



Hazard Mitigation Grant Program Watershed Planning Program Notice of Proposal Form

Subapplicant	Nassau County BOCC		
Subapplication Title	St. Mary's River Basin Watershed Master Plan		
Subapplication Type	Watershed Master Plan		
Total Project Cost	\$ 400,000	Federal Share	\$ 300,000
If a subapplication for this planning activity has been submitted under a previous grant cycle, please list the program, date, and disaster (if applicable)			

1. Contact Information

Application Prepared by:			
Name	Katie Peay		
Title	Stormwater Director		
Agency/Organization	Nassau County BOCC		
Primary Phone	904-530-6390	Type	<input checked="" type="checkbox"/> Work <input type="checkbox"/> Mobile
Secondary Phone	904-566-2086	Type	<input type="checkbox"/> Work <input checked="" type="checkbox"/> Mobile
Email	kpeay@nassaucountyfl.com		
Address line 1	96161 Nassau Place, Yulee, Florida 32097		
Address line 2			
City		State	
Zip			
Authorized Applicant Agent – individual authorized to sign certifications (<i>proof of authorization required</i>)			
Name	A.M. "Hupp" Huppman		
Title	BOCC Chairman		
Agency/Organization	Nassau County BOCC		
Primary Phone	904-530-5475	Type	<input checked="" type="checkbox"/> Work <input type="checkbox"/> Mobile



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Secondary Phone		Type	<input type="checkbox"/> Work <input type="checkbox"/> Mobile
Email	BOCCChairman@nassaucountyfl.com		
Address line 1			

Address line 2					
City		State		Zip	
Signature		Date			
Point of Contact (POC) – individual to be contacted for additional information					
Name	Katie Peay				
Title	Stormwater Director				
Agency/Organization	Nassau County BOCC				
Primary Phone	904-530-6391	Type	<input checked="" type="checkbox"/> Work <input type="checkbox"/> Mobile		
Secondary Phone	904-556-2086	Type	<input type="checkbox"/> Work <input checked="" type="checkbox"/> Mobile		
Email	kpeay@nassaucountyfl.com				
Address line 1	96161 Nassau Place				
Address line 2					
City	Yulee	State	FL	Zip	32097

2. Subapplicant Information

Subapplicant			
Type of Subapplicant	<input type="checkbox"/> State Government <input checked="" type="checkbox"/> Local Government <input type="checkbox"/> Indian Tribal Government <input type="checkbox"/> Special Governmental District <input type="checkbox"/> Private Non-Profit <input type="checkbox"/> Other (please specify)		
City/Town/Village			
County	Nassau County		
FIPS Code	<u>089-99089-00</u>	Unique Entity ID	<u>829978514</u>
State Legislative Districts	4	Federal Tax ID Number	<u>59-1863042</u>



3. Local Mitigation Strategy (LMS) Compliance

Local Mitigation Strategy Information					
Does your jurisdiction have a current FEMA Approved Mitigation Plan?					<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Attached is a letter of endorsement for this project from the county's LMS Coordinator.					<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Plan Approval Date	5/20/2021	Jurisdiction Adoption Date	12/13/2021	Plan Expiration Date	5/19/2026

4. Project Description

Description					
Project Description	<input checked="" type="checkbox"/> Watershed Master Plan	<input type="checkbox"/> Stormwater Master Plan			
List the total number of persons that will be protected by the proposed project below					
Total population covered by plan	50,382	# of flood insurance policies covered by plan	1927	# of flood insurance policies in SFHA	3853



1. Describe the existing problems:

Nassau County has an outdated Stormwater Master Plan from 2012. The vulnerability study while critical for resiliency planning have not provided the depth of information needed for CRS credit and Stormwater data to be useful in regulatory changes.

While FEMA coastal study performed in 2017 modeled hydrodynamic forces for coastal areas, Nassau is lacking mapping for riverine impacts. It is also missing areas of ponding. This was physically shown in the impacts of the September 2024 rain event that was equivalent to a 500 year storm event for the area. Many people were affected by these storms, but not in a mapped Special Flood Hazard Area.

The majority of Nassau County is an unnumbered A zone and none of the floodways are mapped. These unnumbered A zone datasets do not meet the current FEMA standards. Inland basins beyond the FEMA coastal extent are not model backed and therefore have no base flood elevations (BFE).

Existing problems have been noted in FEMA's areas of interest.

