

REBUILD
BY
DESIGN



**Building Resilient Parks: Amy Chester
January 2018**



Rebuild by Design is a process that brings together global and local expertise, regional leadership and local vision to tackle multidimensional problems that harness and cultivate strong stakeholder support and government leadership.

**REBUILD
BY
DESIGN**

REBUILD BY DESIGN

Lead Supporter
The Rockefeller Foundation

Additional Supporters
Deutsche Bank
Hears Foundation
The JPB Foundation
Surdin Foundation
The New Jersey Recovery Fund

In collaboration with
The Institute for Public Knowledge at New York University
Municipal Art Society of New York
Regional Plan Association
Van Alen Institute

Design Teams

BIG Team
Big 1
HR&A Advisors w/ Cooper, Robertson & Partners
The Commercial Corridor Resiliency Project

Interboro Team
Living with the Bay: a Comprehensive Regional Resiliency Plan for Nassau County's South Shore

MIT CAU + ZUS + URBANISTEN
New Meadowlands, Productive City + Regional Park

OMA
Resist, Delay, Store, Discharge: a comprehensive strategy for Hoboken

PennDesign / OLIN
Hunts Point Lifelines

Sasaki / Rutgers / Arup
Resilience @ The Beach

SCAPE / Landscape Architecture
LIVING BREAKWATERS

WB unabrridged with Yale ARCADIS
Resilient Bridgeport

WXY / WEST 8
Blue Dunes - The Future of Coastal Resiliency

Collaboration by Design
Form coalitions to innovate

Build by Design
Transforming the region and its future

Talent by Design

Research Advisory Group

Final projects will be selected and on four key components:
- Length of the research and analysis, demonstration of a participatory design process and stakeholder coalition; design innovation and excellence; and impact of the proposed design solution, as well as its implementation strategy.

REBUILD BY DESIGN
The graphic provides an overview of the Rebuild by Design process, from its June 2013 launch to the unveiling of final design proposals in April 2014 and beyond, as well as key themes and strategies. The following panel includes detailed descriptions and images representing the design proposals.

REBUILD BY DESIGN
Because of the enormity of this challenge, the Rebuild by Design process was developed to find better ways of implementing designs and improving efficacy.

REBUILD BY DESIGN
Bringing together interdisciplinary teams of innovatively reimagined designers, scientists, economists, and other experts with a diverse range of professionals for assistance, Rebuild by Design has developed innovative, flexible solutions that better connect people from local coalitions across, while challenging everyday resilience factors communities.

REBUILD BY DESIGN
Sandy exposed vulnerabilities throughout the Northeast region that have existed for a long time: neglected infrastructure, fragile economic systems, and at-risk populations. The Design Teams researched these vulnerabilities - analyzing data, meeting with stakeholders, and learning through site visits, workshops, and conversations - and identified opportunities for design interventions.

REBUILD BY DESIGN
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REBUILD BY DESIGN
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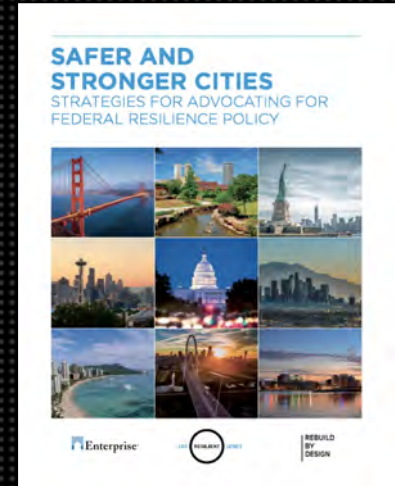
REBUILD BY DESIGN
Length of the research and analysis, demonstration of a participatory design process and stakeholder coalition; design innovation and excellence; and impact of the proposed design solution, as well as its implementation strategy.

WHAT WE DO

1 Large Scale Regional Design Competitions

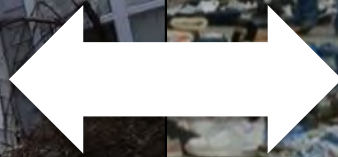
2 Innovative Processes to Address Specific Challenges

