

**DRAFT** Repair and Stabilization to Fort Matanzas  
Beach Ramp



**Fort Matanzas National Monument**

**Floodplain Statement of Findings**

**PMIS 330815 , PEPC 113156**

**Recommended:**

**DRAFT FOR PUBLIC REVIEW.**

NOTE: Signatures will be applied to the FINAL version of this Statement of Findings after incorporating any substantive comments received during 30-day Public Review.

\_\_\_\_\_  
Superintendent, Fort Matanzas National Monument

\_\_\_\_\_  
Date

**Certified for Technical Adequacy and Servicewide Consistency:**

\_\_\_\_\_  
Acting Chief, Water Resources Division

\_\_\_\_\_  
Date

**Approved:**

\_\_\_\_\_  
Acting Regional Director, NPS Southeast Region (IR2)

\_\_\_\_\_  
Date

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**Fort Matanzas National Monument**

**FLOODPLAINS STATEMENT OF FINDINGS**

## **1 INTRODUCTION**

Executive Order (EO) 11988, *Floodplain Management* requires the National Park Service (NPS) and other federal agencies to evaluate the likely impacts of actions in floodplains. The objective of EO 11988 is to avoid, to the extent possible, the long-term and short-term adverse impacts associated with occupancy, modification, or destruction of floodplains and to avoid indirect support of development and new construction in such areas wherever there is a practicable alternative. The National Park Service administers floodplain policy through Director's Order 77-2: *Floodplain Management* (DO 77-2) and Procedural Manual 77-2 *Floodplain Management* (PM 77-2). The National Park Service also complies with departmental guidance outlined in 520 DM 1, *Floodplain Management and Wetlands Protection Policy and Responsibilities*, and 520 DM 1, *Floodplain Management and Wetlands Protection Program Requirements*.

It is NPS policy to preserve floodplain functions and values and minimize potentially hazardous conditions associated with flooding, including threats to human health and safety, risk to NPS capital investment, and impacts on natural and beneficial floodplain values. If a proposed action is found to be in, or possibly affecting a floodplain, and relocating the action to a non-floodplain site is considered not to be a viable alternative, then a formal Floodplain Statement of Findings (FSOF) must be prepared unless the action is considered excepted. The FSOF must (a) describe the rationale for selection of a floodplain site, (b) disclose the amount of risk associated with the chosen site (with respect to human life, health, and safety, resource protection, and capital investment), and (c) explain strategies for mitigation of flood risk. The FSOF will be available for public review and comment in coordination with the National Environmental Policy Act (NEPA) and other compliance procedures, as applicable. If public review is not provided through the NEPA process (e.g. environmental assessment), another opportunity for public review is required.

This FSOF provides:

1. A detailed justification for selecting a proposed action that would adversely impact the Federal Flood Risk Management Standard (FFRMS) floodplain (Section 2).
2. A detailed and comprehensive description of the flood hazard and risk associated with implementation of the proposed action (Section 3).
3. A thorough description of mitigation measures chosen to eliminate, to the extent possible, adverse floodplain impacts associated with the proposed action(s) (Section 4).

### **1.1 PREPARER**

In accordance with DO 77-2 and PM 77-2, Byron Tsang, the author of this FSOF, is an NPS aquatic resource professional, who is technically qualified to prepare this document. Byron is a Professional Wetland Scientist (PWS # 3832) with 15 years' experience in wetland and floodplain resource management. As the NPS Regional Wetland Ecologist for the Southeast Region, he is a technical authority and subject matter expert for issues pertaining to NPS wetland and floodplain management in National Park units. His specific areas of expertise include wetland hydrology and natural resource values, river and floodplain natural processes, coastal wetland environments, plant community ecology, natural species and invasive management, and St Johns County, Florida ecological restoration in natural

landscapes. He serves as the southeast region technical advisor for park projects and operations with regulatory obligations under Section 404 of the Clean Water Act, and NPS Wetland and Floodplain policies (DO 77-1 & 77-2).

