



The Role of Parks in a Resilient City

Parks



A Coastal City



29,900 acres of parkland
12,390 acres of upland waterfront parkland



520 miles of coastline in NYC
156 miles of coastline in parklands



Opportunity to touch the water



Opportunity to view the waterfront



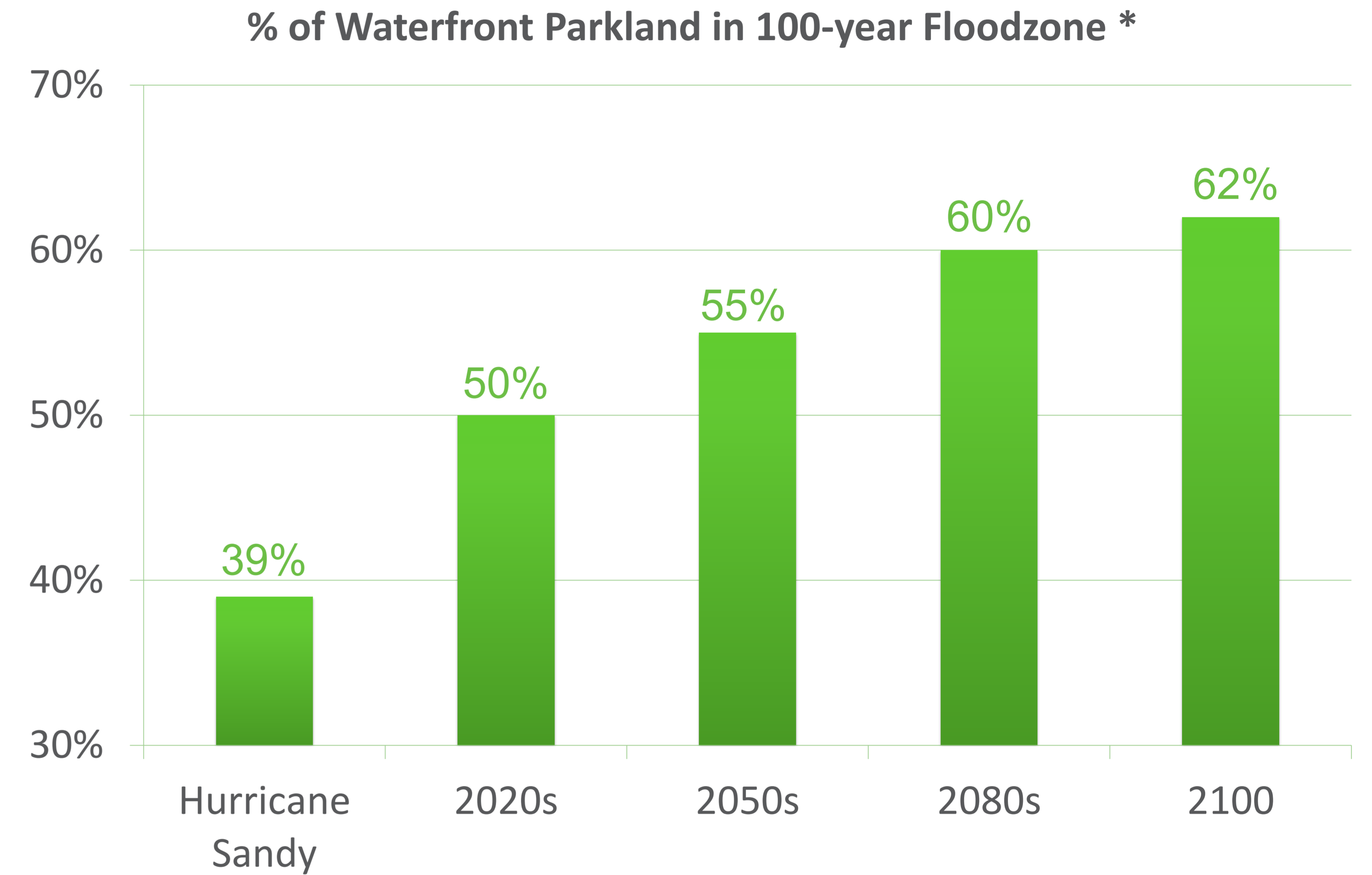
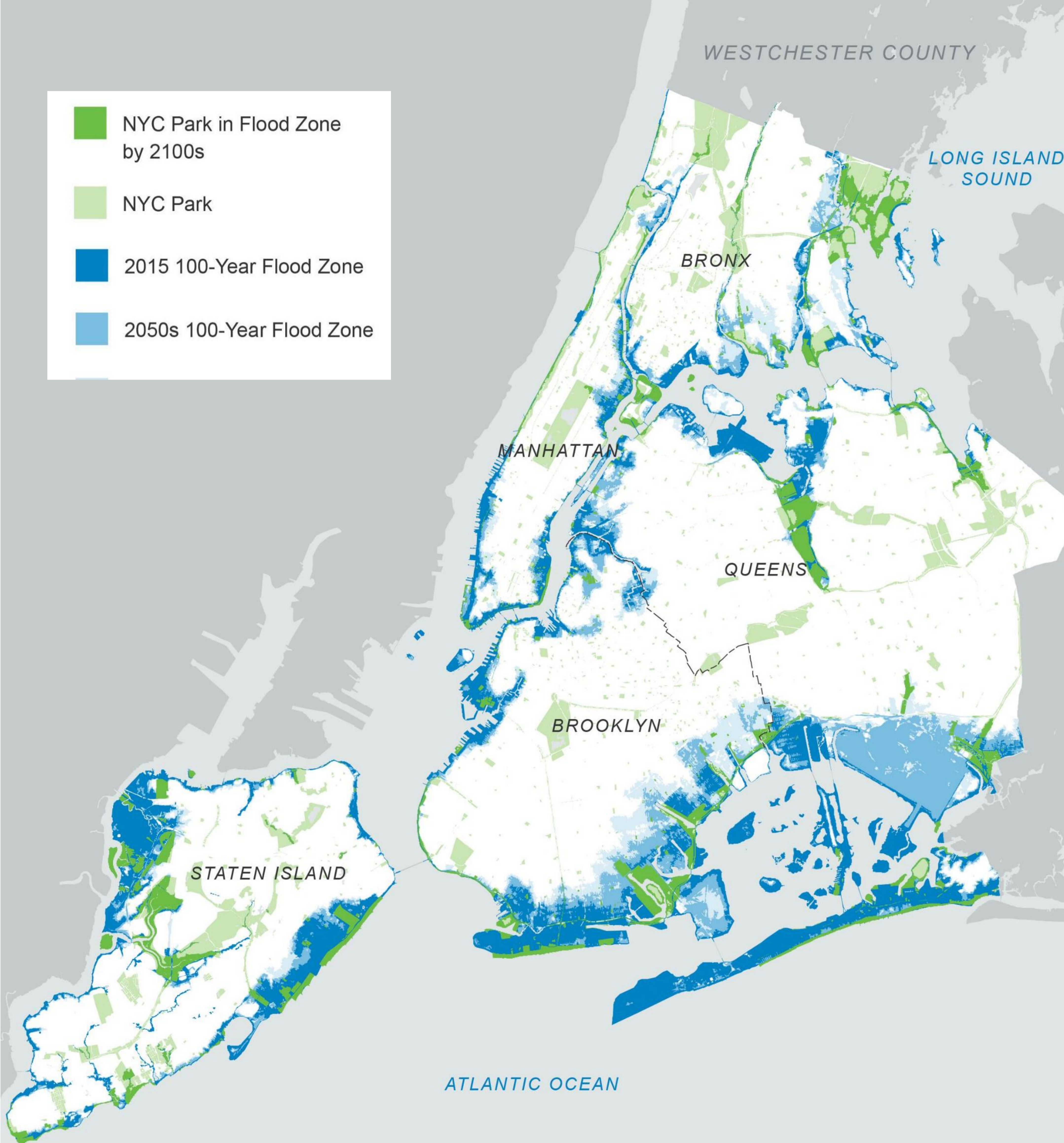
Opportunity to experience the waterfront