3 Research, Policy + Education





PHYSICAL

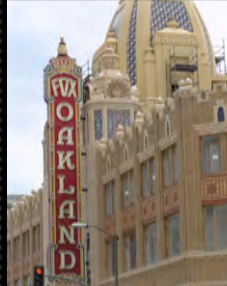


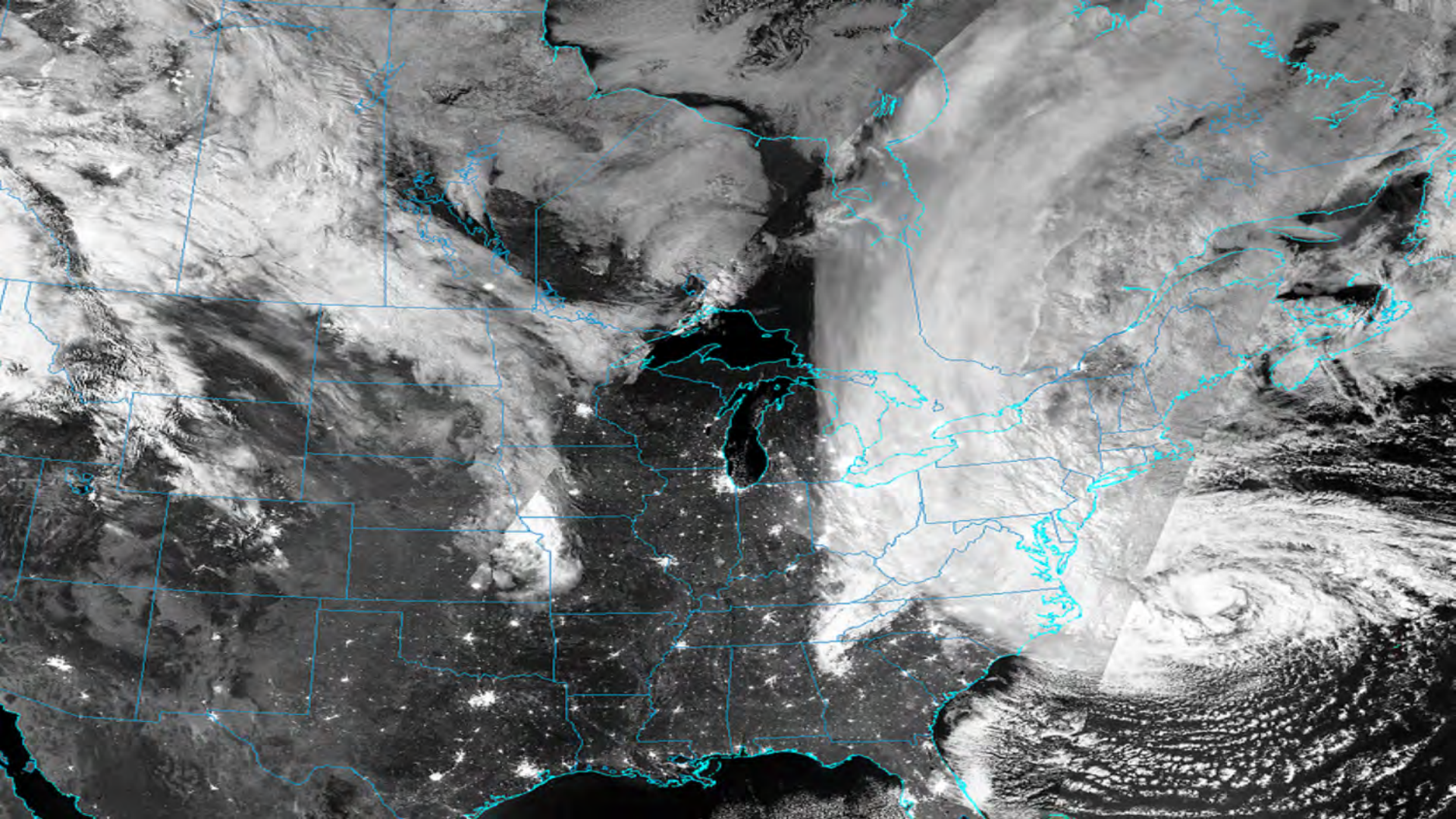
SOCIAL

CITY ENGAGEMENTS

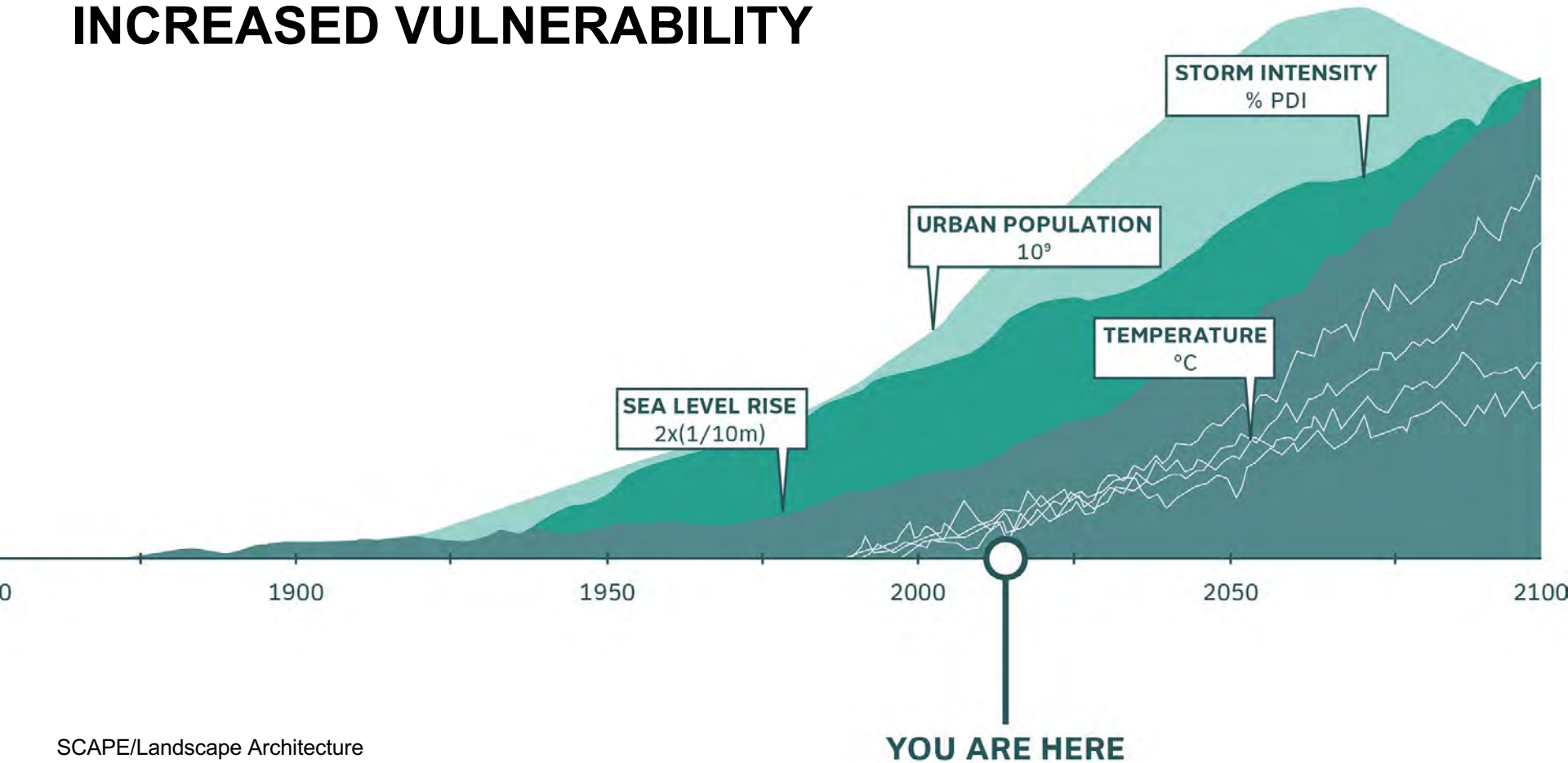


- **Athens:** Promoting stewardship for Lycabettus Hill
- **Oakland, CA:** Workshop Series on Effective Engagement
- **Mexico City:** Master Plan framework for Xochimilco
- **Los Angeles, CA:** Creating a process around updating building codes to encourage resilience
- **Amman:** RBD_U: program on Waste, Water, Transportation
- **San Juan, PR:** Community Led Master Plan/Resilience Pilot
- **Juarez, MX:** Design Competition for Juan Gabriel Plaza
- **Boulder, CO:** Effort to create a Resilient and Sustainable Mobile Home Park
- **Atlanta, GA:** Student design competition for Ted Turner Drive Resilience Corridor