## 1.2 LOCATION

The proposed project at approximate coordinates 29.717746, -81.231319 in Fort Matanzas National Monument (FOMA), approximately 14 miles south of St Augustine in St. Johns County, Florida (see Figure 1, below). The site is a public beach drive access ramp and parking facility at the northern end of the FOMA unit boundary adjacent to Jimmy Buffet Memorial Highway (A1A Scenic and Historic Coastal Byway), just north of the Matanzas Inlet.

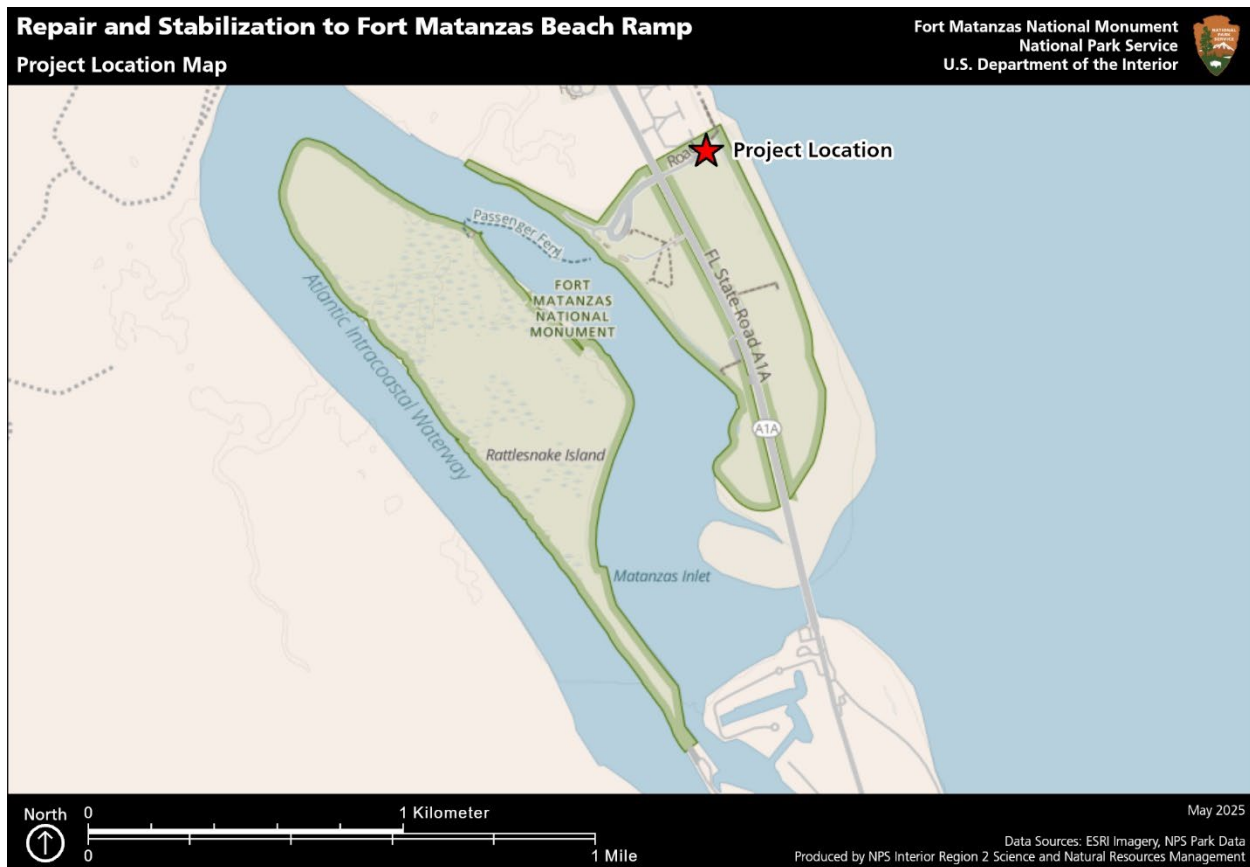


FIGURE 1. Project Location map of proposed project Repair and Stabilization to Fort Matanzas Beach Ramp, Fort Matanzas National Monument.

