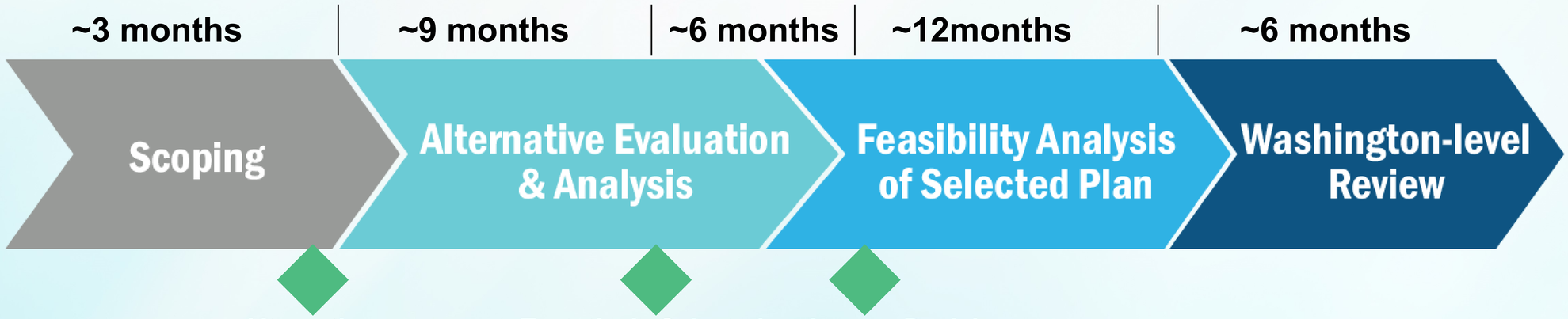
MIAMI-DADE BACK BAY COASTAL STORM RISK MANAGEMENT FEASIBILITY STUDY

THE FEASIBILITY STUDY PROCESS: KEY DECISION & PRODUCT MILESTONES



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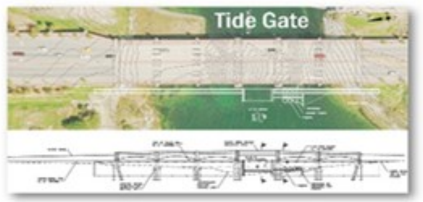
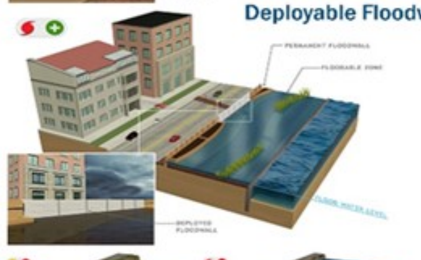
MIAMI-DADE COUNTY

The draft integrated Report/Environmental Impact Statement will be available for public review approximately March 2020.