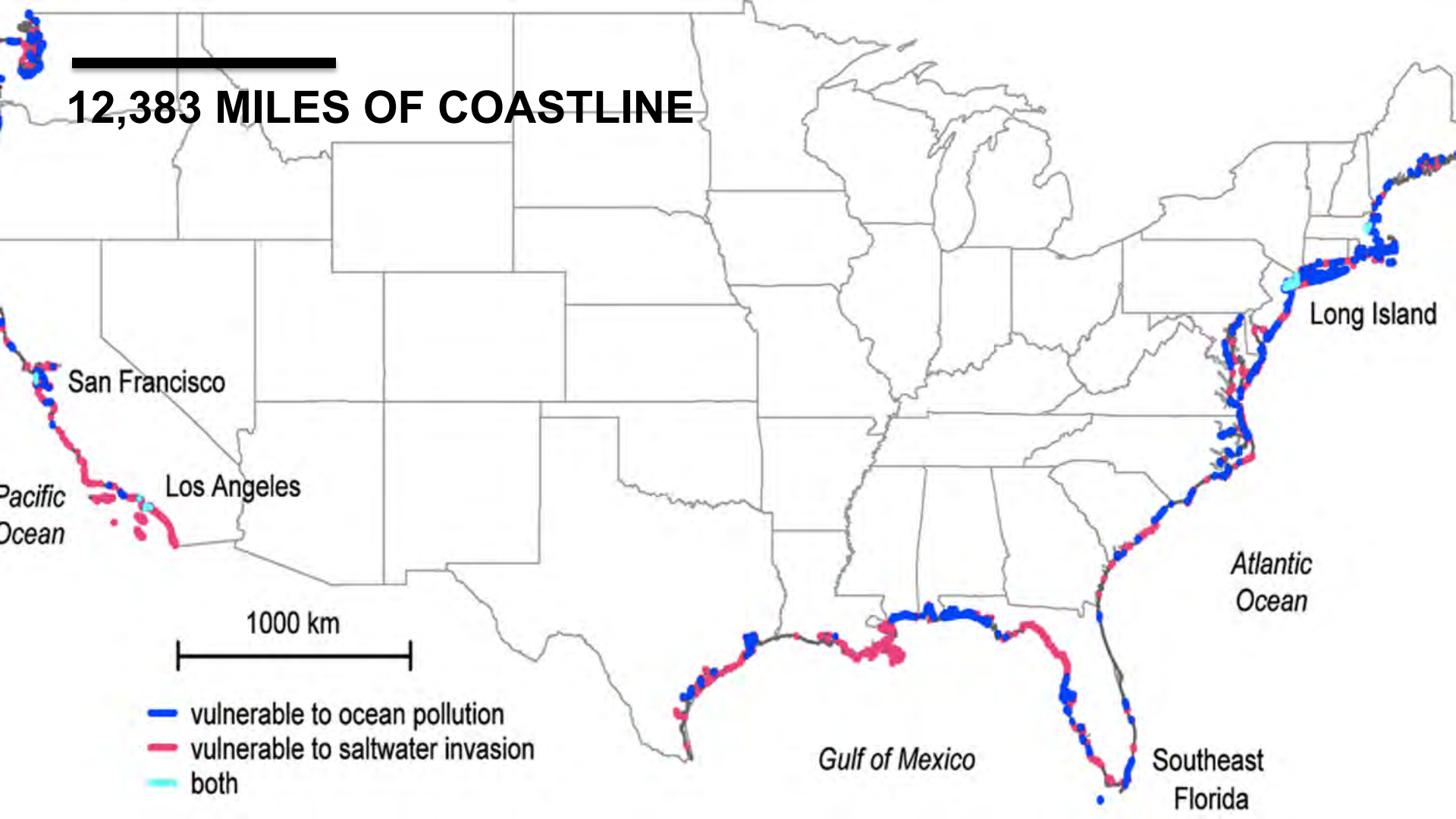




INCREASED VULNERABILITY



12,383 MILES OF COASTLINE



**HOW SHOULD WE
PROTECT OURSELVES**

HINT: NOT LIKE THIS!