## 1.3 PROPOSED ACTION

The proposed action would repair damage to beach access facilities caused by 2022 Hurricanes Ian and Nicole. The concrete ramp structure itself sustained minor storm damage to the southwest corner of the ramp. The seashore embankment surrounding the ramp has been undermined due to erosion, and has in turn compromised the asphalt parking lot, retaining wall, concrete approach slab, and concrete pavement area at the southwest corner. A previously existing pedestrian ramp located parallel to the vehicle ramp was previously destroyed during 2016 Hurricane Matthew and was not replaced. The proposed action

would stabilize and repair the eroded embankment, replace retention walls with more resilient composite sheet pile, and construct a new ADA-compliant wooden pedestrian access ramp and stairs (see Figure 2, below).

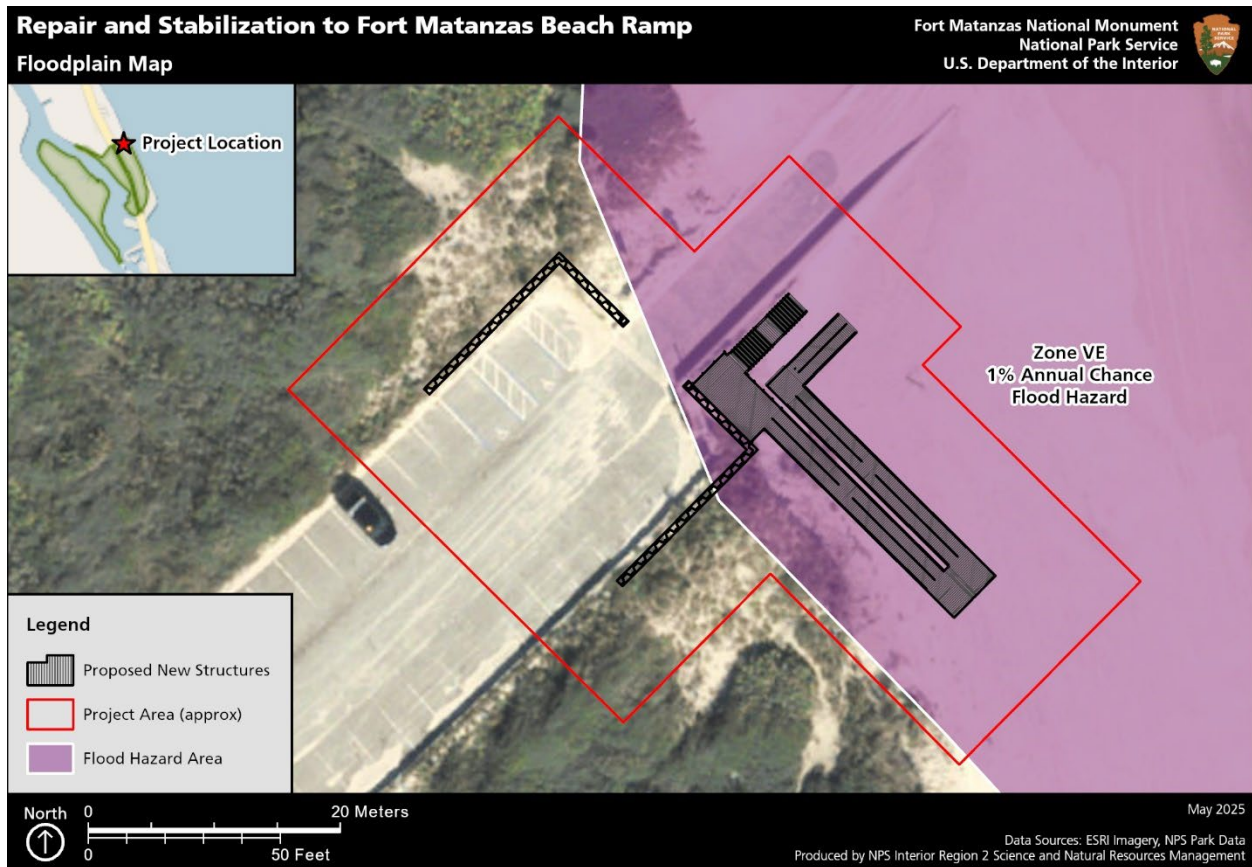


FIGURE 2. Proposed project area with new boardwalk ramp facility location in relation to coastal high-hazard flood area (Zone VE, 1% annual chance flood hazard). Base Flood Elevation at this location is 10 ft NAVD88.

The proposed action is being executed through a Cooperative Management Agreement (CMA) with St. Johns County, Florida, and is funded by Disaster Supplemental 2023 funds. This CMA leverages partnerships and processes deployed after Hurricane Matthew when a concrete ramp was constructed to replace the damaged wooden one. The county’s involvement is essential and valuable, as this driving ramp facilitates public access and recreation on the one-way driving beach. The County designs, builds, and maintains driving ramps throughout the area and they have extensive experience in planning, sustainable design, and compliance for similar projects. Working together on this project promotes an environment of mutual support between NPS a critical political partner.

Fort Matanzas National Monument and St. Johns County recognize the need to provide all visitors to the area with safe and reliable access to recreational beaches. The Fort Matanzas beach ramp represents the most southerly vehicular beach access point on Anastasia Island. Vehicles have been using this beach ramp since it was first constructed in the 1930s and it allows controlled, proper, and safe visitor access to St. Johns County beaches to the north. This ramp has also been necessary for each party because it allows access of official vehicles to provide timely emergency response to visitors and the public.