Vital to our communities



CLIMATE CHANGE |



* Based on NPCC 2015 sea level rise projections.

CLIMATE CHANGE | Sea Level Rise



**CLIMATE CHANGE |
Increased Coastal Storms + Flooding**



Rockaway Boardwalk post-Sandy



**CLIMATE CHANGE |
Increased Temperatures + Frequency of Heat Waves**



Tree planting



**CLIMATE CHANGE |
Increased Precipitation**

Building Resiliency into Parks

Two ways:

- Building resiliency measures into each new park retrofit
- Creating community-wide protection plans



Eroded Shoreline (NYC Parks)



Staten Island East Shore
(Quennell Rothschild & Partners)



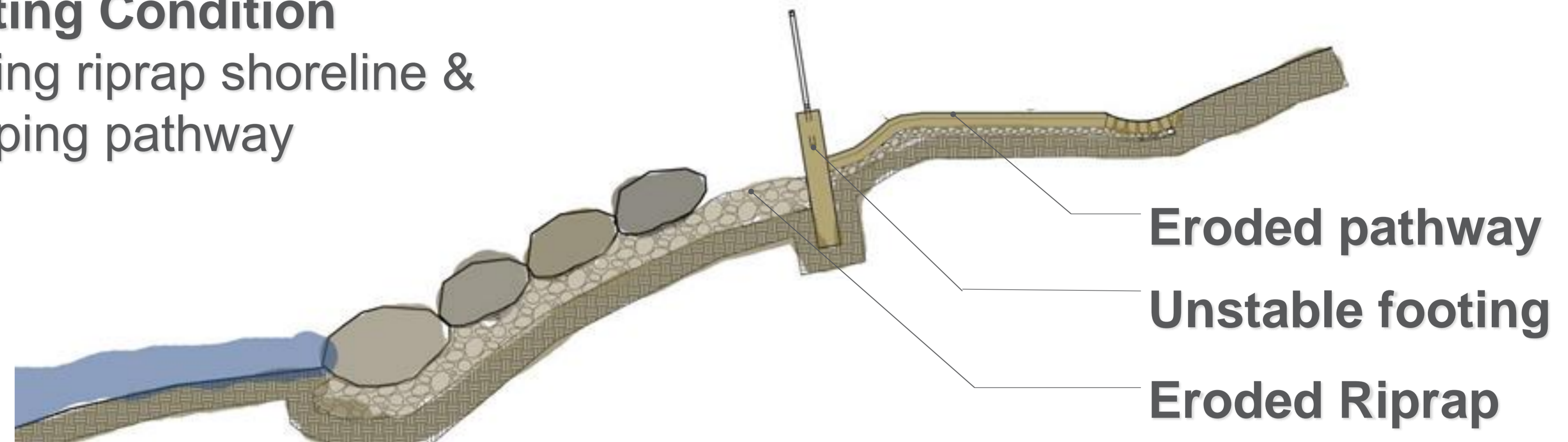
Building Resiliency into Parks

Resilient Materials + Construction Details

MacNeil Park, Queens

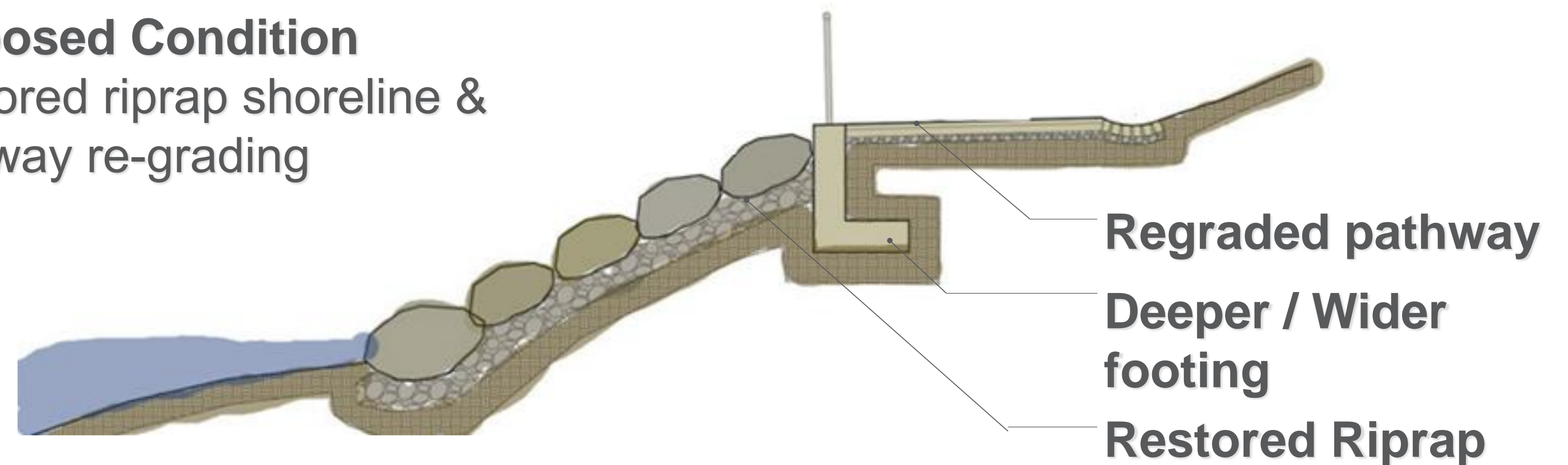
Existing Condition

Eroding riprap shoreline & slumping pathway



Proposed Condition

Restored riprap shoreline & pathway re-grading



Building Resiliency into Parks

Relocating High Investment Amenities to Higher Ground

Lifeguard Stations at Rockaways, Queens



Building Resiliency into Parks