Flooding in Nassau County

Nassau County is mainly affected by sea level rise and storm surge/tides due to the elevation and permeation of large bodies of water throughout the county. The Northeast Florida Regional Council did a Vulnerability Assessment on the City of Fernandina Beach (Bushnell, 2021). They would build coastal flood hazard resiliency in Florida's Regional Planning Council Communities. The vulnerability assessment was intended to promote preparedness and mitigation measures for Florida communities by increasing understanding, accessibility, and utilization of a range of existing tools that provide additional information on the effects of climate change (Bushnell, 2021). There have been empirical measurements that have indicated increases in sea level rise in the lower coterminous states, using tide gauges to measure the sea level (Bushnell, 2021). The Fernandina Beach gauge is the closest tide gauge of such long-term NOAA (National Oceanic and Atmospheric Administration) benchmarks. The models suggest that by 2060 sea levels would have risen 1 to 3 feet, and by 2110 sea levels would have risen 3 to 6 feet. To get a perspective on the impact of sea level rise, the county's Planning & Economic Opportunity Department had reviewed data projecting the impact of flooding, storm surge, and sea-level rise on property, homes, and businesses on Amelia Island, located in Nassau County (Bushnell, 2021). They mentioned that the rate at which change occurs will depend on the overall acceleration rate of climate change. The measuring station for this area is in Mayport, which is located in northeast Florida.

The flooding impact study of this area was split up into phases. Phase one of the study looked at flood-prone areas around Yulee and Callahan, the part of the county with the most rapid growth. The second phase is to look at Amelia Island and the area of the county west of Interstate 95 and north of State Road 200 and US 301, including Hillard, which will complete the countywide study (Bushnell, 2021). This is a part of the countywide Vulnerability Assessment meant to review future exposure to existing developed areas and future areas of development (Bushnell, 2021).



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Description



2. WMP Scope of Work

FDEM will coordinate with Sub-recipients to produce a Watershed Master Plan (WMP) for credit under the Community Rating System (CRS). A pilot project was previously completed that consisted of research, the creation of a framework and guidance documents that ensure a consistent statewide approach to WMP development.

Sub-recipients under the Watershed Planning Initiative will use the guidance materials to produce a Watershed Master Plan for credit under CRS. Guidance materials can be found at: <https://www.floridadisaster.org/dem/mitigation/watershed-planning-initiative>. The Sub-Recipient will finalize the process by submitting their WMP to ISO/CRS for review and providing the Division with a signed letter from their applicable county's Local Mitigation Strategy (LMS) Chairperson attesting that the WMP will be adopted in the Sub-Recipient's next LMS update.

Tasks necessary for completion include:

Task 1 – Creation of preliminary scope of work, initial flood modeling & submission of draft WMP to CRS officials for approval. The flood modeling should consider evaluations of the watershed's runoff response from design storms under current and predicted future conditions and assessments of the impacts of sea level rise and climate change. Preliminary modeling should include 10-, 25- & 100- year storm events. This initial scope of work and WMP draft should include preliminary modeling of the 10-, 25- and 100-year storm events, an inventory of the ground characteristics and data availability, existing regulations and plans in place, a description of vulnerable areas or areas of interest, a list of potential solutions, and a brief description of future actions plans.

Task 2 – Submit final WMP & CRS submittal. After receiving feedback and approval on the sub-recipient's scope of work and flood modeling submission in Task 1 from FDEM, the sub-recipient will finalize the flood modeling process and complete their WMP. At a minimum, the modeling and WMP must include 10, 25 & 100 year storm events—or model sea level rise—to receive credit through CRS element 452.b. The sub-recipient will submit their documentation of their WMP submittal to CRS to FDEM as well as their final WMP to FDEM for approval.

Based on your project type selected (WMP or SWMP), please describe in detail below (or on a separate page attached to this proposal) how your community plans to complete the above tasks. Please provide any details related to staffing to complete the proposed project, if you will be hiring an outside agency/firm, and what resources you have at your disposal to accomplish the project:



Description

Task 1 for the subrecipient grant includes the following Tasks 1-6 which will be performed by FAU under subcontract.

- Task 1- Background Info Gathering
- Task 2- Policy Documentation for HUCS
- Task 3- Risk Models for HUCS
- Task 4- Identifying Critical Areas/Solutions in HUCS
- Task 5- Action Plan
- Task 6 - Submit for Staff Review
- Task 7 - Submit to NFIP for Review
- Task 8 – Update CRS submission
- Task 9 - Commission Approval

Interim documentation will be provided for submission for initial commentary at the 75% stage of Tasks 1 to 5. FAU will complete Tasks 1-5 based on feedback from NFIP reviewers as a part of Subrecipient Task 2 in the FDEM RFP, and provide support for Tasks 7 to 9 which are a part of the Task 2 in the FDEM guidance. Each work task is outlined in the following paragraphs.