In 2022, due to Hurricanes Ian and Nicole, the seashore embankment on the southwest corner of the beach ramp sustained severe erosion and has compromised the asphalt parking lot, block retaining wall, concrete approach slab, and concrete pavement in the southwest corner of the ramp. These features would be repaired and made more resilient by extending existing block retaining walls and adding sheet piles, for a total combined linear length of 150 feet. Beach compatible sand fill would be placed where the parking lot abuts the southwest corner of the beach ramp to replace material lost by erosion. The total volume of sand to be placed is estimated at 1,360 cubic yards. The area receiving sand fill, as well as any non-vegetated dune areas within 100 feet north and south of the ramp, would be re-vegetated using native dune plants of the same genetic seed stock as local plant communities. The estimated acreage for re-vegetation is 0.14 acres.

In 2016, Hurricane Matthew destroyed a pedestrian timber boardwalk which paralleled the beach ramp. Due to lack of pedestrian access, visitors used the beach ramp to walk from the parking lot to the beach prior to its closure following the hurricanes of 2022. It is important that a safe and separate pedestrian access be provided for visitors. The proposed boardwalk will be six feet wide, made of wood, and have both stairs and ramp to ensure compliance with the Americans with Disabilities Act (ADA).

No alternative actions were evaluated for this project. A no-action alternative was considered but dismissed as failure to repair and replace these structures would fail to deliver the operational and safety requirements of facility and the park's operational needs.

#### **1.4 DETERMINATION OF ACTION CLASS AND REGULATORY FLOODPLAIN**

Following PM 77-2, three action classes were considered when establishing the regulatory floodplain:

1. Class I Actions (i.e., non-critical actions) include location or construction of administrative, residential, warehouse, and maintenance buildings; non-excepted parking lots; or other man-made features, which by their nature entice or require individuals to occupy the site, are prone to flood damage, or result in impacts to natural floodplain values.
2. Class II Actions (i.e., critical actions) include any activity for which even a slight chance of flooding is too great, such as construction of schools, medical facilities, emergency services, hazardous material storage, and records/collections storage.
3. Class III Actions include any action that involves human occupation or substantial human exposure in high hazard areas, such as drainages subject to flash flooding.