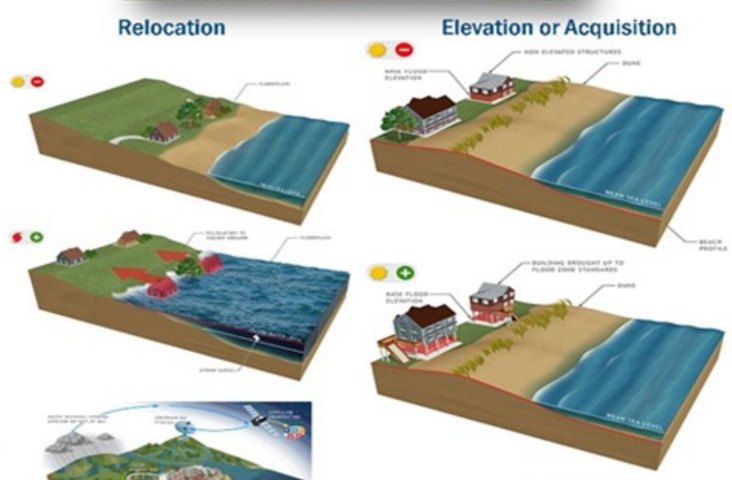
MANAGEMENT MEASURES FOR CONSIDERATION

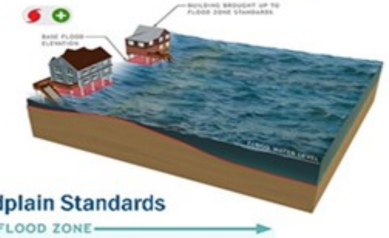
Structural

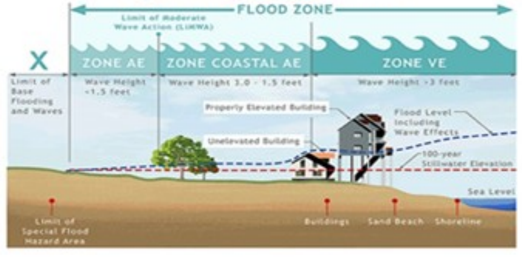




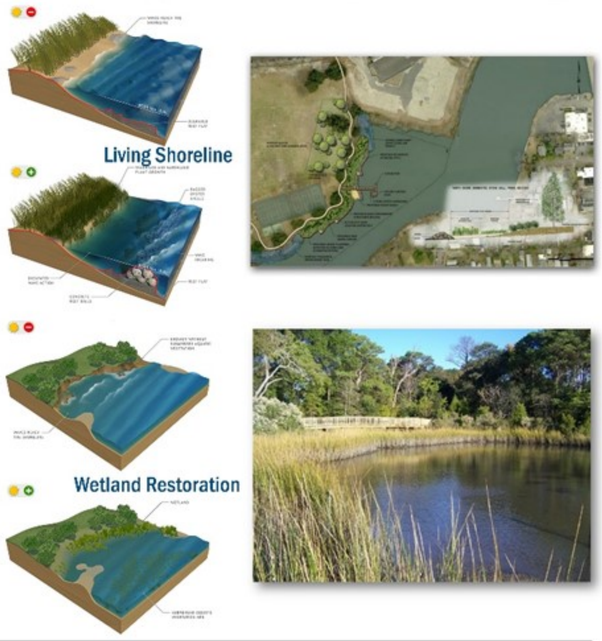
Nonstructural

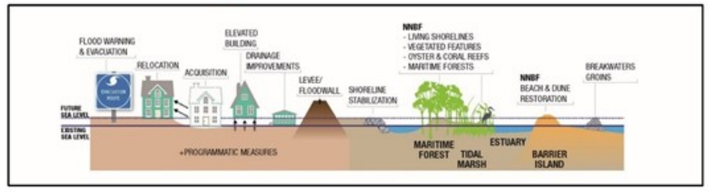


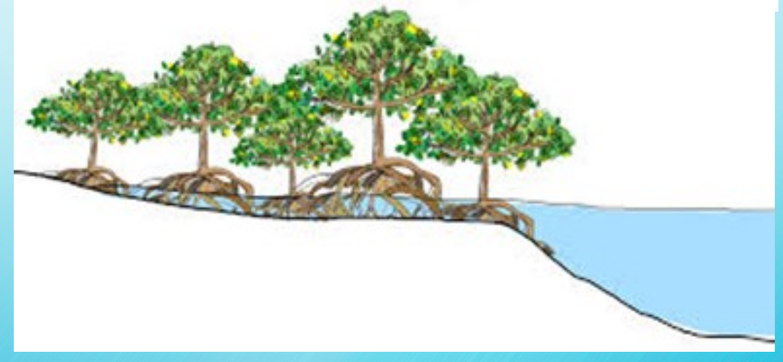




Natural and Nature-based







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MIAMI-DADE COUNTY

PROBLEMS, OPPORTUNITIES, OBJECTIVES AND CONSIDERATIONS

PROBLEMS

- The geographic location, low elevation, and high population of Miami-Dade County make it vulnerable to storm surge from hurricanes and tropical storms.
- Increasing high tides and king tides resulting from sea level rise result in recurrent flooding to roads and properties.
- Increasing groundwater elevations from sea level rise result in flood risks to inland areas.
- Increasing flooding from rain events due to the higher groundwater elevations and higher tailwater elevations from sea level rise threaten properties and infrastructure.