Osabe, Japan



TYPICAL DESIGN PROCESS

Site

Budget

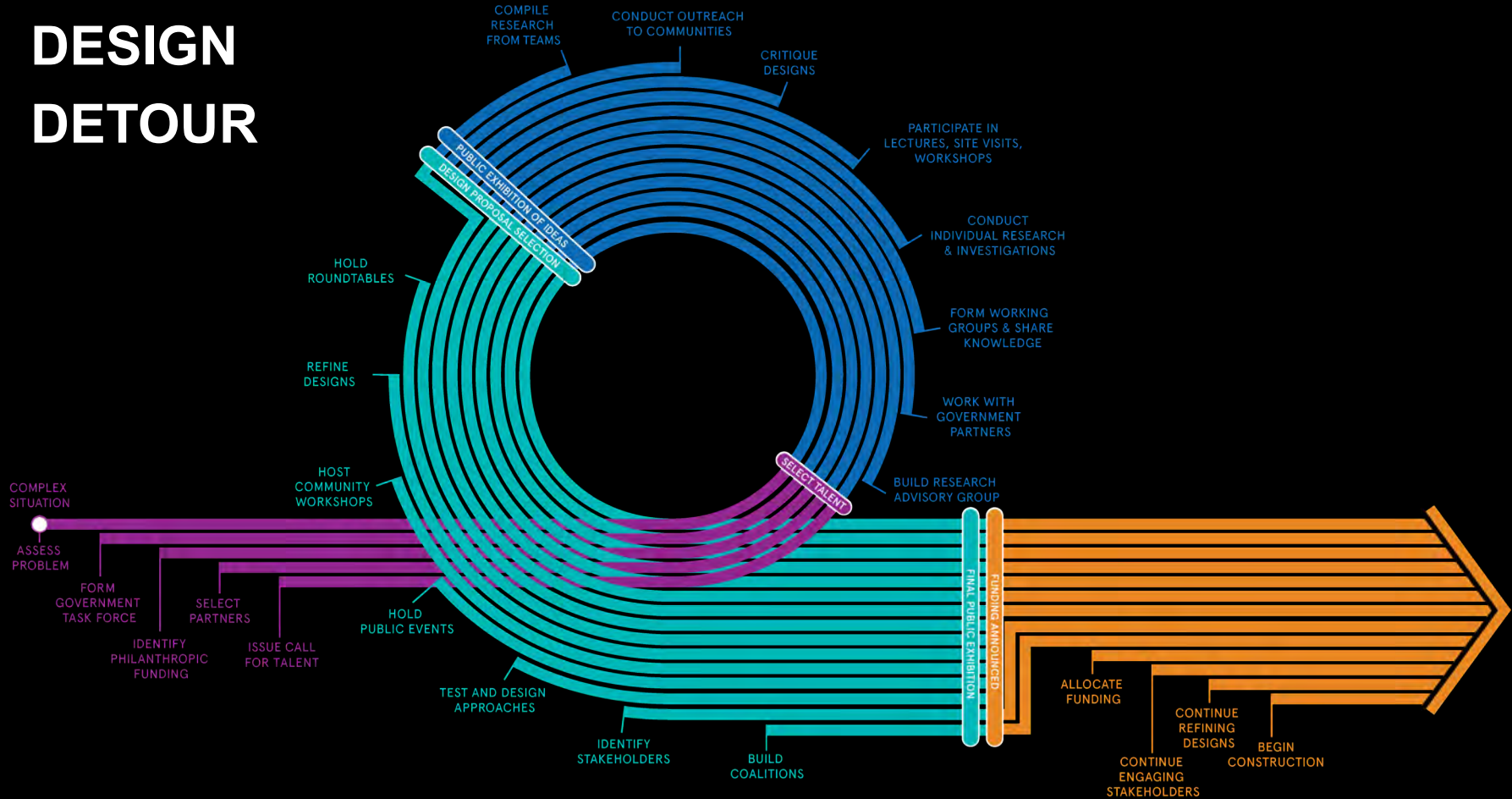
Program

Square Footage

Timeline



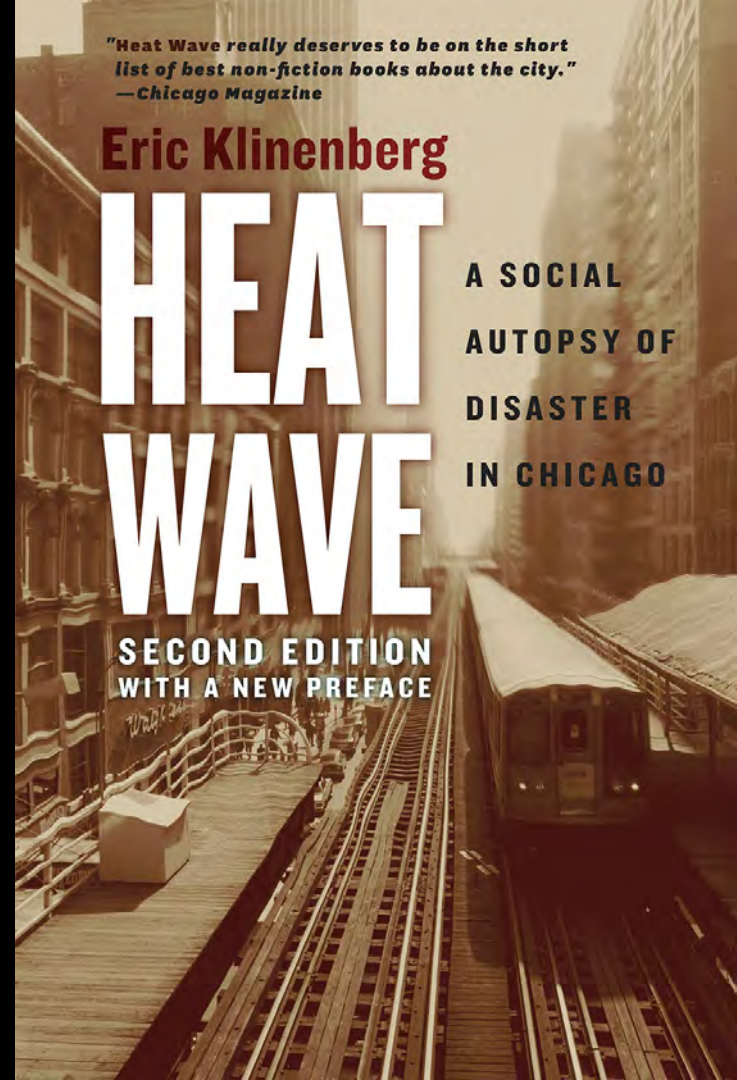
DESIGN DETOUR



SOCIAL RESILIENCE

1995 Chicago Heat Wave
Killed 700 people

KLINENBERG, 2002



"Heat Wave really deserves to be on the short list of best non-fiction books about the city."
—Chicago Magazine

Eric Klinenberg

HEAT WAVE

A SOCIAL
AUTOPSY OF
DISASTER
IN CHICAGO

SECOND EDITION
WITH A NEW PREFACE

HURRICANE SANDY DESIGN COMPETITION

JUNE 2013 – JUNE 2014

- 10 Interdisciplinary Teams
- Northeast United States
- Federal Disaster Dollars (CDBG-DR) to be awarded by HUD
- Infrastructure should address multiple goals at the same time
- Judged on Innovation, Collaboration and Implementation

BAY AREA DESIGN CHALLENGE

JUNE 2017 – MAY 2018

- 9 Interdisciplinary Teams
- San Francisco Bay
- No federal funds
- Future planning for resilience
- Focus on sea level rise, transportation, housing and equity



COLLABORATIVE RESEARCH



COLLABORATIVE DESIGN



COLLABRATIVE RESEARCH

- Site Visits
- Tours
- Panel Discussions
- Community Roundtables
- Neighborhood Leader Engagement
- Design Critiques
- Data Analysis



COLLABORATIVE DESIGN

- Analysis of All Stakeholders
- Government Agency Meetings
- Meetings w existing coalitions
- Forming new coalitions
- Creating unusual events (bike tours, dance parties, movie screenings, parade)
- Design Charrettes
- Brainstorming sessions
- Site tours
- Wholesale Presentations at existing meetings



**MULTIPLE LAYERS
OF OUTREACH**



Design + Program developed with stakeholders





LES

LESReady Core Planning Group

City Housing Authority

OEW DMB

NYCEDC

Borough President's Office

B1 Planning and Land Use Committee

Community Board 3

CBA Waterfront and Parks Committee

Parks Department

Round 1 Public Workshop - LES Girls Club

Public Workshop - Hamilton Madison House

Councilmember Daniel Garodnick

LESReady

Two Bridges Neighborhood Council

Damaris Reyes

LESReady

Ford Foundation

Public Meeting - Kings Houses

MTA, PANYNJ, SDOF, CDOT

Workshop

Smith House Residents

Workshop

Round 2 Public Workshop - LES Girls Club

Workshop

Workshop

Public Workshop

Public Workshop - Report Back

Public Workshop - Report Back

SDOF

19 PROJECTS

In Pablo Bay
Common Ground

San Rafael
Bionic

Marin City
Permaculture and Social Equity

North Richmond
The Home Team

Islais Creek
BIG+ONE+Sherwood

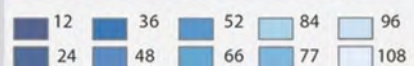
San Leandro Bay
All Bay Collective

Alameda Creek
Public Sediment

South San Francisco
Hassell+

South Bay
Field Operations

Total Water Level (Inches) above Mean High Water



-  Connecticut
-  New Jersey
-  New York

PARKS PRESENT OPPORTUNITIES TO BUILD RESILIENCE

- Absorb Water
- Promote Equity
- Increase Health Outcomes
- Clean Air
- Increase Habitat
- Space for Protection
- Build Social Resilience