This project meets the definition of a **Class I Action**.

Proposed actions that involve federal capital investment must comply with FFRMS for new construction, substantial improvement, or repairing substantial damage. Per departmental guidance, agencies may select one of three approaches to implement flood resiliency measures:

- **Climate-Informed Science Approach (CISA)** – The elevation and flood hazard area that result from using the best-available, actionable hydrologic and hydraulic data and methods that integrate current and future changes in flooding, including climate change and other physical processes (e.g. land-use change).

- **Freeboard Value Approach (FVA)** – The elevation and flood hazard area that result from adding an additional 2 feet to the base flood elevation (BFE) for non-critical actions and by adding an additional 3 feet to the BFE for critical actions.
- **0.2% Annual-Chance Flood Approach (0.2PFA)** – The area subject to flooding by the 0.2% (500-year) annual-chance flood.

A Climate-Informed Science Approach establishing FFRMS flood elevations is employed for this proposed action. Therefore, the regulatory floodplain for the proposed action is the floodplain informed by a climate-informed science using best available climate and sea level rise predictions for the area. Data sources considered for this determination include FEMA FIRM and NOAA Coastal Management data for Seal Level Rise and Coastal Flooding Impacts (updated June 2023 for Florida).

## 2 JUSTIFICATION FOR USE OF THE FLOODPLAIN

The proposed stabilization and repair are required as soon as possible to minimize further damage to existing public access facilities and adjacent dune habitat. These repairs are expected to stop ongoing loss and damage to structures, mitigate potential safety hazards associated with use of damaged structures, eliminate current conflicts between vehicle and pedestrian traffic, and halt and repair damage to adjacent natural areas due to erosion and off-trail foot traffic. If the driving ramp is not hardened the frequency of storm-generated closures is expected to increase, resulting in loss of beach access. The driving ramp is used as an exit for County beaches to the north, essentially making four miles of beach a one-way road. Loss of this exit ramp would impair public access.

Additionally, failure to repair and protect this facility introduces major direct impacts on health and safety or natural/cultural resources. This ramp is used as a critical access point for emergency response and law enforcement actions. Without the additional pedestrian access, there is a potential for conflict between vehicles and pedestrian using the same ramp, resulting in unacceptably high safety risk. Additionally, the current driving ramp does not meet accessibility standards required under the ADA. Because of the currently inadequate pedestrian access, FOMA has observed increased damage to adjacent coastal dune habitat due to establishment of informal social trails. Construction of the proposed pedestrian access ramp and restoration of the native plant community will restore this damage and will help prevent future environmental damage by providing a more attractive off-ramp path for foot traffic.

No alternative locations have been evaluated for the proposed project, as this specific site is the only direct vehicle access point within several miles. Beach access ramps require placement of structures in the coastal floodplain environment, so avoidance of construction in the coastal floodplain is not a viable option.

### 3 DETAILED FLOOD HAZARD AND FLOOD RISK ANALYSIS

#### 3.1 DESCRIPTION OF SITE-SPECIFIC FLOOD HAZARD

The primary flood hazard at the project location is coastal flooding and inundation associated with storm surge. FEMA flood maps indicate a Base Flood Elevation (BFE) of 10.0 ft NAVD88 at the existing beach ramp. Data for nearby NOAA sea level rise modelling scenarios predict 50-year “high scenario” BFE change of up to 4.4ft by 2080 (Daytona Beach and Mayport, Florida scenarios)