Green stormwater management in upland parks

Conch Playground, Queens



Existing



Proposed



Green Infrastructure Section



Building Resiliency into Parks

Protect & Restore Natural Areas

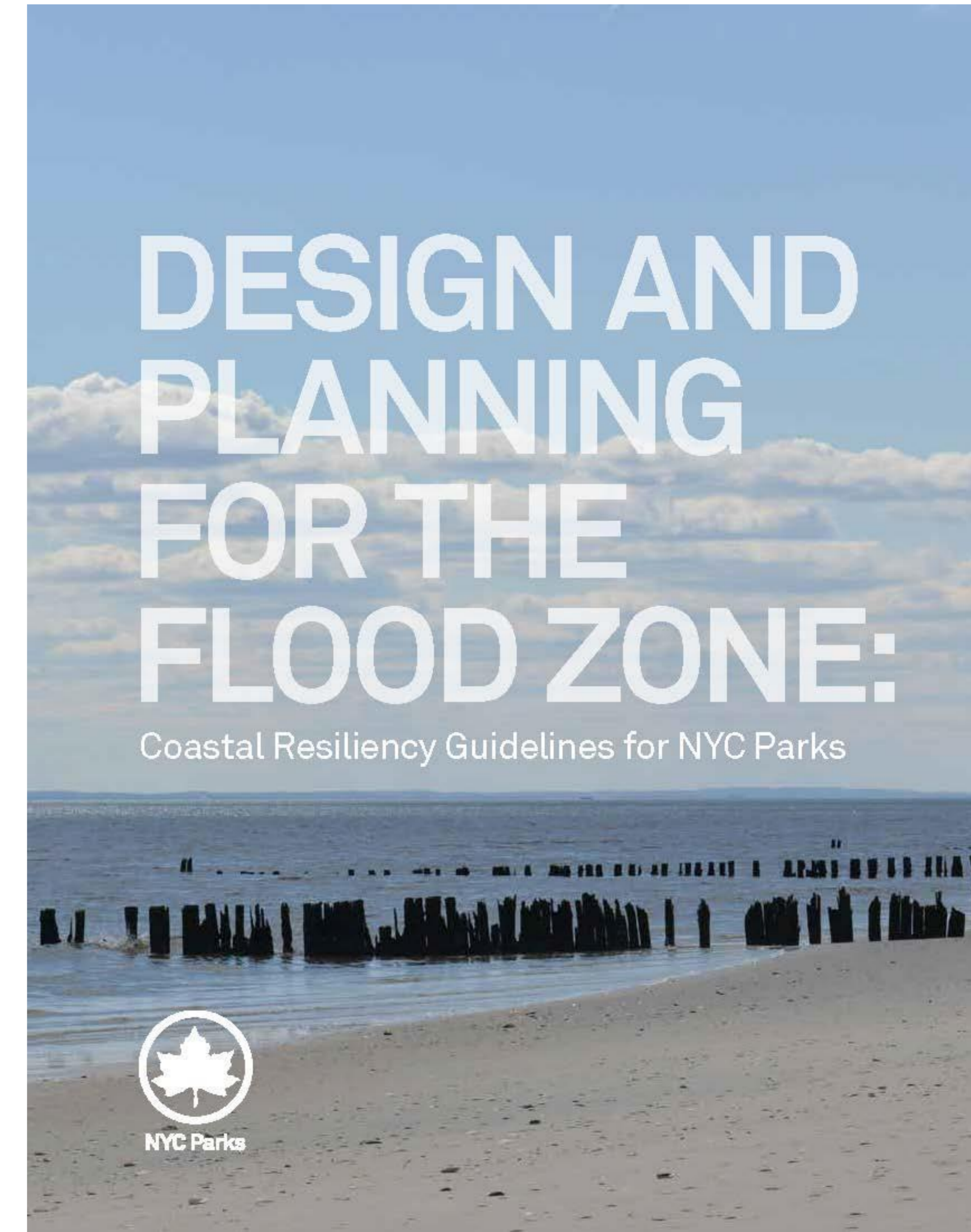
Soundview Salt Marsh Restoration



Building Resiliency into Parks

Developing Flood Zone Guidelines:

- **Bring Awareness**
about unique issues faced by parks in the flood zone
- **Identify Major Risks**
associated with climate change
- **Outline Process for Planning & Designing**
parks and open spaces in the flood zone.
- **Recommend Best Practices & Resilient Materials**
to be used within and near the flood zone.



Draft Flood Zone Design Guidelines
(to be released 2016)

Building Resiliency into Parks

Community-wide Protection Plans Focus Areas:

- Jamaica Bay & Rockaways
- South & East Shore of Staten Island
- Coney Island
- East Harlem
- Lower East Side & Lower Manhattan



Coney Island Creek Resiliency Study
(Arcadis & MNLA)



Living Breakwaters & Shoreline Protection Project
(Scape & Stantec)



Rockaway Boardwalk Dune Re-construction



Resilient Rockaway Boardwalk

