0.06	0.00	-0.07	-0.11
2822 Whisper Oaks Drive	19.02	-0.28	-0.33	-0.34	-0.37	-0.39	-0.44	-0.46



# BCA – Professional Expected Damages

## Using H&H Study (con't):

### ▶ DAMAGE CALCULATION

- ▶ Calculations over affected properties before and after mitigation, using Replacement Value and the depth of estimated flooding :

- ▶ Building Damage
- ▶ Content Damage
- ▶ Displacement Cost

**RANCHETTES SUBDIVISION – STRUCTURE DAMAGES BEFORE MITIGATION**

FIA Tables		Building Damages Before Mitigation							
Depth	Building	H1	H2	H3	H4	H5	H6	H7	H8
\$157,068		\$158,013	\$160,163	\$171,948	\$169,664	\$175,690	\$272,838	\$192,126	
x	y								
-1	0.00%								
-0.88	1.28%	\$1,079.03							
-0.54	4.14%	\$6,602.63							
-0.18	7.38%	\$11,691.47							
-0.14	7.74%							\$21,137.66	
-0.12	7.92%							\$21,603.77	
-0.09	8.19%							\$23,843.43	
-0.07	8.37%						\$14,721.99		
-0.05	8.49%				\$16,546.89			\$23,081.09	
-0.05	8.58%						\$15,038.60		
								\$15,513.50	
0.35	10.75%	\$17,779.44		\$38,288.88					
0.37	10.85%	\$17,862.62						\$20,845.27	
0.39	10.95%							\$23,097.90	
0.4	11.00%	\$18,154.85						\$24,555.42	
0.43	11.15%	\$18,277.04						\$15,018.05	
0.44	11.20%							\$21,518.11	
0.46	11.30%							\$21,730.24	
0.49	11.45%	\$18,770.92						\$16,445.02	\$15,510.35
0.56	11.80%	\$19,025.66							
0.6	12.00%	\$19,607.23							
1	14.00%								
								\$28,056.03	
								\$17,063.33	
								\$13,413.11	
									\$20,077.17
									\$20,461.42
									\$20,557.48

**RANCHETTES SUBDIVISION – TOTAL STRUCTURE DAMAGES BEFORE MITIGATION**

BUILDING DAMAGES TOTALS BEFORE MITIGATION						
2 yrs	3 yrs	5 yrs	10 yrs	25 yrs	50 yrs	100 yrs
\$116,351	\$120,391	\$122,987	\$127,139	\$136,014	\$145,153	\$150,289



# BCA – Professional Expected Damages

State ENG team is available to provide guidance to Sub-Applicants on expected methodology for Non-Phase projects (ready for construction)

- ▶ Excel spreadsheet sample for damage calculations.
- ▶ Excel file with Depth Damage Function Interpolation, as applicable.
- ▶ PDF Guidance to complete damage calculations.

DAMAGES BEFORE MITIGATION																														
H&M water elevation																														
DIFFERENCE																														
NODE	PROPERTY ADDRESS	BUILDING REPLACEMENT VALUE (BRV)	FFE	25-YR			50-YR			100-YEAR			25-YEAR			50-YEAR			100-YEAR			25-YEAR			50-YEAR			100-YEAR		
				25-YR	50-YR	100-YEAR	25-YR	50-YR	100-YEAR	25-YR	50-YR	100-YEAR	25-YR	50-YR	100-YEAR	25-YR	50-YR	100-YEAR	25-YR	50-YR	100-YEAR	25-YR	50-YR	100-YEAR	25-YR	50-YR	100-YEAR	25-YR	50-YR	100-YEAR
5	Node Name=example - 2007 Choctaw	\$	98,740	12.50	12.21	12.21	13.39	-0.17	0.71	1.09	6.39	12.35	14.72	9.59	18.81	22.09	\$6,309	\$12,392	\$24,535	\$9,489	\$18,593	\$21,802	0.00	31.95	49.05	50	\$7,325	\$10,938		
6	Node Name=example - 487 Spring H S	\$	99,992	11.90	10.90	11.60	13.11	-0.10	0.90	1.81	9.40	10.45	20.48	8.10	15.79	30.72	\$5,400	\$10,449	\$20,478	\$8,099	\$15,749	\$30,718	0.00	13.56	81.45	50	\$8,011	\$18,163		
TOTALS FOR BCA PURPOSES																														
\$31,709    \$22,841    \$35,051    \$17,360    \$38,341    \$52,518    0.00    45.45    130.10    50    \$20,195    \$29,102																														


  

DAMAGES AFTER MITIGATION																														
H&M water elevation																														
DIFFERENCE																														
NODE	PROPERTY ADDRESS	BUILDING REPLACEMENT VALUE (BRV)	FFE	25-YR			50-YR			100-YEAR			25-YEAR			50-YEAR			100-YEAR			25-YEAR			50-YEAR			100-YEAR		
				25-YR	50-YR	100-YEAR	25-YR	50-YR	100-YEAR	25-YR	50-YR	100-YEAR	25-YR	50-YR	100-YEAR	25-YR	50-YR	100-YEAR	25-YR	50-YR	100-YEAR	25-YR	50-YR	100-YEAR	25-YR	50-YR	100-YEAR	25-YR	50-YR	100-YEAR
13	Node Name=example - 2007 Choctaw	\$	98,740	12.50	11.60	12.40	-0.10	-0.10	0.90	0.90	8.10	13.90	1.95	12.15	30.85	8889	\$7,698	\$13,735	\$1,333	\$11,607	\$20,587	0.00	4.50	44.10	50	\$1,004	\$6,834			
14	Node Name=example - 487 Spring H S	\$	99,992	11.90	10.62	10.84	12.70	-0.09	-0.08	1.40	1.08	4.88	17.20	1.62	7.28	28.80	\$3,080	\$4,890	\$37,199	\$3,820	\$7,293	\$29,788	0.00	0.00	85.00	50	\$0	\$34,049		
TOTALS FOR BCA PURPOSES																														
\$1,969    \$12,858    \$20,923    \$2,953    \$19,288    \$46,385    0.00    4.50    107.10    50    \$1,004    \$23,883																														

REFERENCE INFO																											
21	NODE	Refers to the node on your H&M that provides the information for the specific property that will benefit from the project.																									
22	PROPERTY ADDRESS	Include all addresses for properties that will benefit from the project.																									
23	BUILDING REPLACEMENT VALUE	Building replacement value (BRV) can be obtained from property appraiser, 85 Means or building construction calculator.																									
24	FLOOD FLOOR ELEVATION	First floor elevation for finished areas (not garage elevations). If quality of elevation certificate is not available, it can be an estimating number (by observation).																									
25	H&M BEFORE MITIGATION RESULTS	Using your H&M, please enter the water elevation under each scenario before mitigation (existing conditions). The amount of scenarios and the recurrence intervals are determined by the engineer running the H&M. It is not match this sample.																									
26	H&M AFTER MITIGATION RESULTS	Using your H&M, please enter the water elevation under each scenario after mitigation (proposed conditions). The amount of scenarios and the recurrence intervals are determined by the engineer running the H&M. It is not match this sample.																									
27	DIFFERENCE	Result from subtracting the peak stage elevation from the finished floor elevation. It refers to the amount of water affecting the structure under each scenario. (this value is auto calculated).																									
28	DDF	Use's Depth Damage Function.																									
29	DDF BUILDING DAMAGE %	Percentage of damage obtain from DDF table. Each value under difference should be match with a percentage on the table.																									
30	DDF BUILDING DAMAGE \$	BRV * DDF Percentage = Damage \$ (this value is auto calculated).																									
31	DDF CONTENT DAMAGE %	Percentage of damage obtain from DDF table. Each value under difference should be match with a percentage on the table.																									
32	DDF CONTENT DAMAGE \$	BRV * DDF Percentage = Damage \$ (this value is auto calculated).																									
33	DISPLACEMENT (DAYS)	Days of displacement based on DDF using "Difference" value.																									
34	DISPLACEMENT \$	Displacement cost is the Per Diem and Lodging cost (per federal rate for project location) for each structure multiplied by the number of individuals in the structure (household size per census data). Websites to look up project location are: <a href="http://www.fda.gov/foia/foia-requests">http://www.fda.gov/foia/foia-requests</a> and <a href="http://www.fda.gov/foia/foia-requests">http://www.fda.gov/foia/foia-requests</a>																									
35	DISPLACEMENT \$	Displacement cost is the Per Diem and Lodging cost (per federal rate for project location) for each structure multiplied by the number of individuals in the structure (household size per census data). Websites to look up project location are: <a href="http://www.fda.gov/foia/foia-requests">http://www.fda.gov/foia/foia-requests</a> and <a href="http://www.fda.gov/foia/foia-requests">http://www.fda.gov/foia/foia-requests</a>																									
36	DISPLACEMENT \$	Displacement cost is the Per Diem and Lodging cost (per federal rate for project location) for each structure multiplied by the number of individuals in the structure (household size per census data). Websites to look up project location are: <a href="http://www.fda.gov/foia/foia-requests">http://www.fda.gov/foia/foia-requests</a> and <a href="http://www.fda.gov/foia/foia-requests">http://www.fda.gov/foia/foia-requests</a>																									
37	DISPLACEMENT \$	Displacement cost is the Per Diem and Lodging cost (per federal rate for project location) for each structure multiplied by the number of individuals in the structure (household size per census data). Websites to look up project location are: <a href="http://www.fda.gov/foia/foia-requests">http://www.fda.gov/foia/foia-requests</a> and <a href="http://www.fda.gov/foia/foia-requests">http://www.fda.gov/foia/foia-requests</a>																									