REBUILD PROCESS PROJECT EXAMPLES

RESILIENT BY DESIGN BAY AREA

- Estuary Commons | San Leandro Bay, CA

HURRICANE SANDY DESIGN COMPETITION

- Living Breakwaters | Staten Island, NYC
- The BIG U | New York City

Estuary Commons

The People, and a Place, and a Path Forward



Alameda

Coliseum Site

Bay Farm
Island

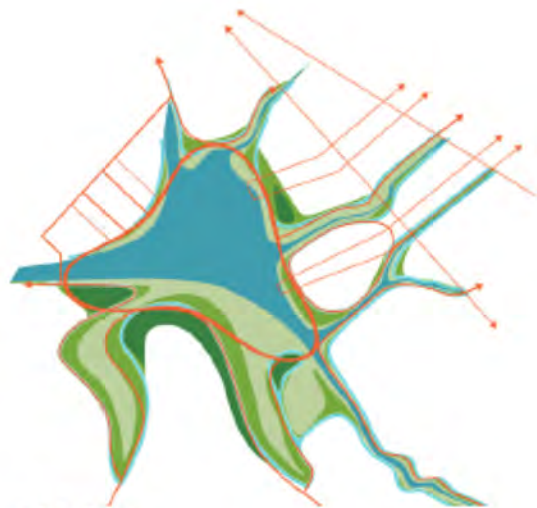
Oakland
Airport

East Oakland



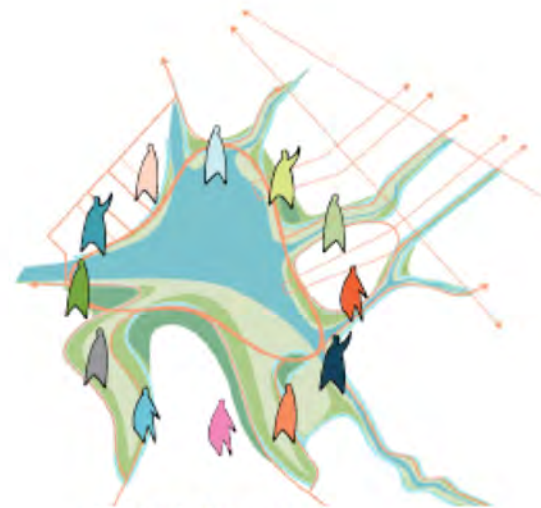
Community Priorities

+



The Place

=

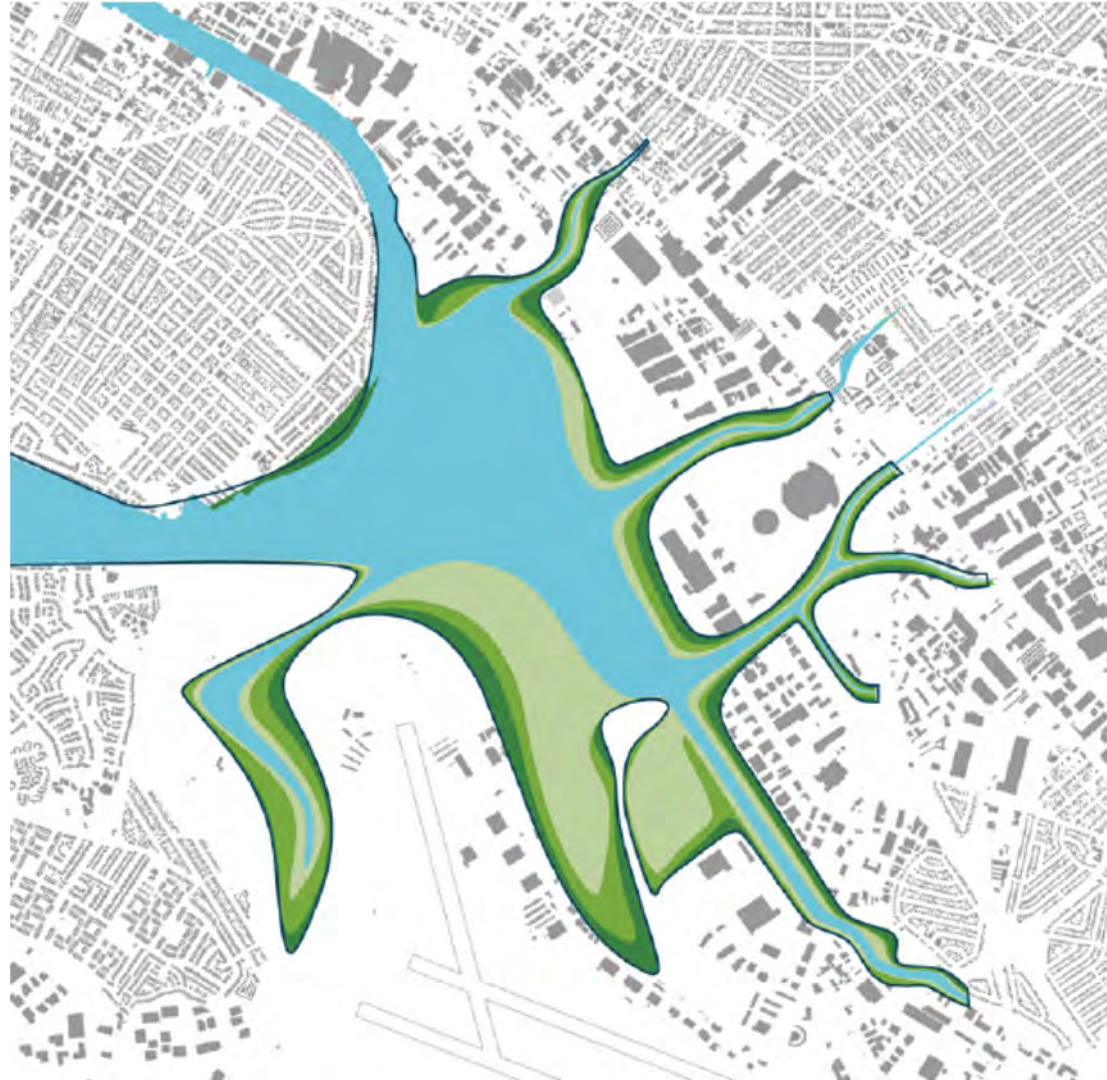


The Path Forward

Restore

Wetland Area: From 100 existing acres to 300 proposed acres

Reshape creeks, sloughs and shorelines to expand riparian and wetland ecosystems, reduce fluvial flood risk, and provide protection from sea level rise.



Link

25 miles of neighborhood-shoreline connections, with a **4.5 mile** loop around Oakland Estuary

Create a sinuous, Estuary-circling promenade and turn concrete channels into flourishing greenways to link neighborhoods, schools and work places to both the shoreline and regional mobility networks.



Gather

Three new recreational gathering spaces

Bring diverse communities together in thriving parks to foster social resilience, health, and access to nature.