OPPORTUNITIES

- Reduce risk of loss of life due to high flooding events or infrastructure failure
- Reduce coastal storm-related economic damages and improve economic resiliency of the local economy and communities, particularly low-income communities
- Increase resiliency and structural integrity of critical infrastructure
- Reduce transportation and evacuation route impacts during high flooding events
- Utilize available natural areas and open spaces for improving wave attenuation, water retention, and/or water storage

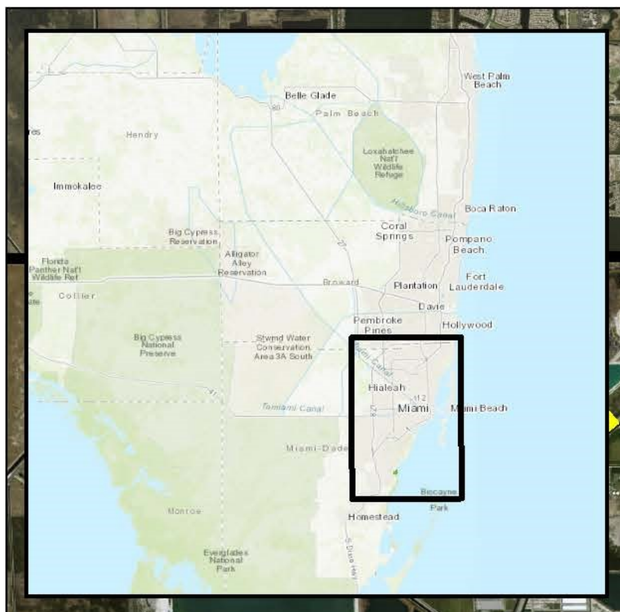
OBJECTIVES

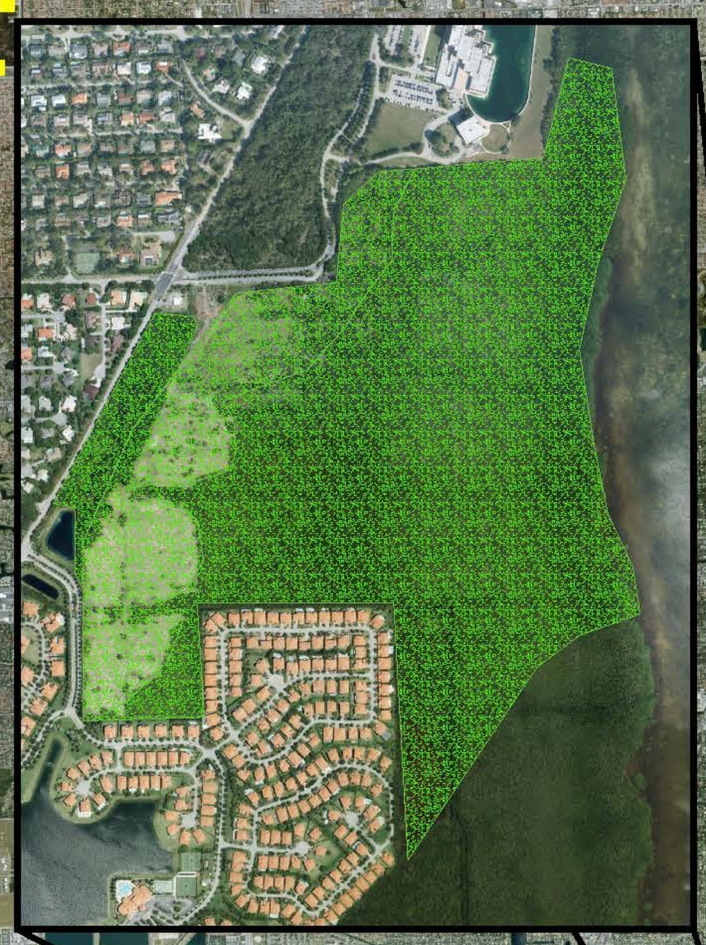
- Increase the resiliency of Miami-Dade County to function effectively before, during, and after coastal storm events by decreasing the vulnerability of critical infrastructure to flooding damages SLR and storm surge.
- Reduce economic damages to structures in communities vulnerable to severe flooding damages from SLR and storm surge.
- Incorporate natural and nature based features to reduce flood damages and complement the recommended nonstructural and structural measures.