Task 1 - Background Information

Watershed Master Plans (WMPs), as conceived by the National Flood Insurance Program (NFIP) Community Rating System (CRS) program, provide an outline for communities to reduce local flood risk. According to the CRS Coordinator's Manual 2021 Addendum (FEMA, 2021), "the objective of watershed master planning is to provide communities within a watershed with a tool they can use to make decisions that will reduce flooding from development on a watershed-wide basis." Successful watershed master plans (WMPs) consist of the following activities (Association of State Floodplain Managers, 2020):

1. Evaluation of the watershed's runoff response from specific design storms under current and predicted future conditions
2. Assessment of the impacts of sea level rise and climate change
3. Identification of wetlands and other natural areas throughout the watershed
4. Protection of natural channels
5. Implementation of regulatory standards for new development such that peak flows and volumes are sufficiently controlled
6. Specific mitigation recommendations to ensure that communities are resilient in the future
7. A dedicated funding source to implement the mitigation strategies recommended by the plan

The process begins by first characterizing the watershed. A balanced approach is needed to obtain watershed-related information with the relevant precision. For example, groundwater is relevant when the ground and surface waters are directly connected, and the soil may lack capacity for infiltration storage. Geology, hydrogeology, land use, canals and other water bodies, and historical changes to the surface may be relevant to create the watershed description. A summary of the local communities involved in each HUC will be developed. Topographic features, uplands, wetlands, and shorelines will be delineated along with current flood maps. Other requirements are growth projections and mitigation strategies at the various scales (watershed, regional, and local) to limit



increasing flood risk. FAU will collect the necessary data to be able to generate the mapping products needed for watershed master planning activities.

DELIVERABLE: Chapters 1 and 2 of the Watershed plan

Task 2 - Policy Documentation for HUCs

A Watershed Master Plan should be cognizant of applicable regulatory guidelines, ordinances, and public policies that relate to water management within the study area. It is important that the WMP identify the control actions, management practices, and regulations as well as the agencies that have authority and jurisdiction, as applicable to the study area. These will include regulatory standards for new development such that peak flows and volumes are sufficiently controlled and regulations that prohibit development, alteration, and modification of existing natural channels are in place. The universe of existing regulations includes federal, state, tribal, regional, and local rules. FAU with assistance from the communities in the study area will identify the necessary documents including the Local Mitigation Strategy (LMS) plan and previous CRS credit reviews, as well as minimum flows and levels and flow volumes, as applicable.

DELIVERABLE: Chapter 3 of the Watershed plan

Task 3 - Risk Models for HUCs

Modeling and assessment of vulnerability focused on the combination of a high water table, low soil storage, heavy rains, flat topography, and impervious conditions that can lead to localized nuisance flooding events. Modeling at the screening level is needed to identify areas of the watershed that are at risk. FAU will use a screening tool to identify regions with elevated risk of inundation based on multiple collected datasets and hydrological modeling. The screening tool utilizes topographic data from various sources, water table elevations, tidal information for coastal areas obtained from the NOAA Current & Tides website, soil maps obtained from the USDA, and other key datasets. Figure 1 shows how the GIS layers interface in the tool, and how they are combined for spatial analysis. The model chosen for this screening tool is Cascade 2001, which is a multi-basin hydrologic/hydraulic routing model developed by the South Florida Water Management District. The model permits the investigator to analyze different storm events and flooding scenarios. The following data layers collected during Task 1 activities are processed to develop the input files for Cascade 2001.