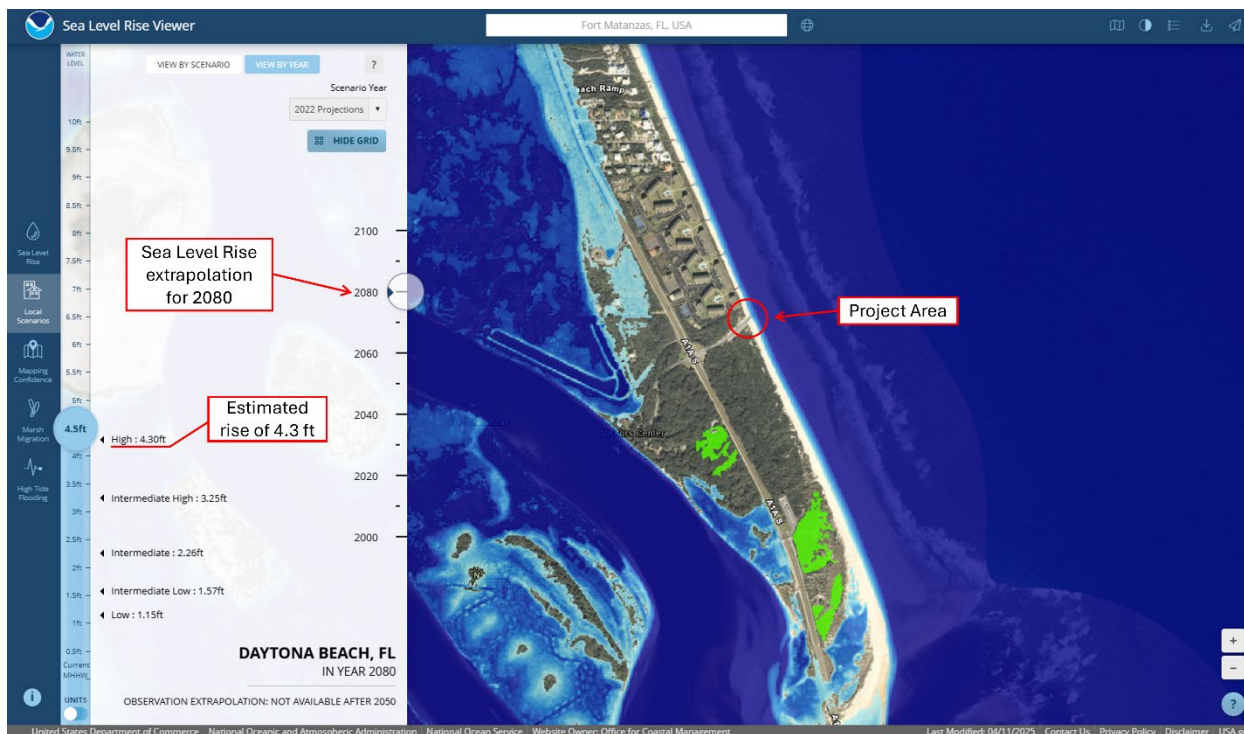


FIGURE 3. NOAA Sea Level Rise viewer showing local scenario for Daytona Beach, approximately 40 miles south of the project area. Extrapolated sea level rise data for 2080 (roughly 50 years out) predict sea levels will be approximately 4.3–4.5 feet higher than current. A rise of 4.5 feet is displayed in the map indicated by blue shaded areas.

#### 3.2 DESCRIPTION OF SITE-SPECIFIC FLOOD RISK

Risks to property and infrastructure at this location are moderate but unavoidable. As has been observed regularly during coastal storm events, flood hazard events in this area are relatively brief but high energy, frequently resulting in sand displacement from beaches and dunes and damage to structures. It is expected that periodic damage to or loss of wooden pedestrian ramp structures will occur, and that repair and replacement would be an ongoing part of facility management in this location.

Since this is a day use facility for beach access with no anticipated permanent occupancy, risk to human health and safety is present, but no higher than adjacent recreational beach areas. The beach ramp facility has immediate access to local roads and would be used as an evacuation route in the event of an emergency evacuation.