Winner: Living Breakwaters

HUD Award: \$60 Million

Grantee: New York State Governor's Office of Storm Recovery

Location: Tottenville, Staten Island, NYC





Upper
New York
Bay

BROOKLYN

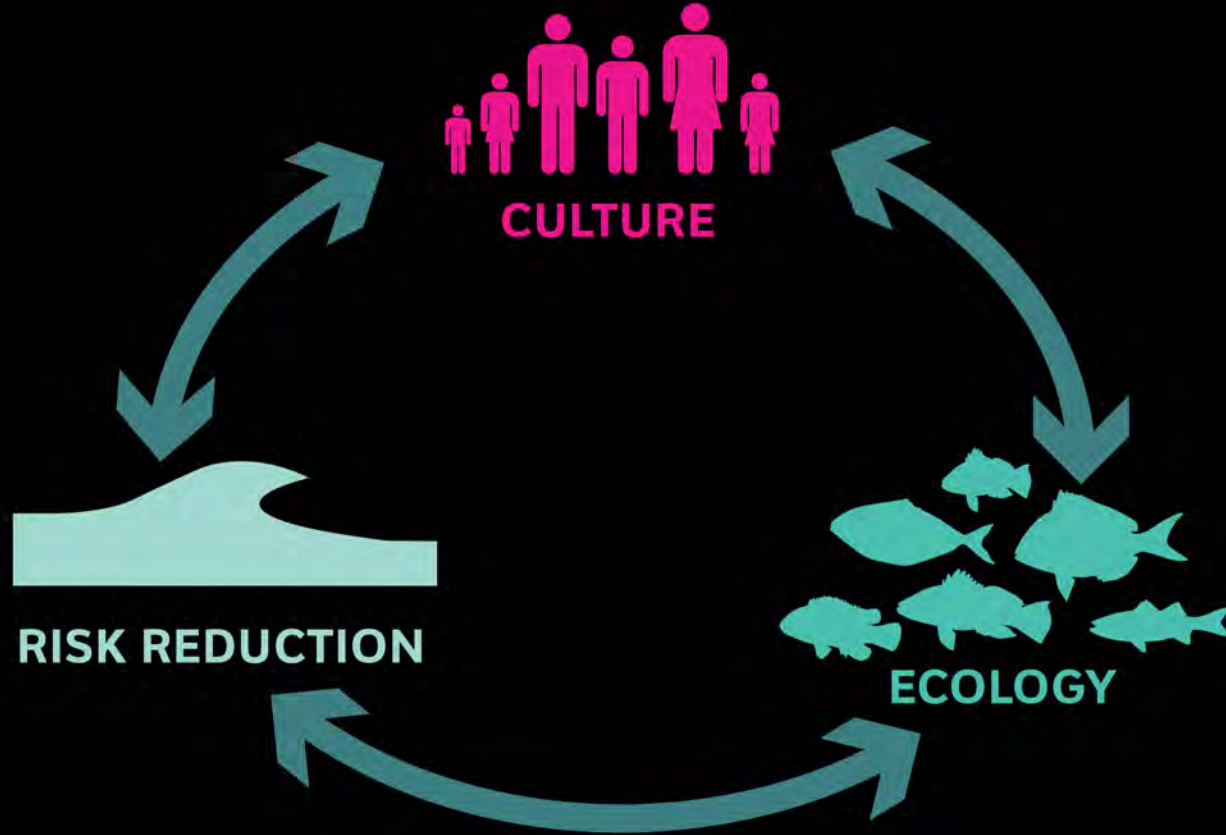
STATEN ISLAND

Lower
New York
Bay

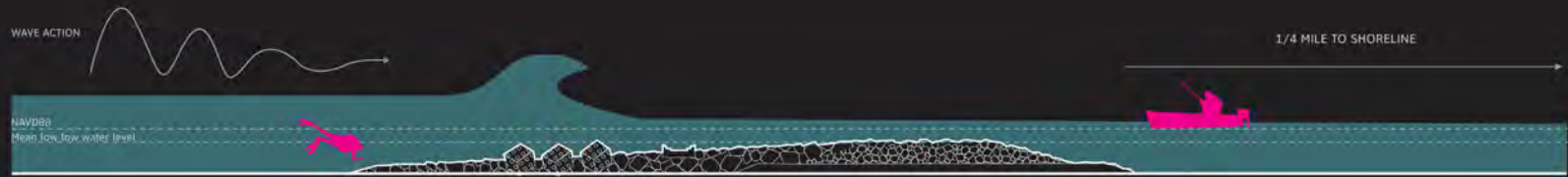
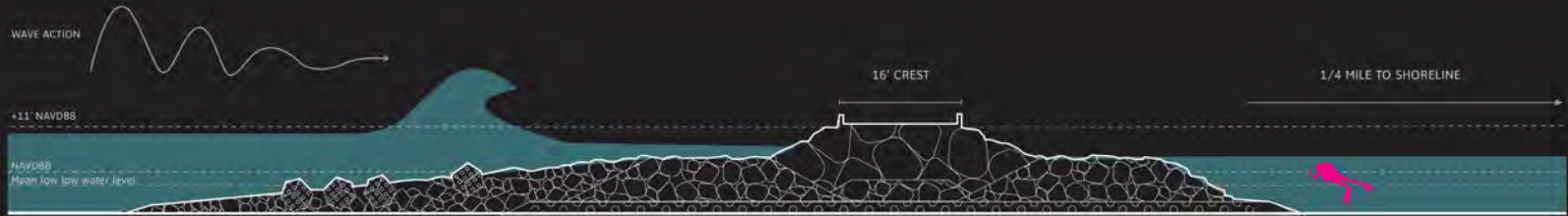
New York Bight

BEACH EROSION





BREAKWATERS REDUCE WAVE ACTION





DO:

REDUCE EROSION

LESSEN WAVE IMPACTS

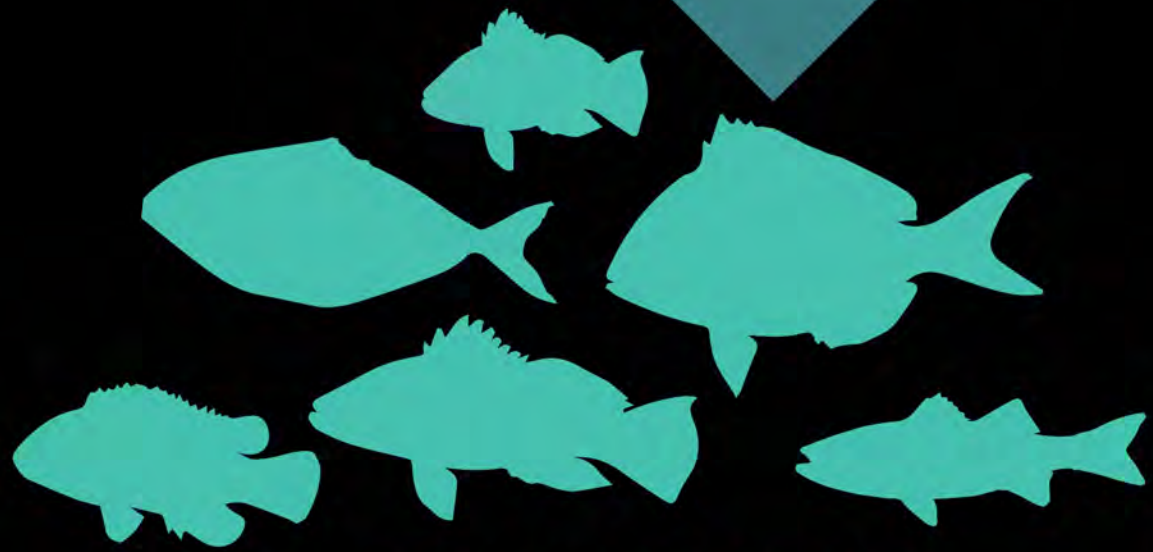
PROVIDE HABITAT

**ENCOURAGE
RECREATIONAL
FISHERIES**

BUILD BEACHES

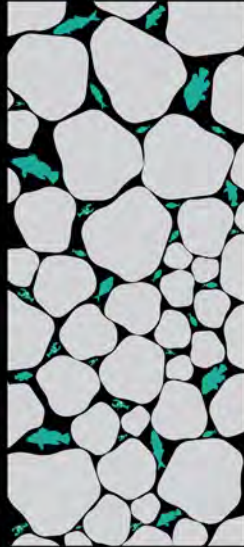
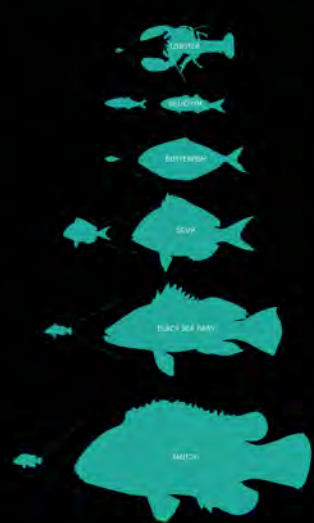
DO NOT:

**KEEP OUT FLOOD
WATER**



ECOLOGY

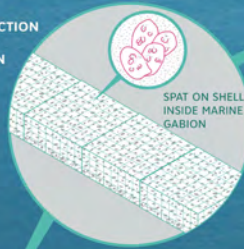
CREATE NICHES



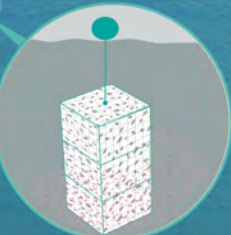
OYSTER RESTORATION TECHNIQUES

NO ACCESSIBLE OYSTER RESTORATION AT OCCUPYABLE BREAKWATERS

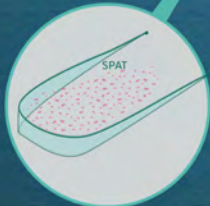
REEF CONSTRUCTION TECHNIQUE: OYSTER GABION



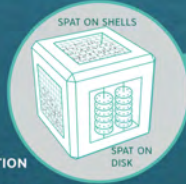
SPAT ON SHELL INSIDE MARINE GABION



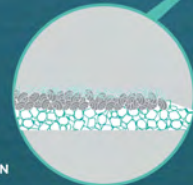
NURSERY (SPAT SANCTUARY)
(1) FLOATS MOORED TO MARINE PIERS AT MONITORED SITES; (2) FLOATING STRUCTURES IN THE LEE OF THE BREAKWATER



REEF CONSTRUCTION TECHNIQUE: IN SITU SETTING



REEF CONSTRUCTION TECHNIQUE: BIO-ENHANCING CONCRETE UNITS WITH "OYSTER DISKS"