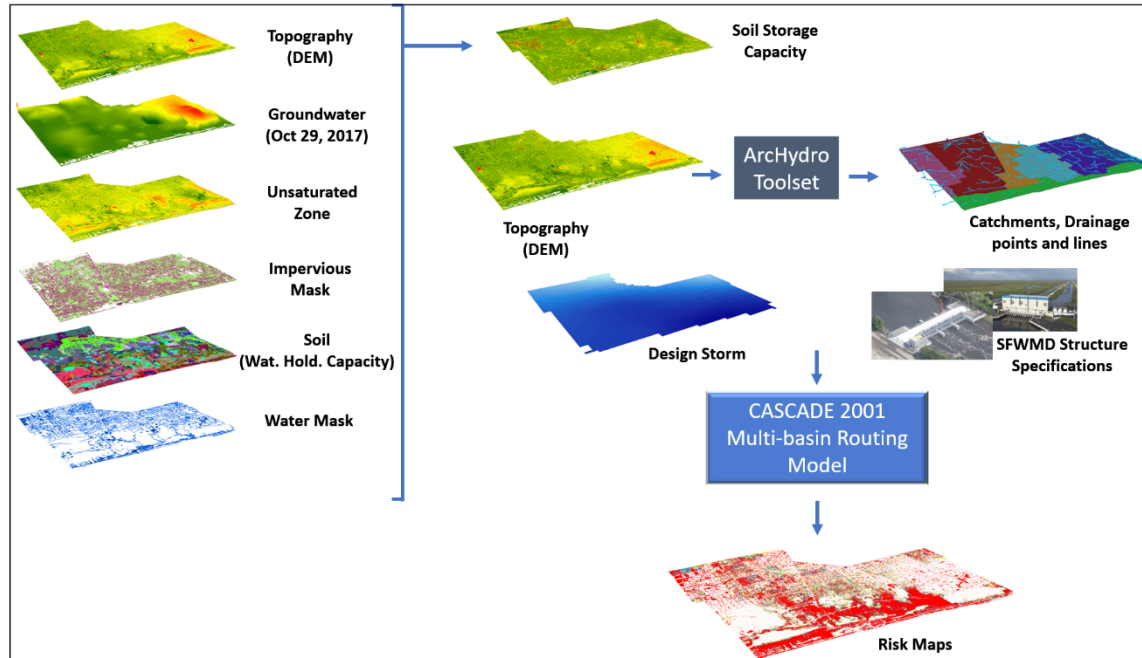


Figure 1. Screening tool methodology for creating flood risk maps

FAU will conduct map development activities that address the required design storms including 5-, 10-, 25- and 100-year floods, plus the 3-day, 25-year storm event, with 1, 2, 3, 4 and 5 ft of sea level rise and king tides, as applicable. At a minimum, the modeling and WMP must include 10, 25 & 100 year storm events—or model sea level rise—to receive credit through CRS element 452.b. Note that understanding build-out and the impacts build-out has on drainage are factors that must be considered in modeling which must come from the underlying local communities. This is the watershed master planning assessment.

DELIVERABLE: Chapter 4 of the Watershed plan with all applicable modeling scenarios for the HUC and relationship to involved HUCs; drilldown to community issue modeling

Task 4- Identifying Critical Areas/Solutions in the HUCs

Once areas at risk have been identified in the watershed master planning assessment, Task 4 is designed to identify potential mitigation measures to improve community resilience and flood protection. The process starts with narrowing down the feasible engineering alternatives using threshold criteria and quantifiable selection criteria that include measures of effectiveness, cost, and added benefit to the community. At the center of these planning efforts should also exist the provision for an adequate drainage system, designed to accommodate an increased volume of water and/or increased peak flows. Current capital plans, stormwater master plans, capital projects etc. will be identified. Local governments have these documents which will be secured in Task 2.

For this document, 35 solutions referred to as the “Periodic Table” menu of green and grey infrastructure technologies (Figure) will be referenced as applied as applicable. Issues like pump stations, changing weir elevations, larger pipes and coastal sea walls are major hardening efforts that can be modeled in Cascade 2001.