Florida Division of Emergency Management – Mitigation Technical Unit / Engineering



**Non-phased project and Phase I Deliverables - Guidance for Sub-Applicants and Sub-Recipients submitting drainage projects**

The intent and purpose of this document is to clarify and assist the Sub-applicants/Sub-recipients about understanding the details, components, and process required for Non-phased projects ready for construction or "phased" projects submitting Phase I deliverables for technical review.

The "phasing" aspects of this guidance are only related to phasing a project under FEMA HMA programs, at no point, it refers to the phases or segments of a project, labeled by designers or construction managers.

This guidance is specific to FDEM Mitigation personnel involved with application and project reviews as Project Managers and TechUnit reviewers, for them to share with Sub-applicants/Sub-recipients.

**OVERVIEW**

Projects applying for funding under FEMA's Hazard Mitigation Assistance (HMA) programs could be submitted as a complete project ready for construction or could be phased during the application review. For project's fully designed and being recommended as Non-phased, the following guidance is applicable.

If the project is not fully designed, permitted and ready for construction, the State makes the determination to phase the project and submits a recommendation to FEMA for phase I funding. If approved and funded, Phase I is the preparation, design and study needed to complete the project - for it to be ready for Phase II, which shall be the actual construction of the project, no construction activities are approved under a Phase I approval. Phase I activities could include but are not limited to: surveying, geotechnical analysis, engineering, design, plans preparation, permitting and bidding for the proposed project, for Phase II approval.

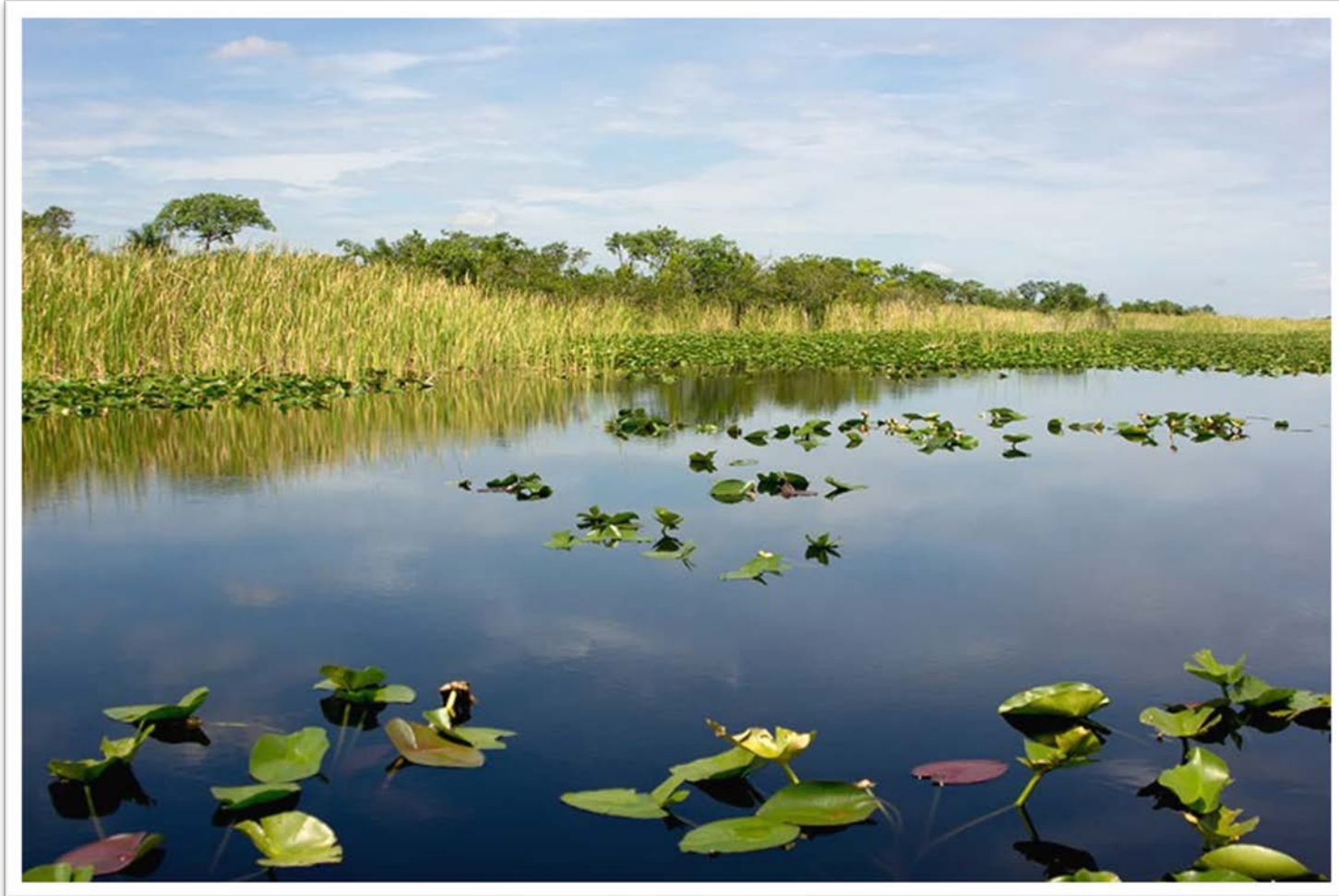
USACE Generic Residential 1 Story						
Depth	Building	Content	Displacement			
-2.00	0.00%	0.00%				
-1.99	0.03%	0.02%				
-1.98	0.05%	0.05%				
-1.97	0.08%	0.07%				
-1.96	0.10%	0.10%				
-1.95	0.13%	0.12%				
-1.94	0.15%	0.14%				
-1.93	0.18%	0.17%				
-1.92	0.20%	0.19%				
-1.91	0.23%	0.22%				
-1.90	0.25%	0.24%				
-1.89	0.28%	0.26%				
-1.88	0.30%	0.29%				
-1.87	0.33%	0.31%				

the Phase I tasks  
 "deliverables", the  
 structure. The Phase II  
 Phase I and analysis  
 y common that both  
 Phase I to Phase II,  
 stated that Phase II will  
 and the project is  
 will be finalized and