CONSTRAINTS AND CONSIDERATIONS

- Avoid creating or exacerbating flooding within the project area, to other local municipalities, and to local military installations
- Avoid flooding solutions for the study area that would induce increased flooding issues in locations outside of the study area
- Avoid impacts to environmental and cultural/historic resources in the study area and nearby (e.g. Everglades NP, Biscayne Bay NP)
- Cannot exacerbate saltwater intrusion which will negatively impact fresh water for drinking and agriculture

NONSTRUCTURAL AREAS & NATURAL NATURE -BASED FEATURES MIAMI-DADE COUNTY, FL





Nonstructural Focus Areas

- Arch Creek
- Aventura
- Cutler Bay
- Little River
- Miami River
- North Beach
- South Beach

Natural Nature Based Feature

- Mangrove Restoration/Protection

County Features

- County Boundary
- Urban Development Boundary

N

0 4 8 Miles

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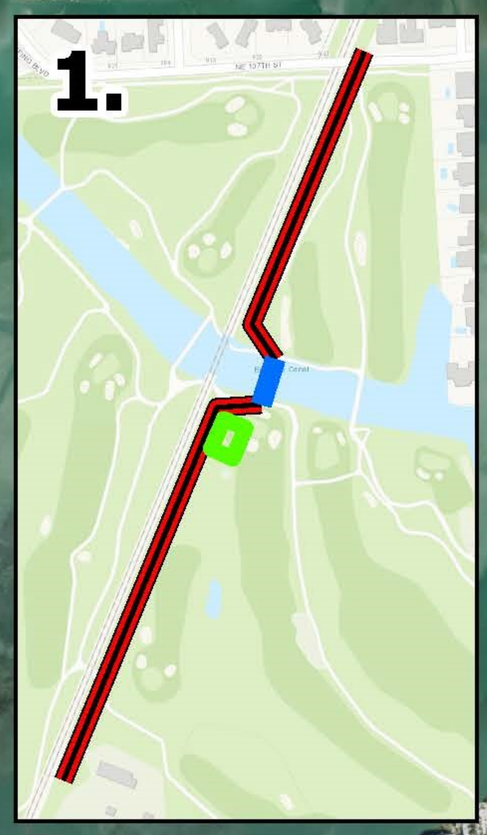
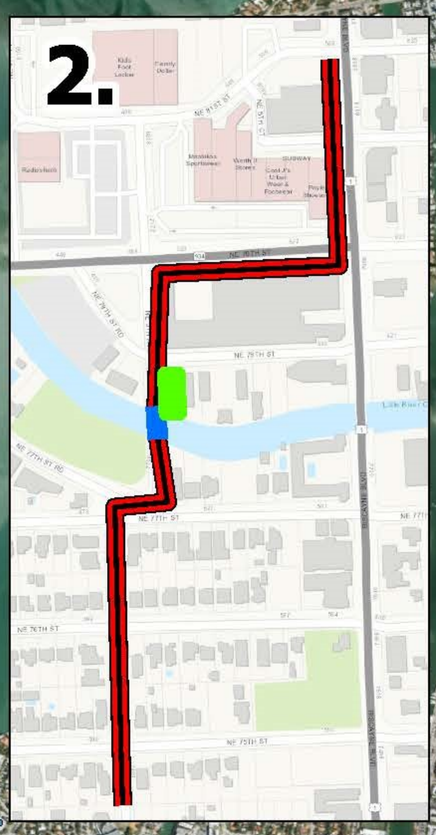
PROPOSED STRUCTURAL MEASURES & ALIGNMENTS MIAMI-DADE COUNTY, FL

1.