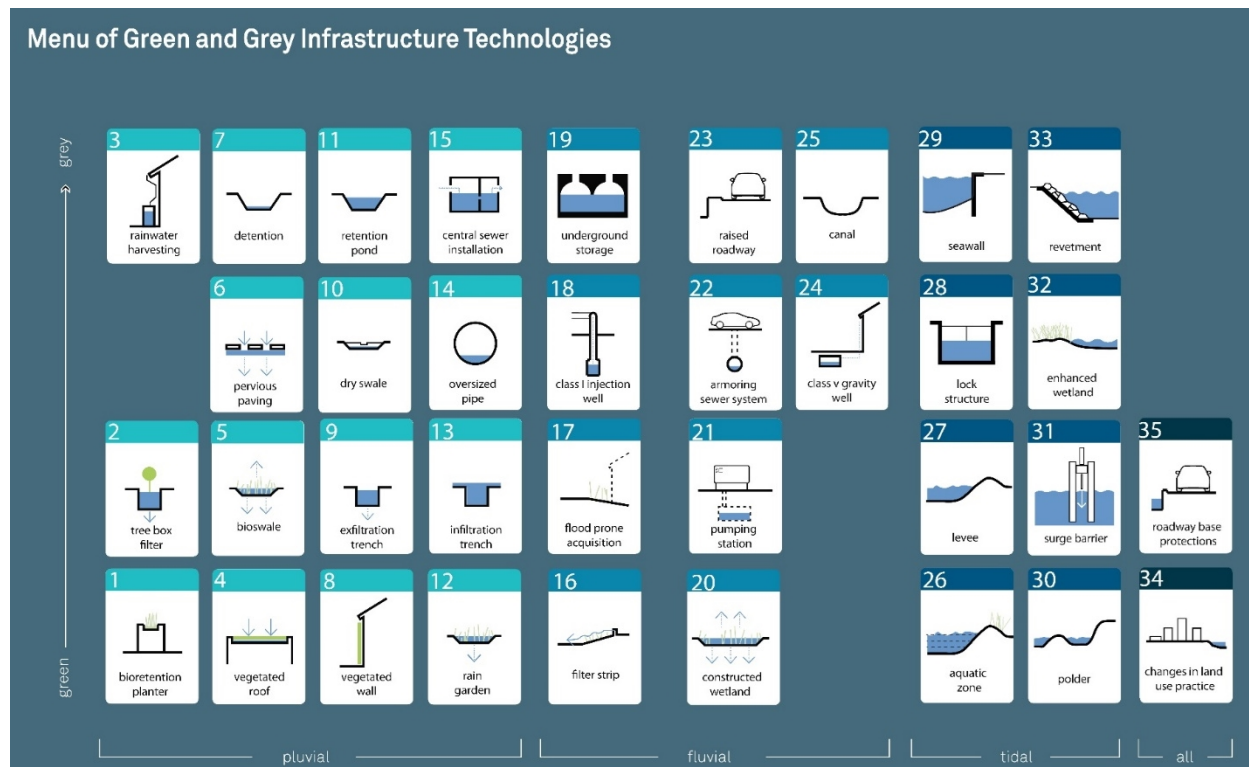


Figure 2. “Periodic table” menu of green and grey infrastructure technology options. The menu is organized to address various flooding types, from *pluvial* (rainfall and runoff mitigation in upland areas), *fluvial* (runoff, high ground water, and surface water management in low-lying flood prone areas), *tidal* (flooding associated with storm surge, high ground water, and tidally influenced), and *all* (applies across the spectrum).

DELIVERABLE: Update and completion of Chapter 4 and Chapter 5 of the Watershed plan with applicable modeling scenarios for the HUC

Task 5- Action Plan

The key components of the implementation phase are: 1) the implementation team, 2) information/education, 3) capital improvement projects, 4) maintenance, 5) monitoring, and 6) evaluation and adjustments. A watershed implementation team made up of key stakeholder partners from the planning team, particularly those whose responsibilities include making sure tasks are being implemented, reviewing monitoring data, ensuring technical assistance in the design and installation of management measures, finding new funding sources, and communicating results to the public.

DELIVERABLE: Chapter 6 of the Watershed plan – this should complete the planning document

Task 6 – Submit Draft Plan to Staff for Review

FAU will submit the draft WMP to staff for review and comments. Feedback will be addressed in a timely fashion, prior to Task 7.

DELIVERABLE: Delivery and receipt of comments form staff of the planning document



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Task 7 – Submit Draft plan to FDEM and NFIP Staff for Review

FAU will support the subrecipient's submission of the draft plan to staff at NFIP for review and comments. Feedback will be addressed in a timely manner so that Task 8 can be pursued. Note FAU has no control over the length of time that NFIP staff and FDEM staff require to review the draft WMP documents.

DELIVERABLE: Chapter 6 of the Watershed plan – this should complete the planning document

Task 8 – Update CRS submission

FAU will support the subrecipient's submission of revised CRS plan to staff at NFIP for review and comments. Feedback will be addressed in a timely manner so that Task 9 can be pursued. Note FAU has no control over the length of time that NFIP staff and FDEM staff require to review the draft WMP documents.

DELIVERABLE: n/a

Task 9 – Commission approval

FAU will support the subrecipient's submission of the draft WMP to its governing board for approval. If the subrecipient desires FAU faculty presence, this will be coordinated with FAU.