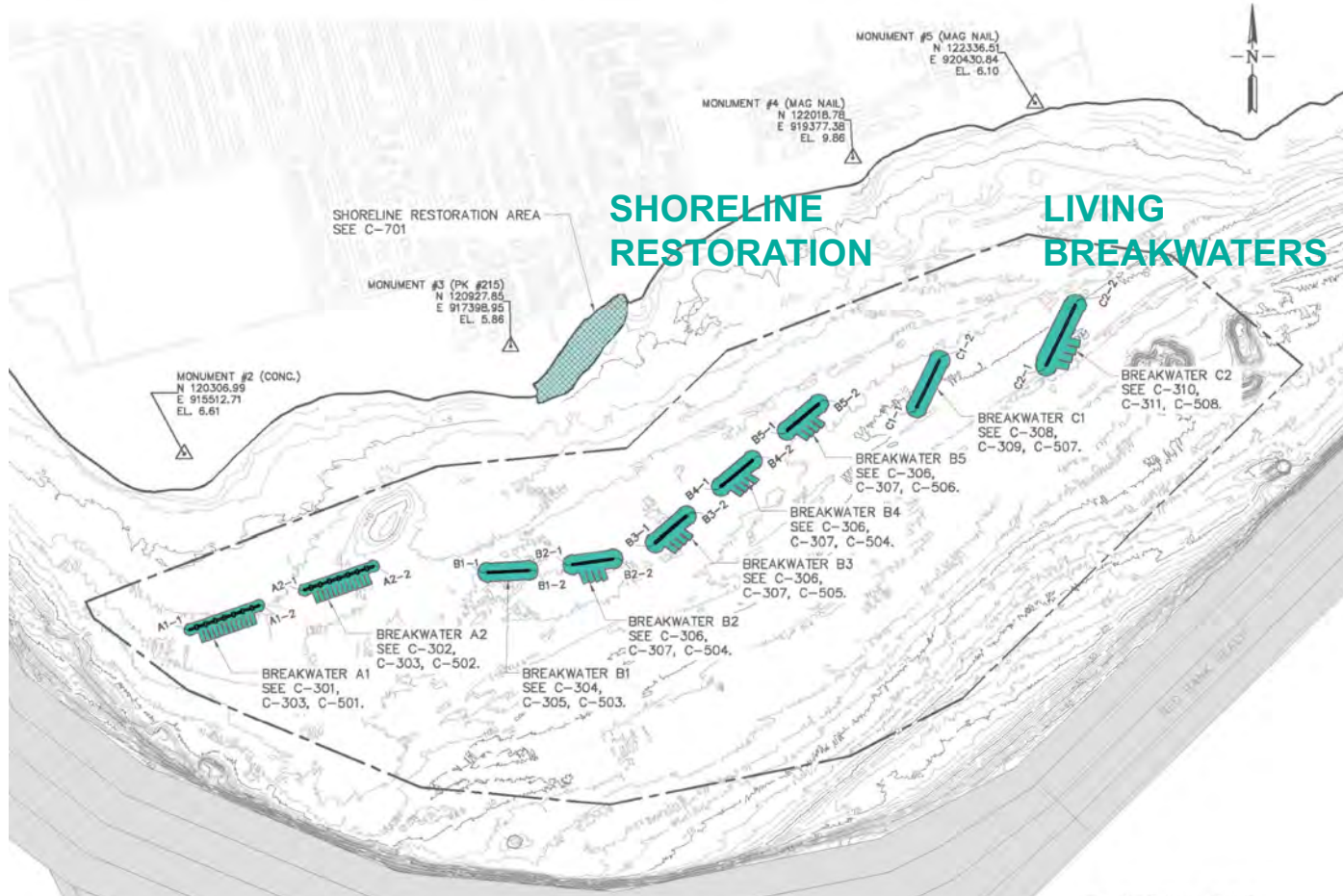
REEF CONSTRUCTION TECHNIQUE: DISPERSAL OF LOOSE SPAT ON SHELL



NAVIGATIONAL GUIDE AND MONITORING CAMERA TO PREVENT POACHING

LIVING SHORELINE
MARINE PIERS
LIVING SHORELINE

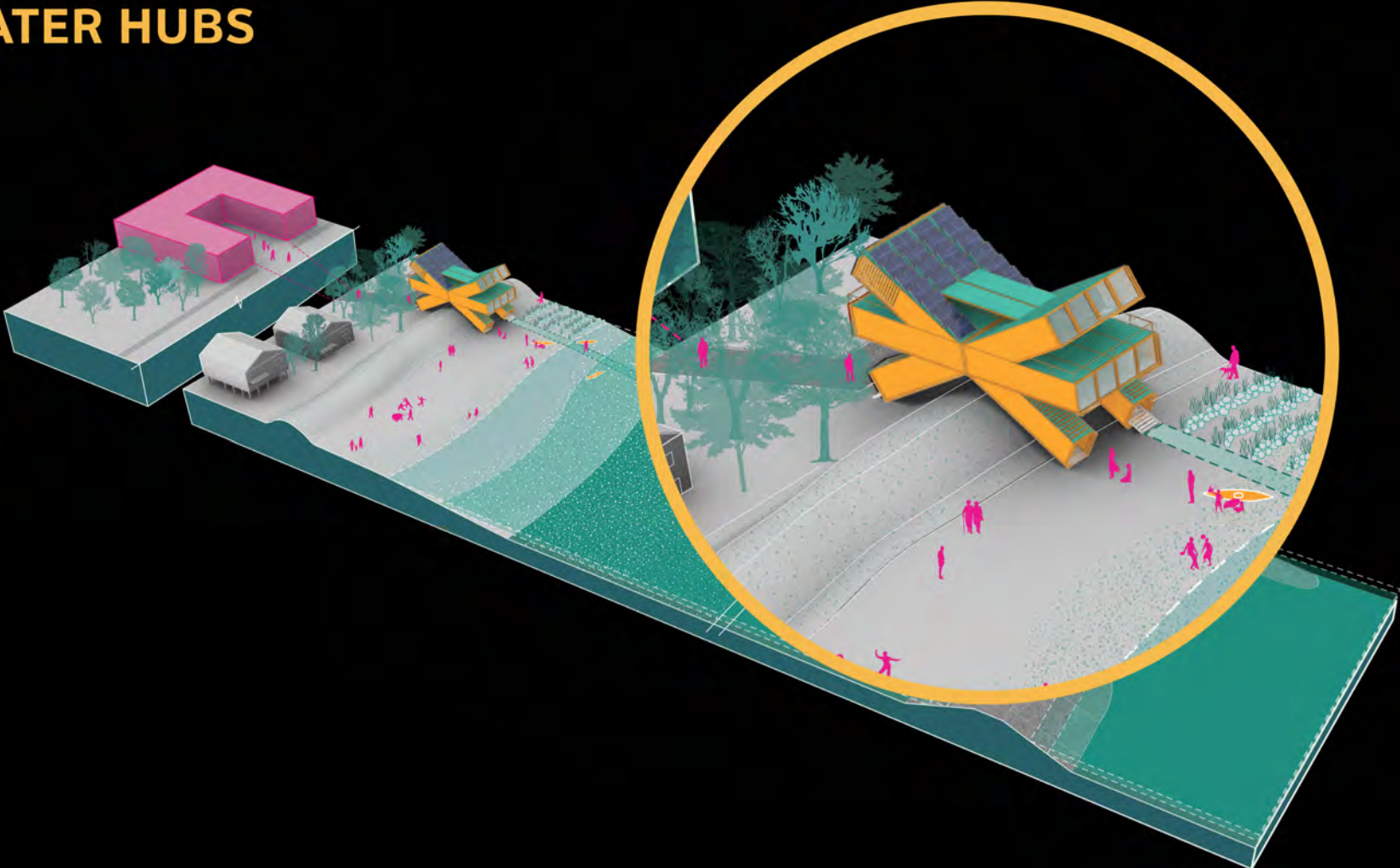
LIVING BREAKWATERS DESIGN BREAKWATERS AT 60% DESIGN



RECREATION



WATER HUBS





Winner: BIG U

HUD Award: \$335 Million

Grantee: The City of New York (Mayor's Office of Recovery and Resiliency, Department of Design and Construction, Department of Parks and Recreation)