Page 1 of 5



# Environmental and Historic Preservation Review



THE FLORIDA DIVISION OF EMERGENCY MANAGEMENT



# Environmental Review

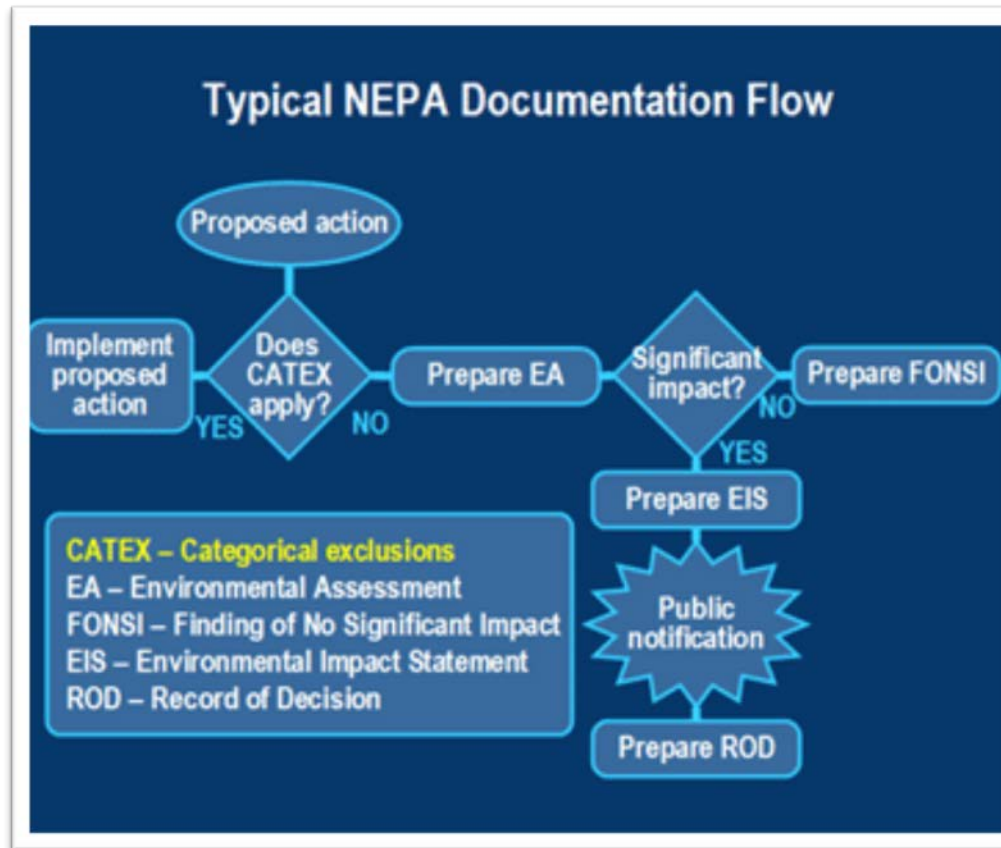
The Environmental and Historic Preservation (EHP) Review ensures that projects seeking federal funding are compliant with the National Environmental Policy Act (NEPA) and the National Historic Preservation Act (NHPA)

NEPA stipulates that prior funding ALL federal agencies must consider any effects the proposed action may have on the environment (11 Acts and 4 Executive orders are reviewed).

NHPA requires that ALL Federal Agencies consider the effect of an action on a property listed or eligible for listing on the National Register of Historic Places.



# Environmental NEPA



**Statutory Exclusion** – Emergency Actions

**Categorical Exclusion** – No significant impact (previously determined)

**Environmental Assessment** – Brief review to determine effect

**Environmental Impact Statement** – Extensive review analyzing impact



# Application –Walk Through

## Acquisition/Demolition Example

THIS SECTION FOR STATE USE ONLY		
FEMA-___-DR-FL	<input type="checkbox"/> Standard HMGP	<input type="checkbox"/> 5% Initiative Application <input type="checkbox"/> Initial Submission or <input type="checkbox"/> Application Complete <input type="checkbox"/> Re-Submission
<b>Support Documents</b>	<b>Eligible Applicant</b>	<b>Project Type(s)</b>
<input type="checkbox"/> Conforms w/ State 405 Plan <input type="checkbox"/> In Declared Area <input type="checkbox"/> Statewide	<input type="checkbox"/> State or Local Government <input type="checkbox"/> Private Non-Profit (Tax ID Received) <input type="checkbox"/> Recognized Indian Tribe or Tribal Organization	<input type="checkbox"/> Wind <input type="checkbox"/> Flood <input type="checkbox"/> Other: _____
<b>Community NFIP Status:</b> (Check all that apply)	<b>LMS Ranking:</b> _____	
<input type="checkbox"/> Participating Community ID#: _____	<b>County:</b> _____	
<input type="checkbox"/> In Good Standing <input type="checkbox"/> Non-Participating <input type="checkbox"/> CRS		
<b>State Application ID:</b> _____		
(TIME-DATE STAMP HERE)		

This application is for all Federal Emergency Management Agency (FEMA Region IV) Hazard Mitigation Grant Program (HMGP) proposals. Please complete ALL sections and provide the documents requested. If you require technical assistance, please contact the Florida Division of Emergency Management at [DEM\\_HazardMitigationGrantProgram@em.myflorida.com](mailto:DEM_HazardMitigationGrantProgram@em.myflorida.com).

### Section I – Applicant

A. **Applicant Instruction:** Complete all sections that correspond with the type of proposed project

<u>Application Sections I-IV:</u>	All Applicants must complete these sections
<u>Environmental Review:</u>	All Applicants must complete these sections
<u>Maintenance Agreement:</u>	Any Applications involving public property, public ownership, or management of property
<u>Flood Control – Drainage Improvement Worksheet:</u>	Acquisition, Elevation, Dry Flood proofing, Drainage Improvements, Flood Control Measures, Floodplain and Stream Restoration, and Flood Diversion – one worksheet per structure
<u>Generator Worksheet:</u>	Permanent, portable generators, and permanent emergency standby pumps
<u>Tornado Safe Room Worksheet:</u>	New Safe Room, Retrofit of existing structure, Community Safe Room, Residential Safe Room
<u>Hurricane Safe Room Worksheet:</u>	New Safe Room, Retrofit of existing structure
<u>Wind Retrofit Worksheet:</u>	Wind Retrofit projects only – one worksheet per structure
<u>Wildfire Worksheet:</u>	Defensible Space, Hazardous Fuels Reduction, Ignition Resistant Construction, other
<u>Drought Worksheet:</u>	Aquifers, other
<u>Request for Public Assistance Form:</u>	FEMA Form 90-49 (Request for Public Assistance): All applicants must complete, if applicable.
<u>Acquisition Forms:</u>	If project type is Acquisition, these forms must be completed. (Only one of the two Notice of Voluntary Interest forms is necessary.) Model Statement of Assurances for Property Acquisition Projects Declaration and Release Notice of Voluntary Interest (Town Hall Version) Notice of Voluntary Interest (Single Site Version) Statement of Voluntary Participation FEMA Model Deed Restriction Language
<u>Application Completeness Guidance / Checklist :</u>	All applicants are recommended to complete this checklist and utilize the guidance for completing the application.



# Application – Project Description

## B. Project Description, Scope of Work, and Protection Provided (Must be Completed in Detail)

Describe, in detail, the existing problem, the proposed project, and the scope of work. Explain how the proposed project will **solve** the problem(s) and provide the level(s) of protection described in Part A. Also, if available, attach a vendor's estimate and/or a contractor's bid for the scope of work. ***Please ensure that each proposed project is mitigation and not maintenance.***

1. Describe the existing problems:

**The structure at 123 Main St. Anytown, FL is a single family slab on grade structure subject to repetitive flood loss as defined by the National Flood Insurance Program. The NFIP claims data indicates that the house flooded in 2005, 2008, and 2011. The house flooded again during the 2014 flood event. Due to the road elevation the water runs onto the property and when the drainage retention area fills up it causes the water to run onto the surrounding properties and floods those homes creating a health and safety issue for the residence.**

2. Describe the type(s) of protection that the proposed project will provide:

**This acquisition will return the flood prone property to open space and will prevent the flooding of the houses on either side of the property. Acquiring this property will allow the water seep into the open ground which will help protect neighbors from flooding during high rain events.**

3. Scope of Work (describe in detail what you are planning to do):

**The scope of work for this project is to acquire the Smith residence located at 123 Main Street, Anytown, FL 32456, demolish the structure, remove debris, abandon the well, and septic tank, disconnect all utilities and conduct site restoration. The land will be converted to open space and deed restricted as set forth in FEMA program requirements as described in 44 CFR 206.434 (e) The completed work shall comply with all Federal, State, and Local Rules and Regulations.**





# Application – Location

## **Section III – Project Location** *(Fully describe the location of the proposed project.)*

### **A. Site**

1. Describe the physical location of this project, including street numbers (or neighborhoods) and project site zip code(s). Provide precise longitude and latitude coordinates for the site utilizing a hand-held global positioning system (GPS) unit or the equivalent:

Location:

Address(s):

GPS coordinates (decimal degree format):

Project Zip Code(s):

2. Title Holder:

*\*Coordinates in degrees, minutes and seconds format are **NOT** acceptable*



# Application – Location Examples

## ▶ Multiple locations such as Lift Stations

Lift Station	Coordinates
LS 24-1	(28.345678, -82,234567)
LS 14-1	(28.345678, -82,234567)
PS 4-3	(28.345678, -82,234567)
PS 57-3	(28.345678, -82,234567)
PS 57-2	(28.345678, -82,234567)

