

Study Background and Introduction

The Miami-Dade Back Bay Coastal Storm Risk Management (CSRM) Study is a comprehensive feasibility study to promote resilience and reduce the risk of coastal storm damage by addressing coastal storm surge and flood risk to vulnerable populations, property, ecosystems, and infrastructure along the coast. Since the initiation of the study in October 2018, the study has investigated potential structural, nonstructural, and natural and nature-based feature solution sets in terms of CSRM. Miami-Dade County (MDC) has high levels of risk and vulnerability to coastal storms which will be exacerbated by sea level rise over the study period. A Tentatively Selected Plan (TSP) has been identified based on the draft solution that most reasonably maximizes the benefits compared to project costs. The next phase of the study will optimize the TSP to develop a final Recommended Plan. Benefits include things such as avoided losses and reduced property damage. Costs include elements such as construction costs, operation and maintenance, environmental mitigation, and real estate costs.

Study Area and Scope

TENTATIVELY SELECTED PLAN (TSP)

*Nonstructural measures include elevating residential structures, acquiring residential structures, wet and/or dry floodproofing of non-residential structures. The TSP only includes elevation and floodproofing, but further refinement prior to the final report may add acquisition of certain structures. These areas have not been proposed for risk reduction by structural measures in the TSP.

**Estimates of locations and footprints of the structural measures have been initially determined based on the USACE derived 2079 1% annual exceedance probability stillwater elevation level from the FEMA South Florida Storm Surge Study (includes tide, storm surge and USACE high curve sea level rise) and will be subject to additional review and public input, revised, and finalized during the Preconstruction, Engineering, and Design Phase of the project when more detailed surveys and data are available. The proposed wall heights will vary from 1 to 13 feet above ground depending on location and is greater in height where the wall is in water.

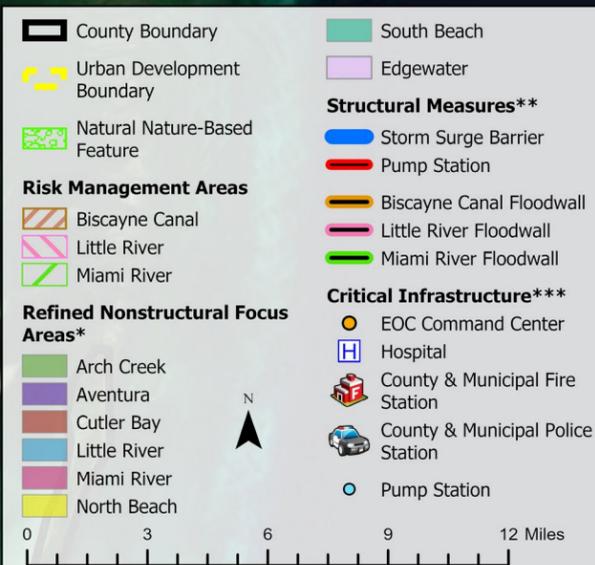
***Critical Infrastructure (CI) proposed for risk reduction by structural measures (represented by the Structural Risk Management Areas) in the TSP are not included for individual CI measures. CI includes evacuation shelters, erosion to Rickenbacker Causeway and Venetian Way, railway electrical substations, Ports facilities, water management facilities, and wastewater facilities which will be further analyzed and are not displayed on the map.

Study Area

Miami-Dade County has a population of approximately 2.8 million people, making it the most populous county in Florida and the seventh most populous in the United States. There are 34 municipalities within the county, the largest of which is the City of Miami. Due to the large geographic scale of the study and the inability to provide a comprehensive recommendation under this study effort, the team determined a process to refine the study area by identifying the most vulnerable areas based on flooding potential and social vulnerability. This resulted in seven refined focus areas: Arch Creek, Aventura, Cutler Bay, Little River, Miami River, North Beach, and South Beach.

Study Scope

The scope of the study focuses on critical infrastructure and areas of the county that exhibit high levels of risk and vulnerability to coastal storms resulting in repetitive economic losses. Project recommendations focus on reducing coastal storm risk to the refined focus areas to maximize net benefits. It is recognized that this is not a holistic recommendation for MDC and future studies are recommended to address other areas in MDC at risk from coastal storms.