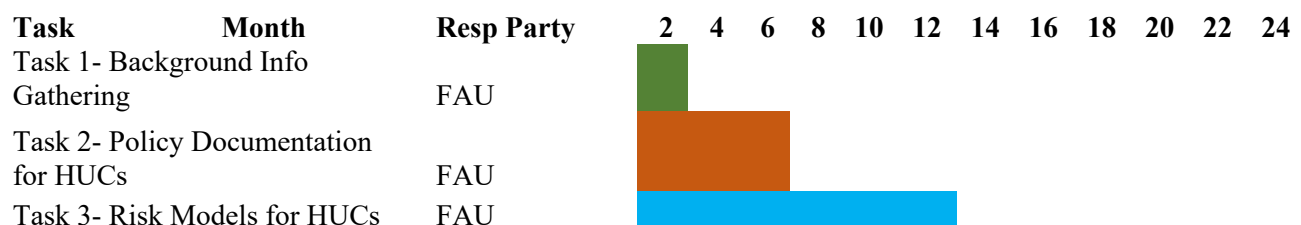
DELIVERABLE: n/a

Task10 – Progress reports to FDEM

FAU will support the Subrecipient's submission of quarterly and monthly reports. To wit, FAU will prepare said reports and submit them to the Subrecipients as outlined in the Subrecipient's grant.

DELIVERABLE: Quarterly and monthly reports

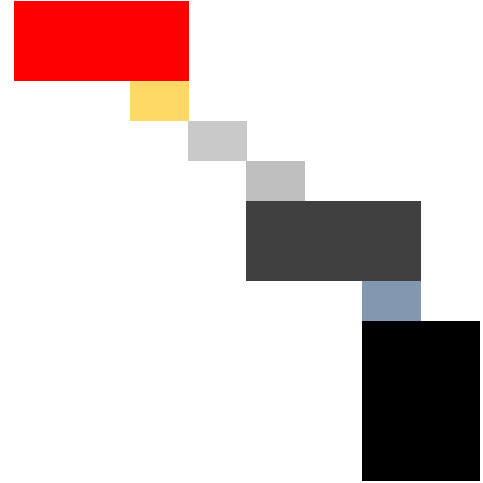
Schedule





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Task 4- Identifying Critical areas/Solutions in HUCs	FAU
Task 5- Action Plan	FAU
Task 6 - Submit for Staff Review	Staff
Revisions	FAU
Task 7- Submit to NFIP for Review	Staff w FAU support
Revisions	FAU
Task 8-Update CRS submission	Staff w FAU support
Task 9- Commission Approval	Staff w FAU support





2. SWMP Scope of Work

FDEM will coordinate with Sub-recipients to produce a Stormwater Master Plan (SWMP) to assist with local communities and their flood mitigation efforts. This project is preceded by the WMP Pilot Program, with Stormwater Master Plans being encompassed in the second round of funding under the HMGP Planning Grant.

Guidance materials produced in the WMP Pilot Program can be found at: <https://www.floridadisaster.org/dem/mitigation/watershed-planning-initiative>. The Sub-Recipient will finalize the process by submitting to the Division with a signed letter from their applicable county's Local Mitigation Strategy (LMS) Chairperson attesting that the Stormwater Master Plan will be adopted in the Sub-Recipient's next LMS update.

Tasks necessary to the completion of Stormwater Master Plans include: Task

1 – Create Preliminary Stormwater Master Plan

The Sub-Recipient shall create a preliminary Stormwater Master Plan, which is a narrative detailing an inventory of existing stormwater systems, the community's existing policies and regulations, identifying known problematic areas and areas with high flood risk, and proposes a series of recommendations for managing stormwater effectively. There must be enough detail in the preliminary SWMP to verify the required analysis has been completed.