## ▶ Multiple buildings

Fire Station	Address	Coordinates
1	000 Hawk Ridge, Sunny, Florida 32000	(28.345678, -82,234567)
2	000 Hawk Ridge, Sunny, Florida 32000	(28.345678, -82,234567)
3	0th Street NE, Sunny, Florida 32000	(28.345678, -82,234567)
4	000 Heron Road, Sunny, Florida 32000	(28.345678, -82,234567)
5	000 Sandpiper Road, Sunny, Florida 32000	(28.345678, -82,234567)

*\*If the project will take place outside the building the coordinates provided should correspond to the exact location of project activities.*



# Application – Location Examples

## ▶ Linear Drainage Projects

Location	Coordinates	
State Road 30-E Somewhere in Florida, 32800	Begin	(28.345678, -82,234567)
	End	(28.345678, -82,234567)

## ▶ Drainage Projects with Boundaries

Location	Coordinates	
Sunny, Florida 32000	NE	(28.345678, -82,234567)
	NW	(28.345678, -82,234567)
	SE	(28.345678, -82,234567)
	SW	(28.345678, -82,234567)



# Application – Location

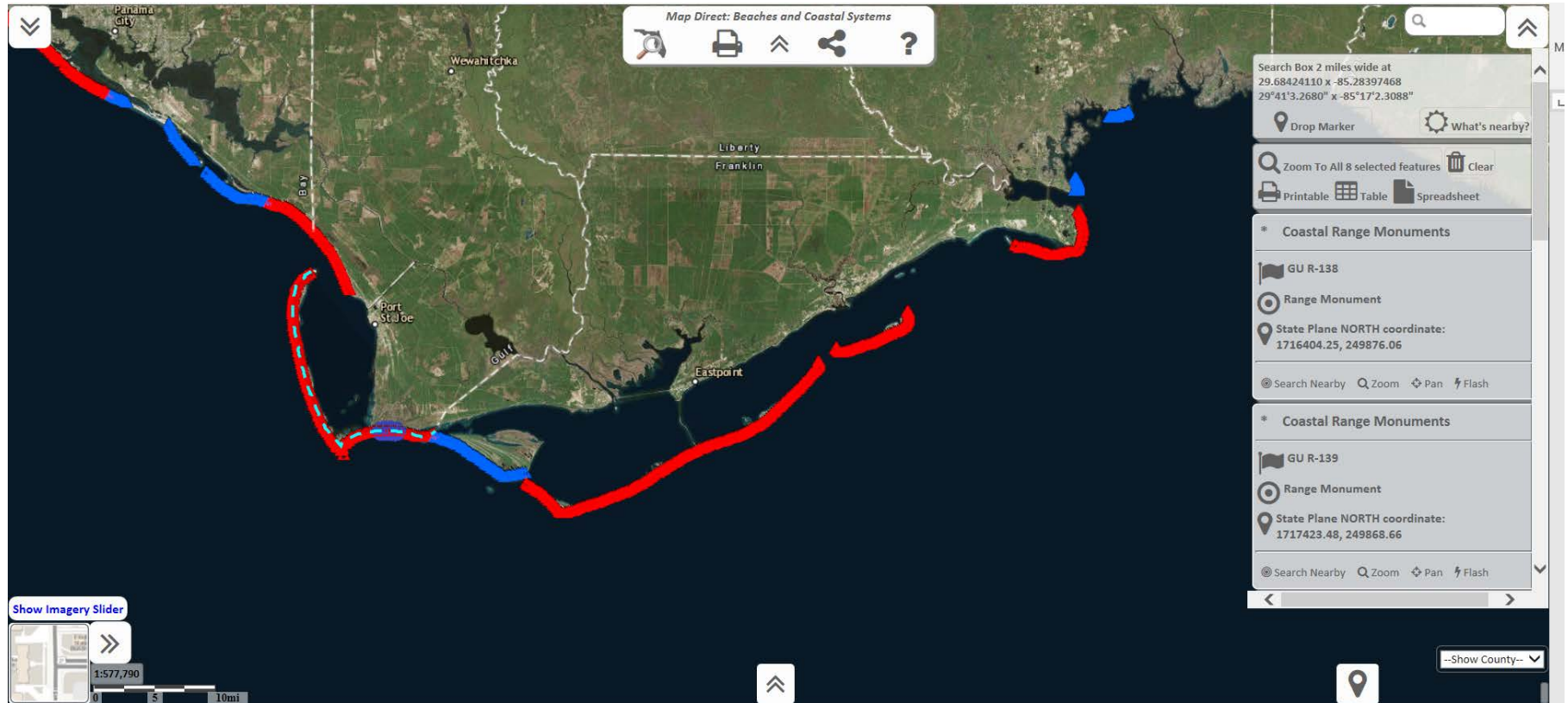
3. Is the project site seaward of the Coastal Construction Control Line (CCCL)?  Yes  No
4. Provide the number of each structure type (listed below) in the project area that will be affected by the project. Include *all* structures in project area.
- |                                                           |                      |                                                               |                      |
|-----------------------------------------------------------|----------------------|---------------------------------------------------------------|----------------------|
| <input checked="" type="checkbox"/> Residential property: | <input type="text"/> | <input type="checkbox"/> Public buildings:                    | <input type="text"/> |
| <input type="checkbox"/> Businesses/commercial property:  | <input type="text"/> | <input type="checkbox"/> Schools/hospitals/houses of worship: | <input type="text"/> |
| <input type="checkbox"/> Other:                           | <input type="text"/> |                                                               |                      |

To determine if the project area is seaward of the CCCL go to:  
<http://ca.dep.state.fl.us/mapdirect/?focus=beaches>



# FDEP Beaches and Coastal Systems

<http://ca.dep.state.fl.us/mapdirect/?focus=beaches>



THE FLORIDA DIVISION OF EMERGENCY MANAGEMENT



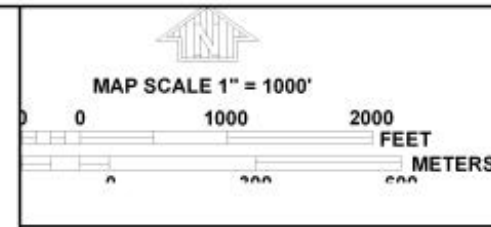
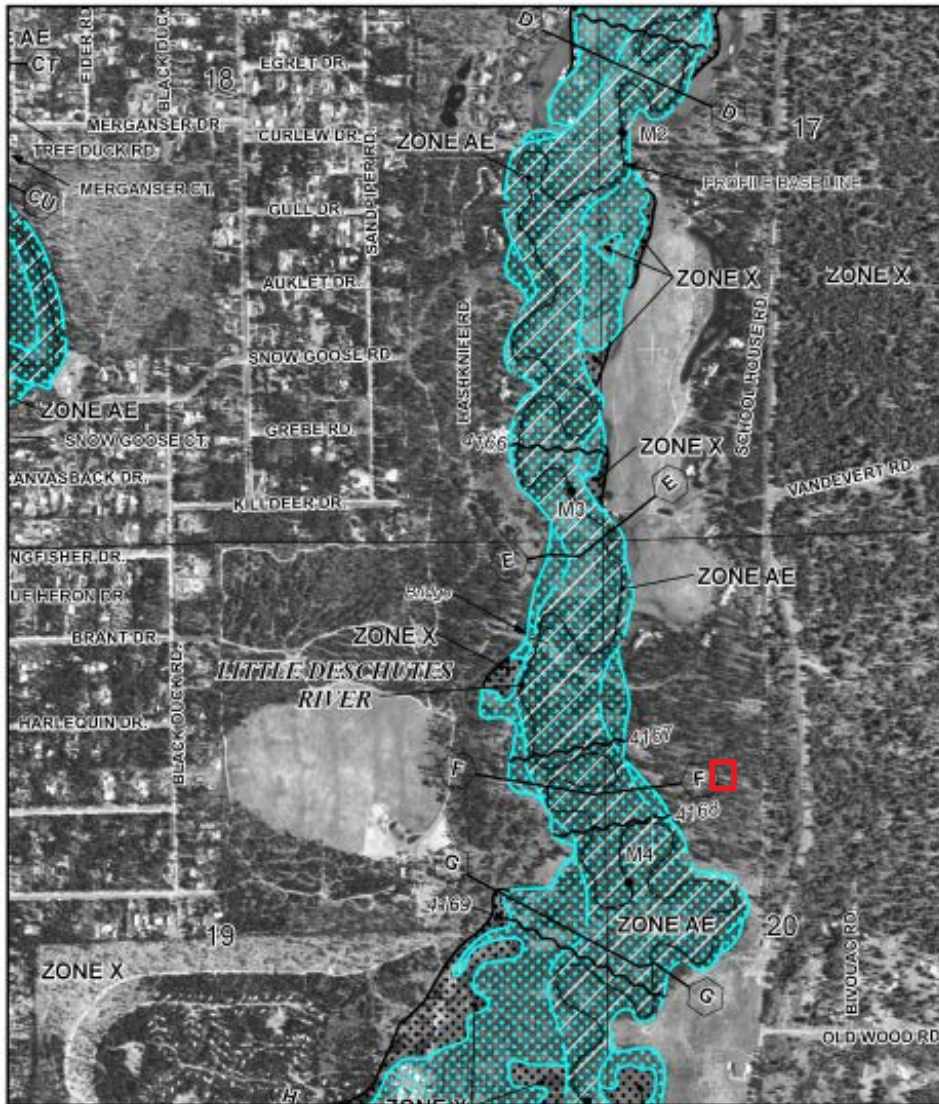
# Application - FIRM