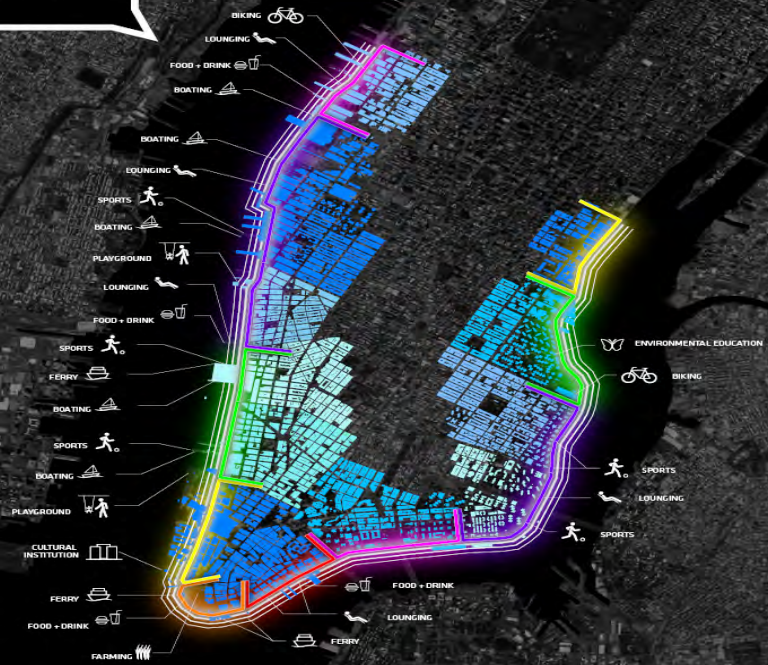
Location: Lower East Side, NYC



EXISTING NEIGHBORHOODS



A TAILORED APPROACH TO
TRADITIONAL INFRASTRUCTURE:
DIVERSITY!





25TH ST. TIE-BACK

STUYVESANT COVE PARK

CON ED TIE-IN

EAST RIVER PARK

MONTGOMERY ST. TIE-BACK

EDUCATION

ECOLOGY

SIGHTS

FAMILY

RECREATION

SPORTS

SIGHTS

EDUCATION

FAMILY

ECOLOGY

CULTURE

OVERALL PROPOSAL







PROPOSED - PERSPECTIVE FROM HOUSTON ST ARRIVAL



EXISTING - AERIAL FROM WILLIAMSBURG BRIDGE



PROPOSED - AERIAL FROM WILLIAMSBURG BRIDGE



PROPOSED - AERIAL FROM WILLIAMSBURG BRIDGE - STORM

LONG-TERM PERSPECTIVE

THE BRIDGING BERM...



LONG-TERM PERSPECTIVE

DECK EXTENSION OVER THE FDR!



EQUITY IN STEWARDSHIP

- Trust for Public Land & James Lima Planning + Design
- National Analysis
- 11th Street Bridge + Bronx River Alliance Models
- Board to be comprised of local organizations
- Funding stays within the park
- Equitable distribution of permits
- Download at rebuildbydesign.org



Building Bridges

A Community-Based Stewardship Study for an Equitable East River Park

December 2018

The city's odd storm splurge

After Superstorm Sandy civic groups and foundations joined with the federal government to create Rebuild by Design, an international competition to develop creative, resilient new infrastructure to guard New York and New Jersey from climate change.

Seven projects, including one called the Big U, emerged and were awarded nearly a billion dollars from the federal government to start building.

Six years later, the Big U still hasn't broken ground, and the city has just abruptly announced major changes to the project with an expanded pricetag and unclear additional benefits.

That's left many of the original stakeholders asking: Just how committed is the city to leading the way on resilience?

The Big U, which called for a series of berms and parkland that would act as a sponge during major storms, was designed to protect Lower Manhattan from flooding. This area houses more than 220,000 residents as well as a \$500 billion business sector; if it goes underwater, the whole country is in trouble.

BE OUR GUEST

BY AMY CHESTER AND TOM WRIGHT

By 2015, the first two sections of the project — from E. 25th St. to the Brooklyn Bridge — received \$511 million in federal funding, later matched by \$542 million from the city, which also led dozens of meetings with residents to craft an intelligent, effective plan.

Then earlier this year, the city went dark.

A few weeks ago, after several months of silence, the mayor's office announced radical changes to the northern portion of this project. Instead of building a berm, or narrow shelf of land, alongside the FDR Drive, and leaving East River Park to act as a sponge during major storms, they now plan to completely raise the entire, recently renovated park 8 to 10 feet.

It's hard to determine whether the new design will be better or worse since the city hasn't released any details. We do know a few things: The northern portion of the Big U will now cost an additional \$700 million (bringing the price tag for this section to \$1.45

billion); offers no additional flood protection; no additional community amenities, and should have already been well underway.

Spending \$700 million to get a better park or more flood protection might be welcomed, but that's not what the city is offering. Instead, it seems, this money is buying the city out of having to grapple with two thorny problems.

The first: inconveniencing drivers on the FDR, which would require overnight closures to build the original design.

The second challenge is more complex. The original design called for East River Park to flood in the event of a big storm. Other privately managed parks including Brooklyn Bridge Park and Domino Park are designed to do this, and provide an extra layer of protection to their surrounding communities.

But the Parks Department doesn't have a maintenance budget or process to restore city parks after a major storm event. Instead of fixing that problem,

the city proposes to skirt it by lifting the whole park. That seems unwise.

The city has said that this new approach will shorten construction by six months, but for a project that is designed to last for more than a generation, that's already been slow-walked, let's make sure we get it right.

Mayor de Blasio should engage with the public to determine the best use of

an additional \$700 million. Perhaps that will mean using the funds to extend the Big U to the Battery, which was underfunded. Perhaps we should use the money to create a maintenance budget for the

city to maintain flood infrastructure over time.

If they want to insist their way forward is the best, let's hear them make the case.

Chester is managing director of Rebuild by Design. Wright is the president of Regional Plan Association, one of the original partners of the Rebuild by Design competition.

Why does Blaz want to spend \$700M more on a resiliency plan?

DISCUSSION:

- What is a resilient park? Does it need to protect something other than a park? Does it need to be floodable?
- As our governments face new climate realities, how will we reorganize municipal budgets to fund parks to maintain flood infrastructure? How will we train parks employees?
- How do we ensure equitable facilities in parks?
- How can parks take on additional roles for education and awareness? (National parks are a great example!)





THANK YOU

Amy Chester, Managing Director
achester@rebuildbydesign.org