Task 2 – Revise Draft SWMP and Submit Completed SWMP

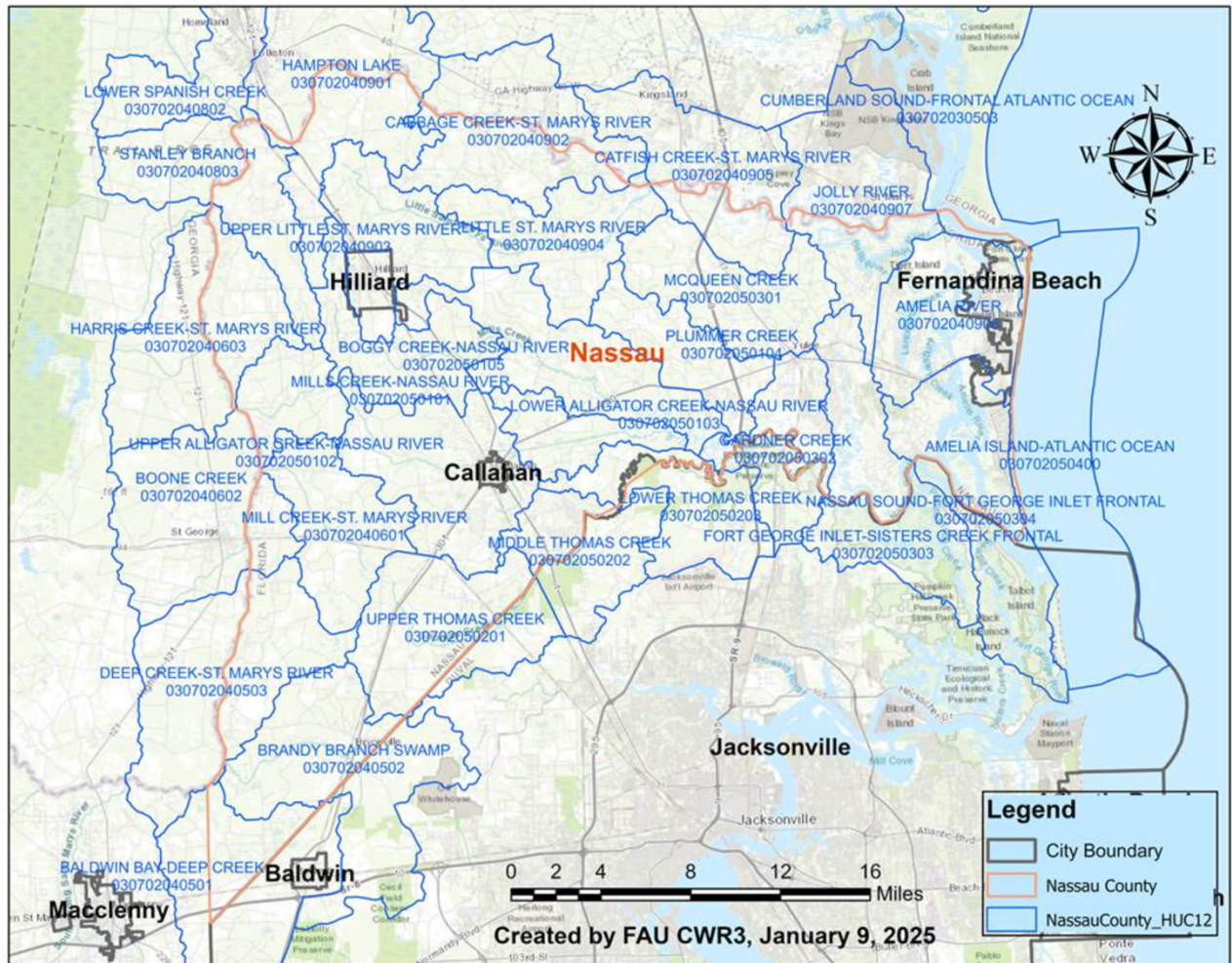
After receiving feedback from the Division on the preliminary SWMP from Task 1 (Deliverable), the Sub-Recipient shall finalize the flood modeling process and submit their completed SWMP. At a minimum, the SWMP must meet the Minimum Criteria required for a creditable SWMP shown above. The Sub-Recipient shall update their SWMP, if revisions are necessary based on the Division's feedback, and submit the completed SWMP to the Division for review.

Based on your project type selected (WMP or SWMP), please describe in detail below (or on a separate page attached to this proposal) how your community plans to complete the above tasks. Please provide any details related to staffing to complete the proposed project, if you will be hiring an outside agency/firm, and what resources you have at your disposal to accomplish the project:

Description

3. Describe any other on-going or proposed projects in the area that may impact, positively or negatively, the proposed HMGP Project:

The FDEP vulnerability assessment is currently underway. This includes asset management of critical assets and stormwater infrastructure.



Map of Nassau County and the 29 HUC12 Watersheds to be modeled

5. Community Information

Answer questions A through H for the community(ies) that is participating in the Watershed Planning Program.

Information can be provided using this proposal form, the attached CRS Points Spreadsheet (for questions g & h) or in a separate document clearly identifying the questions and answers.