## B. Flood Insurance Rate Map (FIRM) Showing Project Site

1. <input type="checkbox"/> Attach one (1) copy of the FIRM map, a copy of the panel information from the FIRM, and, if available, the Floodway Map. <b><i>FIRM maps are required for this application (if published for your area). Also, all attached maps must have the project site and structures clearly marked on the map.</i></b> FIRMs are typically available from your local floodplain administrator who may be located in a planning, zoning, or engineering office. Maps can also be ordered from the Map Service Center at 1-800-358-9616. For more information about FIRMs, contact your local agencies or visit the FIRM site on the FEMA Web-page at <a href="https://msc.fema.gov/portal">https://msc.fema.gov/portal</a> .	
2. Using the FIRM, determine the flood zone(s) of the project site (Check all zones in the project area) (See FIRM legend for flood zone explanations) (A Zone must be identified)	
<input type="checkbox"/> VE or V 1-30	<input checked="" type="checkbox"/> AE or A 1-30
<input type="checkbox"/> AO or AH	<input type="checkbox"/> A (no base flood elevation given)
<input type="checkbox"/> B or X (shaded)	<input type="checkbox"/> C or X (unshaded)
<input type="checkbox"/> Floodway	<input type="checkbox"/> [Redacted]
<input type="checkbox"/> Coastal Barrier Resource Act (CBRA) Zone (Federal regulations strictly limit Federal funding for projects in this Zone; please coordinate with your state agency before submitting an application for a CBRA Zone project).	
3. <input type="checkbox"/> If the FIRM Map for your area is not published, please attach a copy of the Flood Hazard Boundary Map (FHBM) for your area, with the project site and structures clearly marked on the map.	
4. <input type="checkbox"/> Attach a copy of a Special Flood Hazard Area Flood Insurance Assurance(s).	



# FIRM



**NFIP** PANEL 1130E

**FIRM**  
FLOOD INSURANCE RATE MAP  
DESCHUTES COUNTY,  
OREGON  
AND INCORPORATED AREAS

PANEL 1130 OF 2250  
(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:  
COMMUNITY NUMBER PANEL SUFFIX  
DESCHUTES COUNTY 41655 1130 E  
UNINCORPORATED AREAS

Notice to User: The Map Number shown below should be used when placing map orders. Community Number shown above should be used on all correspondence.

**MAP NUMBER**  
41017C1130E

**MAP REVISED**  
SEPTEMBER 28, 2007

Federal Emergency Management Agency

This is an official copy of a portion of the above referenced flood map. It was extracted using F-MIT On-Line. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For the latest product information about National Flood Insurance Program flood maps check the FEMA Flood Map Store at [www.msc.fema.gov](http://www.msc.fema.gov)



# FIRM

## National Flood Hazard Layer FIRMette



### Legend

- Cross-Sections
- Base Flood Elevations
- Flood Hazard Zones**
  - 1% Annual Chance Flood
  - Regulatory Floodway
  - Special Floodway
  - Area of Undetermined Flood Hazard
  - 0.2% Annual Chance Flood
  - Future Conditions 1% Annual Chance Flood Hazard
  - Area with Reduced Risk Due to Levee
- LOMRs**
  - Effective
- Map Panels**
  - Digital Data
  - Unmodernized Maps
  - Unmapped

This map complies with FEMA's standards for the use of digital flood maps. The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. The base map shown complies with FEMA's base map accuracy standards.

The NFHL is a living database, updated daily, and this map represents a snapshot of information at a specific time.

Flood risks are dynamic and can change frequently due to a variety of factors, including weather patterns, erosion, and new development. FEMA flood maps are continually updated through a variety of processes. Users should always verify through the Map Service Center (<http://msc.fema.gov>) or the Community Map Repository that they have the current effective information.

NFHL maps should not be created for unmapped or unmodernized areas.



# FEMA

Date: 1/23/2018 Time: 1:46:43 PM





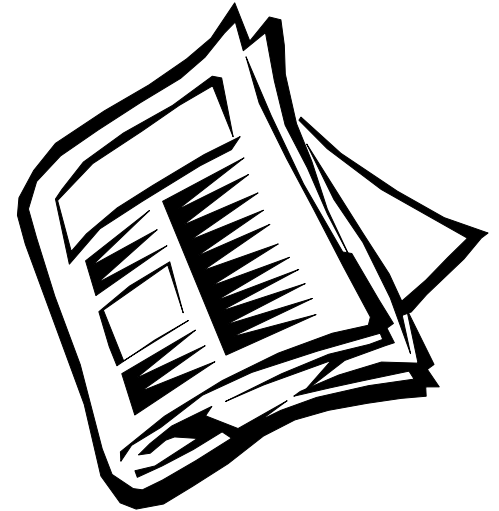
# FIRM

- ▶ Zones X-Shaded, A, AO, AH, A1-30, AE, A99, AR, AR/A1-30, AR/AE, AR/AO, AR/AH, AR/A, VO, V1-30, VE, and V
  - Projects located in the floodplain that include new construction or substantial improvement of a structure or facility will require a letter of approval from the local floodplain administrator/manager.
  - Definitions included in 44 CFR § 9.4 FLOODPLAIN MANAGEMENT AND PROTECTION OF PROTECTION OF WETLANDS
  - Floodplain Administrator List can be found on [floridadisaster.org](http://floridadisaster.org)
  - **Public Notice Required** (a draft may be provided with application)



# Public Notice

- ▶ Required for projects:
  - With a significant impact to the community and/or environment
  - Impact or located in the floodplain
  - Impact or located in wetlands
  
- ▶ Use State/FEMA Format
  - Comment period from the public



# Application –Maps and Photographs

## C. City or County Map with Project Site and Photographs

1.  Attach a copy of a city or county scale map (large enough to show the entire project area) with the project site and structures marked on the map.
2.  Attach a USGS 1:24,000 TOPO map with project site *clearly* marked on the map.
3.  For **acquisition** or **elevation** projects, include copy of Parcel Map (Tax Map, Property Identification Map, etc.) showing each property to be acquired or elevated. Include the Tax ID numbers for each parcel, and Parcel information – including year built and foundation.
4.  Attach photographs (at a minimum 4 photographs) for each project site per application. The photographs should be representative of the project area, including any relevant streams, creeks, rivers, etc. and drainage areas that affect the project site or will be affected by the project, and labeled. For each structure, please include the following angles: front, back and both sides.