2.





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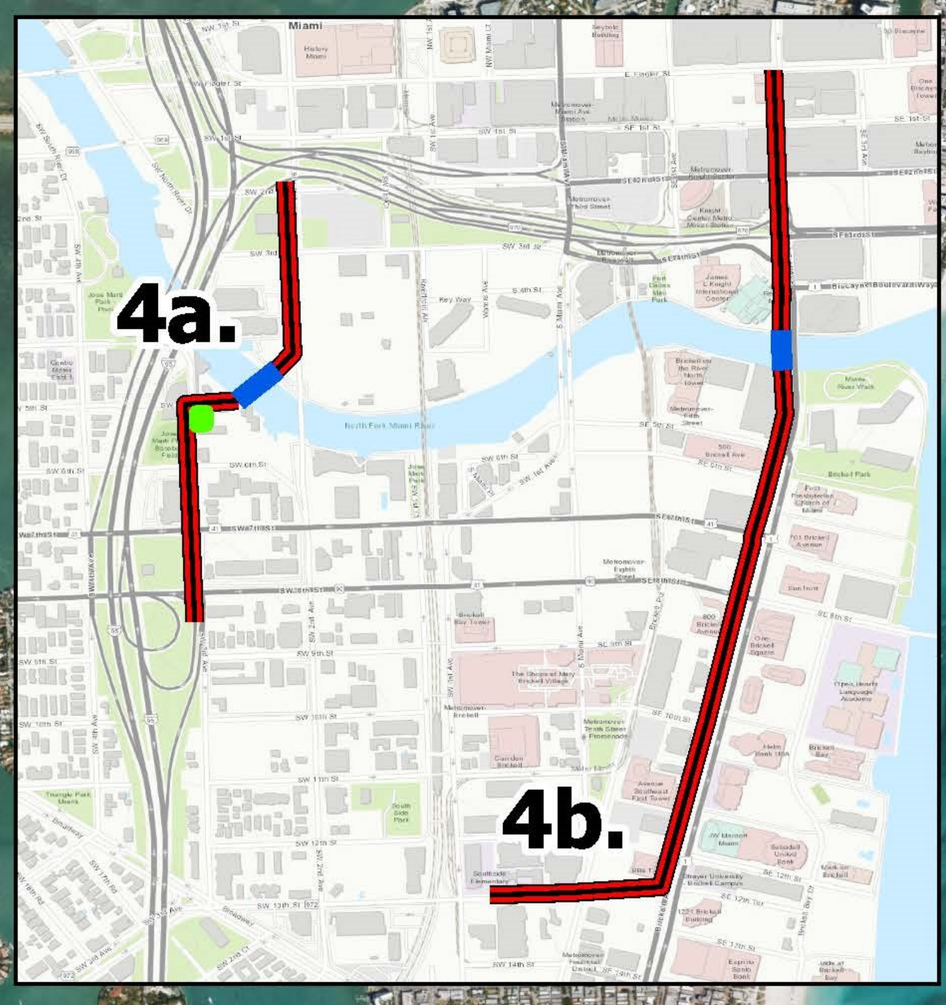

4a.

4b.

1. Biscayne Canal Surge Barrier
2. Little River Surge Barrier
3. Edgewater Floodwall
4a. Miami River Surge Barrier Option A
4b. Miami River Surge Barrier Option B

*DRAFT alignments for proposed structural measures

N

Structural Measures
- Floodwall
- Surge Barrier
- Pump Station

0 0.25 0.5 1 Miles

CRITICAL INFRASTRUCTURE
MIAMI-DADE COUNTY, FL

- Treatment Plant
- Hospital
- County & Municipal Fire Station
- County & Municipal Police Station
- EOC Command Center
- Urban Development Boundary
- County Boundary

N

Critical Infrastructure (CI) will continue to be refined as the study progresses.

*CI includes pump stations and evacuation shelters, though these CI are not displayed in the map.

0 2.5 5 10 Miles

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