- Jurisdiction Name
- Name of LMS Coordinator or Floodplain Coordinator/Manager
- Is the community a participant in good standing with the National Flood Insurance Program (NFIP)?



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- d) The NFIP Community Identification Number (CID)
- e) Does the community participate in the Community Rating System (NFIP CRS)?
- f) What is the current CRS Class Rank?
- g) What is the total # of CRS points accrued at the time of application?
- h) What is the total # of CRS points you expect to receive from completing a WMP?

Jurisdiction Name (a)	LMS and/or Floodplain Coordinator (b)	NFIP Participant (c)	CID # (d)	CRS (e)	CRS Ranking (f)	CRS Total Accumulated Points (g)	Expected Points from WMP (h)
Nassau County	Mark Wilson	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> NA	120170	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N	7	1754	TBD

Project Location

- ☒ Attach a copy of a city or county scale map (large enough to show the entire WMP area)
- ☒ Attach a map outlining the total area being modelled for your WMP

Flood Insurance Rate Map (FIRM)

- ☒ Attach one (1) copy of the FIRM map, a copy of the panel information from the FIRM, and, if available, the Floodway Map. FIRM maps are required for this application. 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 <https://msc.fema.gov/portal>.
- 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 checked="" type="checkbox"/> VE or V 1-30	<input checked="" type="checkbox"/> AE or A 1-30
<input type="checkbox"/> AO or AH	<input checked="" type="checkbox"/> A (no base flood elevation given)
<input type="checkbox"/> B or X (shaded)	<input checked="" type="checkbox"/> C or X (unshaded)
<input type="checkbox"/> Floodway	
<input type="checkbox"/> Coastal Barrier Resource Act (CBRA) Zone	

6. Schedule of Work

Using the outline below, estimate in monthly increments how much time will be estimated for each task to complete the Plan. When developing the schedule, please use timeframes from the date of subrecipient agreement execution. Add additional tasks as necessary on a separate sheet and attach to this proposal form.

Task(s)	Number of Months to Complete
Field Work and Data Collection (Task 1)	3
Initial Flood Modeling (Task1)	6
Preliminary WMP (Task 1)	6



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Revise WMP and Submit Completed WMP (Task 2)	6
Division Approval and Closeout (Task 2)	3
Total Months	24
Total Schedule	
Estimate the total duration of your proposed activities (do not exceed 24 months)	24
Proposed start date (MM/DD/YYYY)	04/01/25
Proposed end date (MM/DD/YYYY)	03/31/27

7. Budget

Cost estimates should be consistent with scope of work items and work schedule. Presented cost estimates in the budget should have sufficient source documentation or justification. Costs must be eligible under HMGP and conform to the requirements set forth in 2 CFR 200 E. Applicants must ensure that cost are reasonable, allowable, allocable, and necessary for the completion of a Watershed Master Plan consistent with the scope of work. Additional justifications related to the budget can be attached to your submitted proposal form.

Cost Item	Unit	Amount	Rate	Total Cost
Personnel				
Fringe Benefits				
Travel				
Equipment				
Supplies				
Contractual	\$400,000	1	\$400,000	\$400,000
Other				
Total Project Cost				\$400,000

8. Cost share

Maximum Federal Share for the project is 75 percent. Non-federal funding share is that portion of the total project costs provided by the non-federal entity in the form of in-kind contributions (professional services, labor, etc.) or cash match received from third parties or contributed by the entity. In-kind contributions must be provided and/or cash expended during the project period of performance to satisfy matching requirement. Please present the cost-share information for the proposed project below.

Federal and Non-Federal Cost Share Breakdown		
TOTAL PROJECT COSTS	\$ 400,000	
Estimated Federal Share (max 75%)	\$ 300,000	75%
Estimated Local Share: Cash	\$ 100,000	25%
Estimated Local Share: In-Kind *	\$	%



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Estimated Local Share: Third-Party *	\$	%
Date of local share funding availability	Will be available as soon as Work Plan change is executed. Funding is currently awarded as Work in Kind	
*Provide narrative or description of in-kind or third-party match sources below:		
Nassau County is using Resilient Florida 22PLN23 awarded grant as a cash match.		

Federal and Non-Federal Cost Share Breakdown

Provide any additional comments and/or reference to applicable attachments (optional)

Copy of the FIRM panel maps combined in a single pdf is available at:
<https://drive.google.com/drive/folders/1Ys9SSHEpEtB2cZGd9oUbyllxIAKKQtXg?usp=sharing>



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