Critical Infrastructure

Critical Infrastructure Asset Categories

Critical infrastructure is distributed throughout all of Miami-Dade County and includes county, municipality, and non-public assets. USACE Norfolk and MDC coordinated to create a list of critical asset types to address which include:

- **Fire Stations**
- **Medical Facilities** – Significant hospital facilities accessible to the general public
- **Police Stations**
- **Rickenbacker Causeway and Venetian Way** – Determine if erosion is occurring on two critical high priority causeways
- **Potable Water and Water Management Facilities**
- **Emergency Shelters** – Identified locations for severe weather sheltering and recovery assistance
- **Wastewater Facilities** – May include treatment plants and pump stations
- **Railway Electrical Substations**
- **Ports Facilities**



US Army Corps
of Engineers
Norfolk District

MIAMI-DADE COUNTY, FLORIDA

Coastal Storm Risk Management Feasibility Study

MIAMI-DADE
COUNTY

Proposed Measures for the Tentatively Selected Plan (TSP)

Refined Focus Area

Proposed Measures*

Arch Creek	Surge Barrier** + Nonstructural
Aventura	Nonstructural
Cutler Bay	Nonstructural + Mangrove Restoration
Little River	Surge Barrier** + Nonstructural
Miami River	Surge Barrier** + Nonstructural
North Beach	Nonstructural
South Beach	Nonstructural

*The TSP includes floodproofing of Critical Infrastructure throughout all of Miami-Dade County where feasible on priority asset categories.

**Surge barriers include associated floodwalls and pump stations.

What is a Measure?

A measure is a feature or an activity that can be implemented at a specific geographic site to address one or more project objectives. Measures are the building blocks of alternative plans.

Examples of Nonstructural Measures



Elevation



Floodproofing

Feasibility Process and Study Schedule

SMART Study Process

The USACE Civil Works project planning process informs Congress as it makes decisions for authorizing and funding water resources investments for the nation. USACE SMART Planning is **Specific, Measurable, Attainable, Risk informed, and Timely**. A SMART Planning feasibility study includes three decision milestones as depicted in the graphic to the right. These milestones mark key planning decisions along the path to an effective and efficient study.



In addition to the planning decision milestones, there are several product milestones. The key product milestones for this study are the release of the draft report for public comment and the signed Chief's report. The anticipated schedule for these SMART Planning feasibility study milestones is shown in the table below.

Milestone	Date Scheduled/Completed
Federal Cost Share Agreement Execution	October 2018
Alternatives Milestone	January 2019
Tentatively Selected Plan Milestone	January 2020
Draft Report Released for Public Comment	June 2020
Agency Decision Milestone	October 2020
Chief of Engineer's Report Signed	September 2021

The end of the feasibility study process is marked by the approval of a Chief's Report, which provides the Assistant Secretary of the Army for Civil Works (ASA(CW)) with the findings of the feasibility study and recommends a Federal project for authorization. Once the Chief's Report has been signed by the USACE Chief of Engineers, it is transmitted to the office of the ASA(CW) and Office of Management and Budget (OMB) for review. After the ASA(CW) and OMB approve, the Chief's Report is sent to Congress, specifically the House Committee on Transportation and Infrastructure and Senate Committee on Environment and Public Works, to be authorized into law. Once authorized, Congress must appropriate funds for the project to be implemented. Construction of the recommended project can be expected to begin in approximately five-to-ten years.

Next Steps

- Documentation of public comments received during 45-day comment period from June 5, 2020 to July 20, 2020
- Completion of the economic analysis optimization of the TSP through varying water levels and USACE sea level rates
- Decision of the Recommended Plan and decision briefing at Agency Decision Milestone meeting in October 2020

Comments or Concerns? Please visit: <http://arcg.is/fm0Xe> or send your comments by July 20, 2020 to:

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For general information about the project, visit the project website at: <https://www.saj.usace.army.mil/MiamiDadeBackBayCSRFeasibilityStudy/>