# Maps and Photographs

- ▶ Attach a copy of a city or county scale map with project site and structures marked
  - Google Earth
  - Google Maps: <https://www.google.com/maps>
  - NEPA Assist  
<http://nepassisttool.epa.gov/nepassist/entry.aspx>



# Maps and Photographs



Drainage Location Map Example



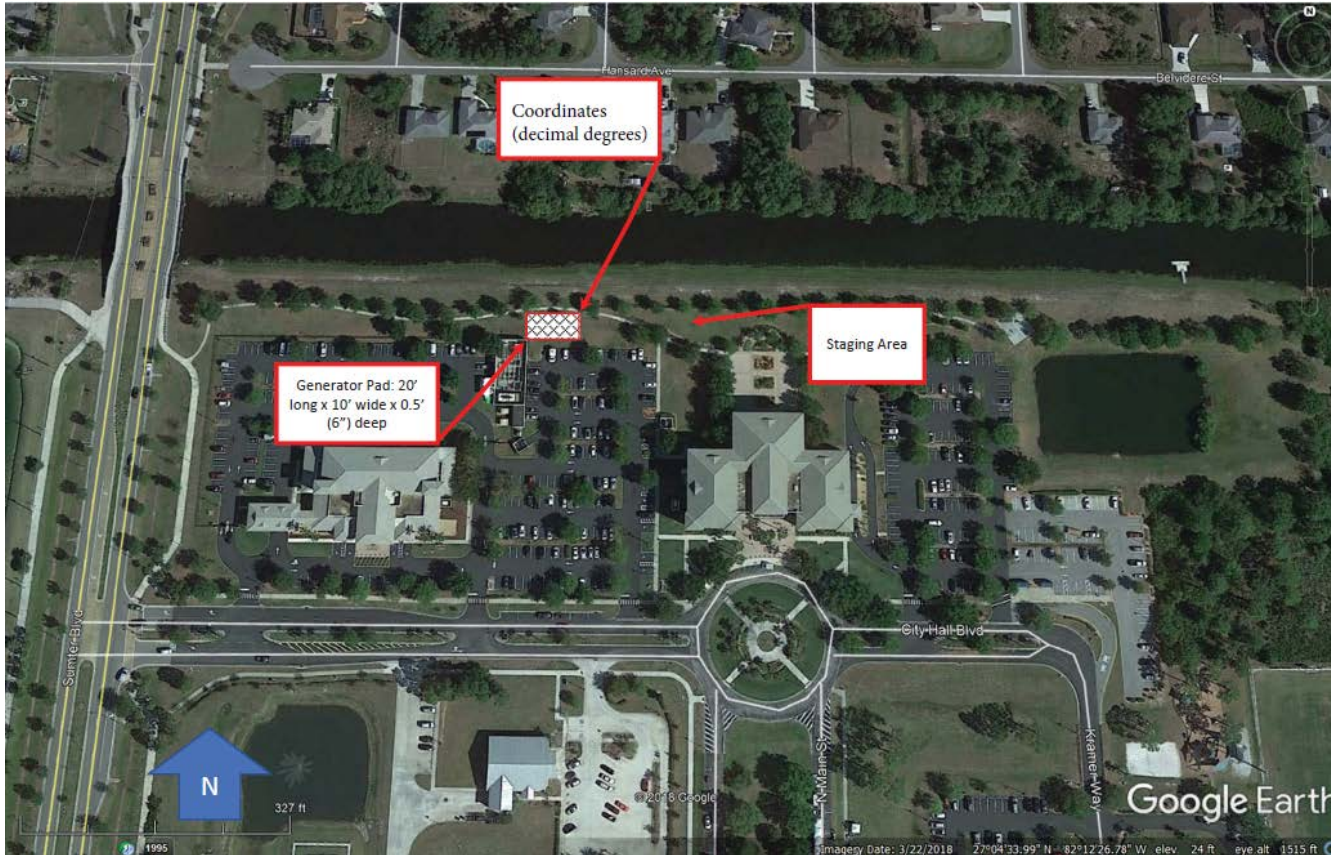
# Maps and Photographs



Demolition  
Location Map  
Example



# Maps and Photographs



Generator  
Location Map  
Example



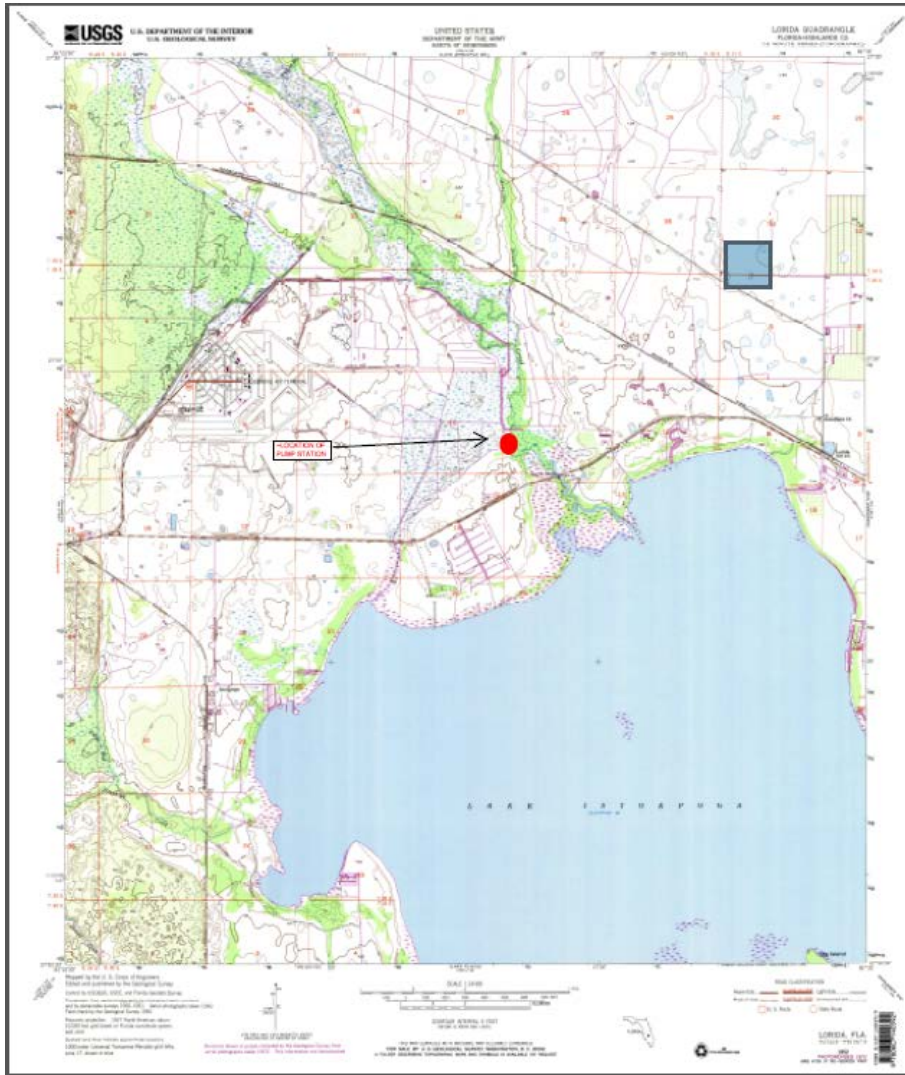
# Maps and Photographs

- ▶ Attach USGS TOPO map with project site clearly marked
  - Google Earth
  - NEPA Assist
  - USGS The National Map Viewer:  
<http://viewer.nationalmap.gov/viewer/>





# Maps and Photographs



TOPO Map Example  
Demolition



# Maps and Photographs

- ▶ For acquisition or elevation projects, include copy of Parcel Map.
  - Local Property Appraiser's office



# Maps and Photographs

- ▶ Attach photographs for each project site. Photographs should be representative of the project area, including any streams, creeks, rivers, etc. and drainage areas which affect the project site or will be affected by the project.
  - All four sides of structure
  - **All** areas of ground disturbance
  - Upstream/downstream (drainage)
  - **Dry Conditions**



# Maps and Photographs

- ▶ **Photograph Requirements:**
  - Images should not be blurry or low resolution.
  - Photographs shall not be more than a year old.
  - Google street photos are not acceptable.
  - Scanned photos with low resolution are not acceptable.
  - Photographs should be labeled



# Maps and Photographs



Photograph #1 – Existing [redacted] Subdivision control structure (upstream view).



Photograph #2 – Existing [redacted] Subdivision control structure (downstream view).