Risks to floodplain natural resource values are expected to be unchanged or slightly improved because of the proposed action. Current lack of suitable pedestrian beach access is currently resulting in damage to adjacent dune habitat due to social trails. The proposed pedestrian access would discourage off-trail use and the proposed revegetation would repair habitat damage from erosion and pedestrian traffic. Once established, a healthy dune habitat is expected to deliver improved resilience against minor storm events.

## 4 FLOODPLAIN IMPACT MITIGATION MEASURES

FOMA maintains and regularly updates a Severe Weather Emergency Action Plan (SWEAP, latest edition released April 2024) which outlines specific processes and procedures to ensure public and staff safety and protection of park property and resources. Hurricanes and other severe storm events are generally predicted well in advance, and FOMA's SWEAP includes pre-season checklists, storm prep actions up to 96 hours in advance of storm fall, storm evacuation plans, and procedures for post-incident check-in and response. Regular reviews and updates to the FOMA SWEAP will mitigate against risk to human life, health, and safety during coastal flood hazard events.

To further mitigate risk of loss or damage of NPS property and facilities, the proposed repairs will reinforce the parking area and vehicle ramp and will construct the new pedestrian boardwalk with easily replaceable resilient materials using best available construction standards. This will ensure that these facilities can withstand mild to moderate storm events and can be quickly and easily repaired in the event of more severe and damaging storms.

Damage to the natural resource and functional values of the coastal floodplain has already occurred due to lack of easy pedestrian access in this area. Construction of the new pedestrian boardwalk ramp will reduce the creation of social trails in the adjacent dune area. Native plant community restoration proposed as part of this project will repair the existing damage making the dune system more stable and resilient against future flooding.

## 5 PUBLIC REVIEW

In accordance with DO 77-2 and PM 77-2, a draft of this Statement of Findings was made available for public review and comment for a period of 30 days beginning on [INSERT DATE].

*[This is a placeholder section where substantive public comments will be acknowledged and addressed. Retain ONE of the following sections as applicable:]*

*[If no substantive comments received:]*

During public review, no substantive or actional comments were received.

*[If substantive comments received:]*

During public review, the following substantive comments were received, and appropriate revisions or additional information has been incorporated into this document as indicated below.

1. [PUBLIC COMMENT PLACEHOLDER]

## 6 SUMMARY

The National Park Service has determined the proposed action to stabilize and repair damage to beach access facilities caused by 2022 Hurricanes Ian and Nicole and to construct a new ADA-compliant wooden pedestrian access ramp and stairs at Fort Matanzas National Monument is necessary and consistent with Executive Order (EO) 11988, Floodplain Management and Director’s Order 77-2: Floodplain Management. The proposed action is a Class I action which would require the location or construction of facilities within the regulatory floodplain which by their nature entice or require individuals to temporarily occupy the site and which are prone to flood damage. Mitigation measures against flood risks include regular review and updates to the park’s Severe Weather Emergency Action Plan, use of easily replaceable resilient materials and best available construction standards to minimize storm damage and facilitate fast and simple repairs, and revegetation of adjacent areas to restore natural resource and functional values of the coastal floodplain.

## 7 REFERENCES

Department of Interior Office of Environmental Policy and Compliance. 2022. Departmental Manual Part 520: Protection of the Natural Environment; Chapter 1: Floodplain Management and Wetlands Protection Policy and Responsibilities (520 DM 1).

Department of Interior Office of Environmental Policy and Compliance. 2022. Departmental Manual Part 520: Protection of the Natural Environment; Chapter 2: Floodplain Management and Wetlands Protection Program Requirements (520 DM 2).

Executive Order 11988, “Floodplain Management.” 1980. Executive Order of the President of the United States. May 28.

National Park Service (NPS). 2003. Director’s Order 77-2: *Floodplain Management*. Washington Office, Washington, D.C.

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National Park Service (NPS). 2024. Castillo de San Marcos & Fort Matanzas Severe Weather Emergency Action Plan