Mapping for Participatory Preservation:

Analyzing Historic Façade Fabric and Collaborative Preservation Opportunities in Red Hook

Radhya Kareem

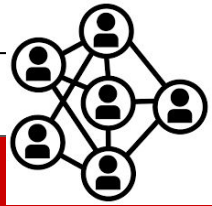
Pratt GCPE
Pratt HP

Methodology

01

DATA COLLECTION AND PREPROCESSING

Rising Water + Environmental Threats	Rising Water, Heat-intense areas, Permeability, Trees Canopy Coverage, Basement Flooding: How will these factors affect Preservation+Adaptive Re-use Opportunities
Transportation and Walkability	Proximity to possible historic zones: Transportation buffer-zones
Participatory Preservation Opportunities	People as infrastructure



Pratt GCPE

Pratt HP

Historically a Working Waterfront

Amorphic Robotic Church: Formerly a Norwegian Seamen Church

Le Comte and Co Inc, Former Factory and Warehouse

Industrial Past

Lidgerwood Factory Edifice

The Mary Whalen

Nautical Heritage

Mementos on timber across Valentino Pier

Red Hook

Introduction to Study Area

Brooklyn Clay Retort and Fire, Image credit: LPC

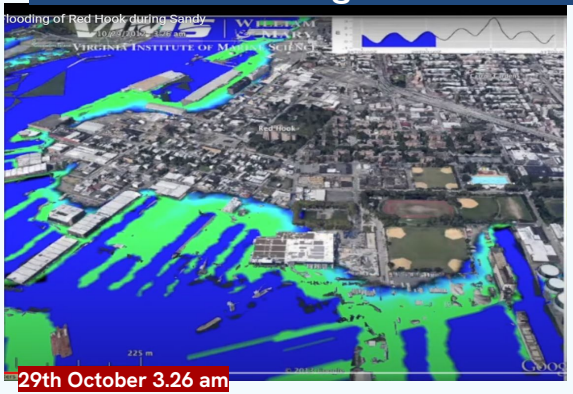
Redhook Recreation Center, Image credit: NYC Parks