## Examples of Good Photographs Demolition and Drainage

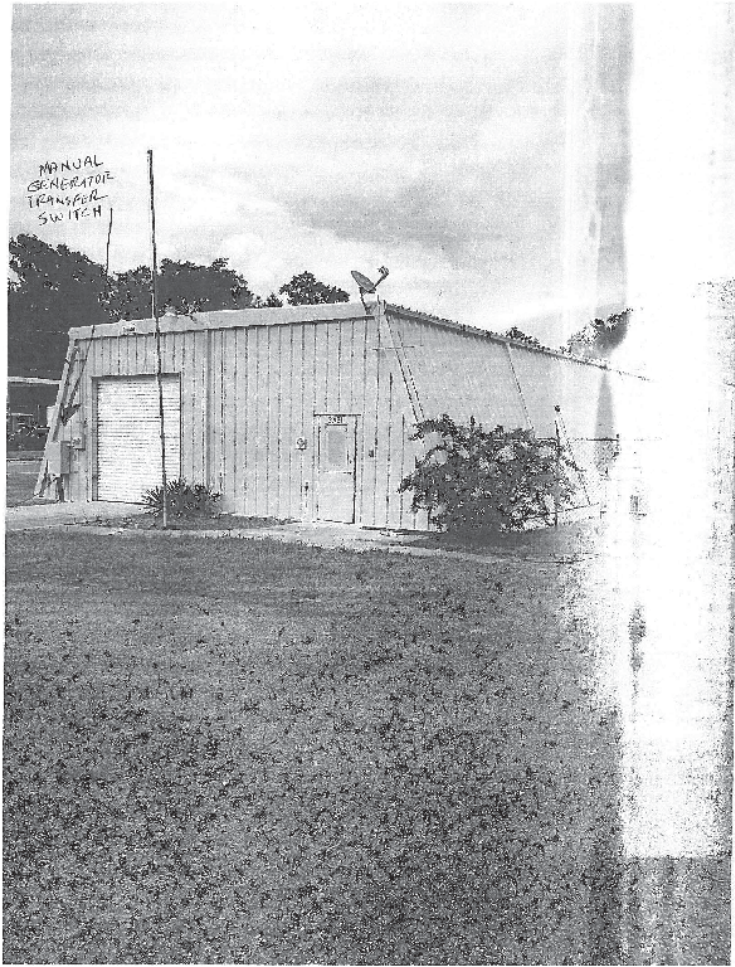


123 Main St facing North



# Maps and Photographs

## Examples of Bad Photographs



# Maps and Photographs

- ▶ When including maps and photographs with the application make sure to:
  - Properly name documents
    - Ex: aerial map, topo map, photographs, etc...



# Application – Section V

## Section V. Environmental Review and Historic Preservation Compliance

*(NOTE: This application cannot be processed if this section is not completed.)*

Because the HMGP is a federally funded program, all projects are required to undergo an environmental and historic preservation review as part of the grant application process. Moreover, all projects must comply with the National Environmental Policy Act (NEPA) and associated Federal, State, Tribal, and Local statutes to obtain funding. **NO WORK can be done prior to the NEPA review process. If work is done on your proposed project before the NEPA review is completed, it will NOT be eligible for Federal funding.**

### A. The following information is required for the Environmental and Historic Preservation review:

*All projects must have adequate documentation to determine if the proposed project complies with NEPA and associated statutes. The State Environmental Staff provide comprehensive NEPA technical assistance for Applicants, with their consent, to complete the NEPA review. The type and quantity of NEPA documents required to make this determination varies depending upon the project's size, location, and complexity. However, at a minimum, please provide the applicable documentation from this section to facilitate the NEPA compliance process.*

1.  Detailed project description, scope of work, and budget/costs (Section II and Section IV of this application).
2.  Project area maps (Section III, part B & C of this application)
3.  Project area/structure photographs (Section III, part C of this application).
4.  Preliminary project plans.
5.  Project alternatives description and impacts (Section V of the application).
6.  Please complete the applicable project worksheets.  
Documentation showing dates of construction are required for all structures.
7.  Environmental Justice – Attach documents regarding evaluation (required) and satisfactory resolution (if necessary) of Environmental Justice issues (Highly Disproportionate, Adverse Impact (effects) on Minority or Low Income Population). Documents can include public meeting records, media reports letters from interested persons and groups, studies on population, ethnic groups, quality of life, housing, economics, transportation, public services, schools, public health, recreation, voting, etc.
8.  Provide any applicable information or documentation referenced on the *Information and Documentation Requirements by Project Type* below.





# Application – E.O. 12898

## B. Executive Order 12898; Environmental Justice for Low Income and Minority Population:

1. Are there low income or minority populations in the project area or adjacent to the project area?  
 No  Yes; please describe any disproportionate and adverse effects to these populations:

No minority population in area: Anytown FL, 23.5% Florida 21.9%

Low income population in project area: Anytown FL 20.3% Florida 15.6%

No disproportionately high and adverse impact on low income population

2. To help evaluate the impact of the project, please indicate below any other information you are providing.  
 Description of the population affected and the portion of the population that would be disproportionately and adversely affected. Please include specific efforts to address the adverse impacts in your proposal narrative and budget.

\_\_\_\_\_

3.  Attached materials or additional comments: Please include pdf documentation from the US Census Quick Facts and American Factfinder's website of the project area (<http://www.census.gov/>).

Information accessed March 1, 2018 on American FactFinder



# Application- Tribal Consultation

## C. Tribal Consultation (Information Required)

Section 106 of the National Historic Preservation Act (NHPA) requires federal agencies to take into account the effect of their undertakings on historic properties. The NHPA requires that agencies must complete this process prior to the expenditure of any Federal funds on the undertaking. A Tribal Consultation is required for any project disturbing ground or moving soil, including but not limited to: drainage projects; demolition; construction; elevation; communication towers; tree removal; utility improvements.

1. Describe the current and future use of the project location. A land use map may be provided in lieu of a written description.

The current land use of the project location is residential with low intensity. Future land use is residential with medium intensity. A future land use map has been provided.

2. Provide information on any known site work or historic uses for project location.

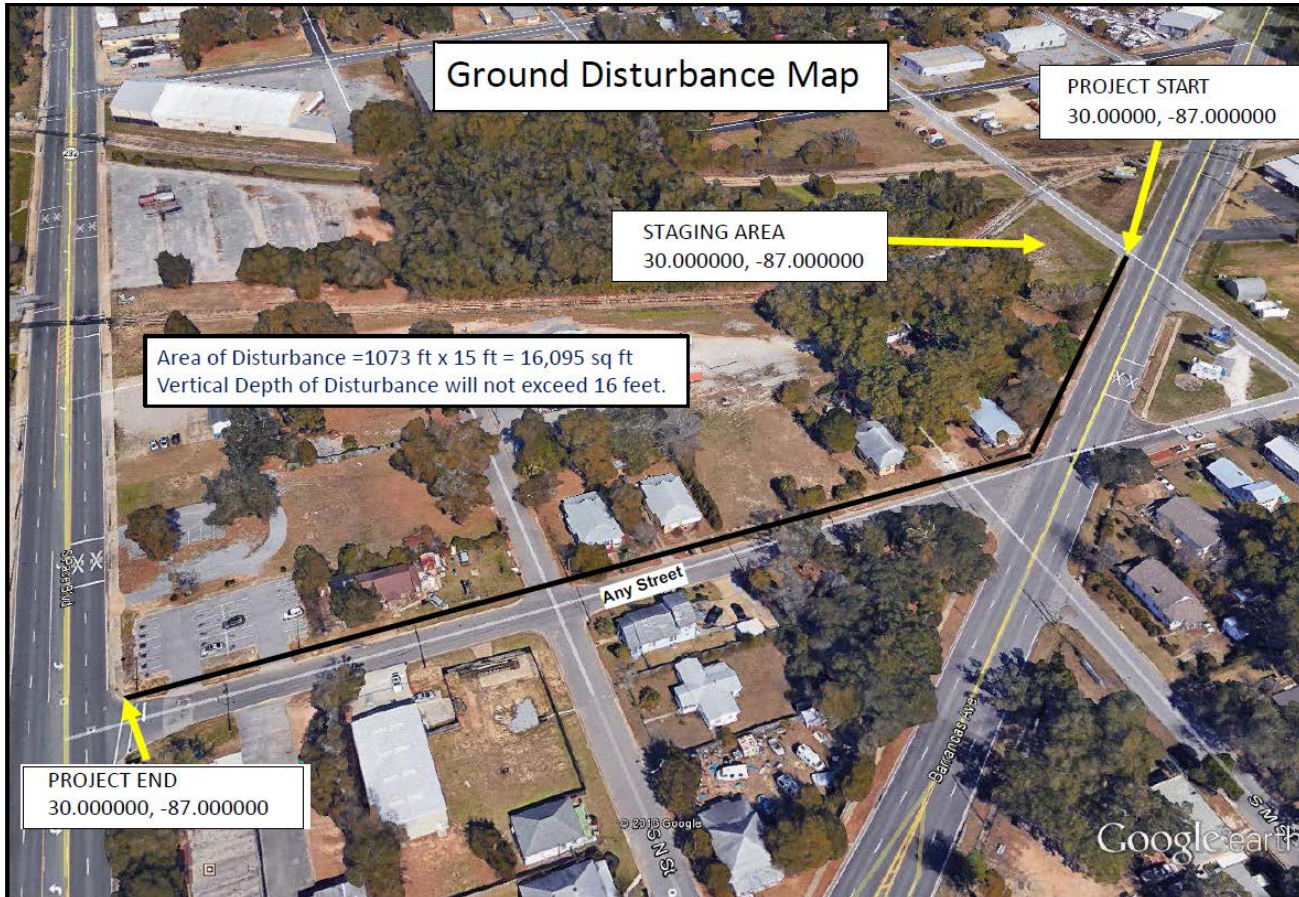
The single family residence was built in 1984 in a newly developed community. There are no previous known use of the project area. All previous site work includes the building and maintenance of a private, single family, residential home.

- Attach a copy of a city or county scale map (large enough to show the entire project area) with the horizontal limits (feet) and vertical depths (square feet) of all anticipated ground disturbance of 3 inches or more.

*\*If your project will not have 3 inches or more of ground disturbance please include a notation here.*



# Tribal Consultation



Ground disturbance map should include:

Horizontal limits (ft.) and vertical depth of all anticipated ground disturbance.

Street address and geographic latitude/longitude of the construction area.

geographic latitude/longitude of staging areas.



# Activities That May Require Tribal Consultation

- ▶ Any project with 3" or more of ground disturbing activities, including but not limited to:
  - Drainage projects
  - Demolition
  - Elevation
  - Construction
  - Utility improvements



# Application - Alternative Actions

## D. Alternative Actions *(Information Required)*

The NEPA process requires that at least two alternative actions be considered that address the same problem/issue as the proposed project. In this section, list **two feasible** alternative projects to mitigate the hazards faced in the project area. One alternative is the “No Action Alternative”.

### 1. No Action Alternative

Discuss the impacts on the project area if no action is taken.

If no action is taken the structure at 123 Main St. Anytown, FL will continue to experience flooding from storm events. Also, other structures around the house will be affected since there will be no open space for flood waters to seep into.



# Alternative Actions

## 2. Other Feasible Alternative

Describe a feasible alternative project that would be the next best solution if the primary alternative is not accomplished. This could be an entirely different mitigation method or a significant modification to the design of the current proposed project. Please include a Scope of Work, engineering details (if applicable), estimated budget and the impacts of this alternative. Complete *all* of parts **a-e** (below).

### a. Project Description for the Alternative

Describe, in detail, the alternative project, and explain how the alternative project will solve the problem(s) and/or provide protection from the hazard(s). Also, provide pros and cons for this alternative and a reason for why it was not selected.

Another feasible alternative is to elevate the structure. This will keep the structure from flooding from rain events, however, this action will not allow the same amount of seepage and may not protect the neighbors as efficiently as the open space project will.

### b. Project Location of the Alternative *(describe briefly, if different from proposed project)*

\_\_\_\_\_

- Attach a map or diagram showing the alternative site in relation to the proposed project site *(if different from proposed project)*



# Alternative Actions

## c. Scope of Work for Alternative Project

The scope of work for this project is to elevate the existing residence located at 123 Main St. The structure was built in 1984 and is a single family residence located in the AE flood zone. The structure will be elevated three (3) feet above the established Base Flood Elevation of 10 feet. The elevated structure should comply with all applicable local, state, and federal code and permitting requirements. The areas below the lowest floor must be used solely for parking of vehicles, building access or storage.

## d. Impacts of Alternative Project

Discuss the impact of this alternative on the project area. Include comments on these issues as appropriate: Environmental Justice, Endangered Species, Wetlands, Hydrology (Upstream and Downstream Surface Water Impacts), Floodplain/Floodway, Historic Preservation and Hazardous Materials.

No additional impacts will be created with the elevation of the structure. The structure will remain in the floodplain.



# Alternative Actions

**e. Estimated Budget/Costs for Alternative Project**

In this section, provide details of all the estimated costs of the alternative project (round figures to the nearest dollar). **A lump sum budget is acceptable.**

Materials:		
Labor:		
Fees:		
<b>Total Estimated Project Cost:</b>		<b>\$ 0.00</b>





# Other Documentation

- ▶ **Permits / Concurrence Letters**
  - Most Common:
    - USACE Nationwide Permit/FDEP 404
    - Water Management District (WMD) Environmental Resource Permit (ERP)
    - FDEP NPDES – NOI, NOT, SWPPP (closeout)
    - FWC/USFWS if located near critical habitat
    - State Historic Preservation Officer\* (SHPO)
- ▶ **Public Notice** (as applicable)
- ▶ **Age Verification Documents** (structures)



# Water Management Districts

- ▶ If affecting or has potential to affect surface waters, including wetlands, a water management district environmental resource permit (ERP) or no permit required (NPR) must be provided.
  - NEPA Assist Tool
  - National Wetlands Inventory

<http://www.fws.gov/wetlands/Data/Mapper.html>



# USACE/FDEP

- ▶ **If within 200' of waterbody and project has associated fill or outfalls affecting wetlands or waters.** (any waterbody including streams, creeks, rivers, ponds, lakes, gulf, etc.) **you must have:**
  - USACE Permit or notification from the Regulatory Branch that no permit is required (NPR), or if located near state retained waters, a FDEP 404 permit or no permit required (NPR) (Link to U.S retained waters: <https://usace.contentdm.oclc.org/utis/getfile/collection/p16021coll7/id/17255>) (Link to map of state regulated waters: <https://fdep.maps.arcgis.com/apps/webappviewer/index.html?id=2cb8724cfd18408db80c8f2d7bb68a2e>)
  - Photographs of project in relation to the waterbody



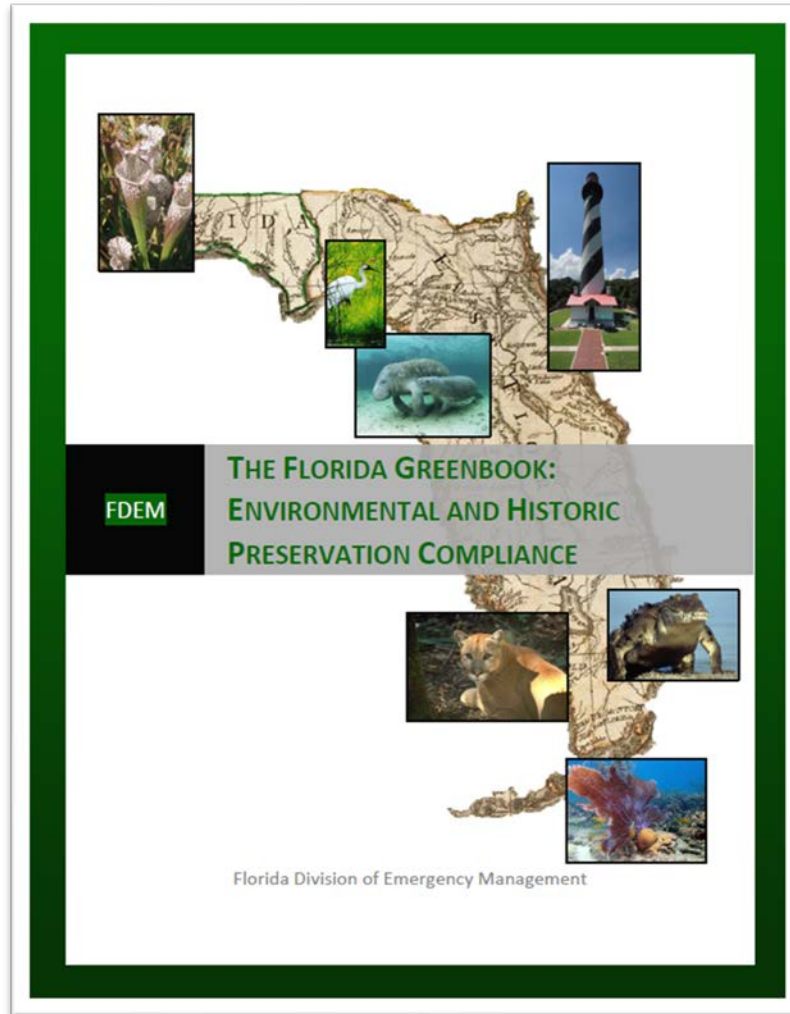
# Things that can **TERMINATE** a Project

- Starting **BEFORE** Environmental and Historic Preservation Review is complete.
- Assuming it does not have to comply with environmental laws if statutorily excluded.
- Not providing a defined scope of work (SOW) and project location.
- **Changing SOW** and not informing the State/FEMA.



# Other Resources

<https://www.floridadisaster.org/globalassets/importedpdfs/flgreenbook.pdf>



THE FLORIDA DIVISION OF EMERGENCY MANAGEMENT



# QUESTIONS?



# Questions?



# Contacts

## Program Eligibility

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