Beard Warehouses, Image credit: Casino, 2017

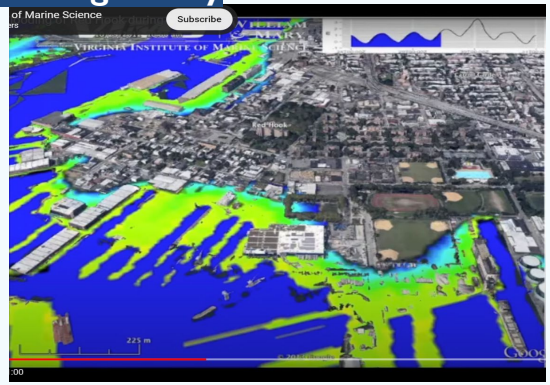
Pratt GCPE

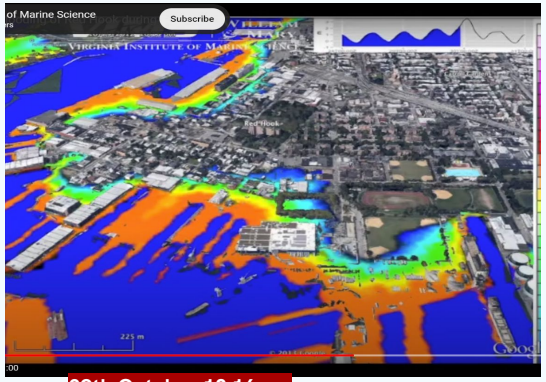
Pratt HP

Stormtide Flooding of Red Hook during Sandy

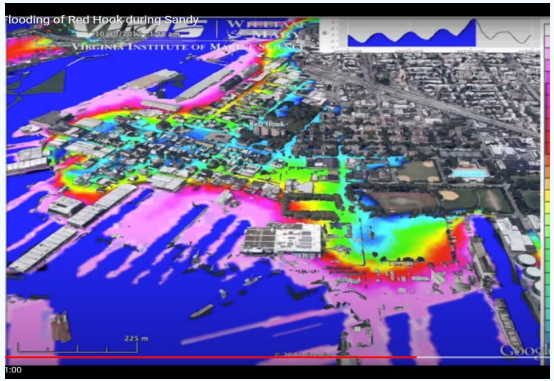


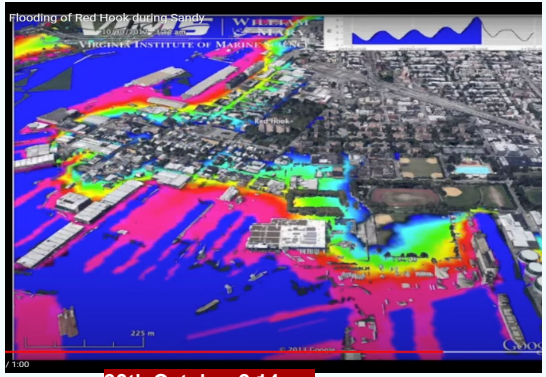
29th October 3.26 am



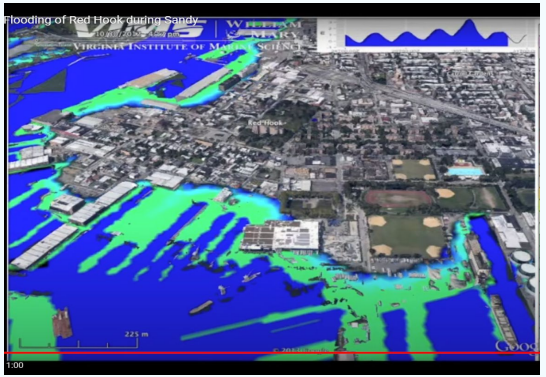


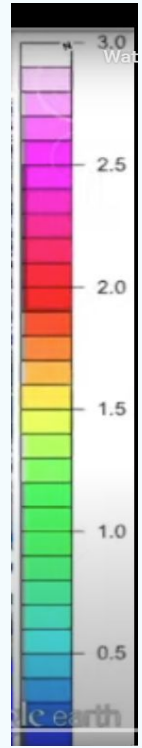
29th October 10:16 pm





30th October 3.14 am





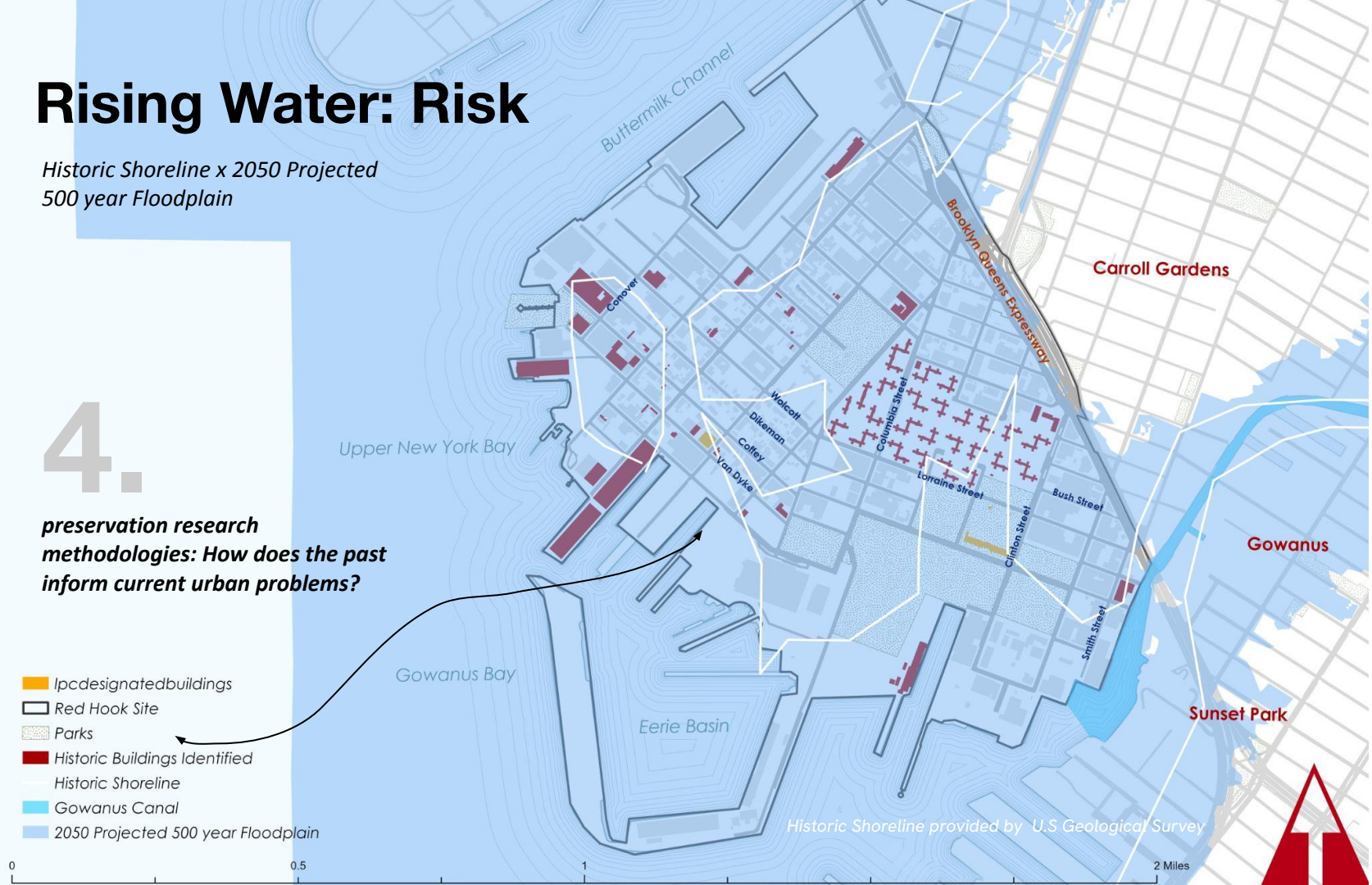
Water depth in metres

Modeled by Virginia Institute of Marine Sciences

Hurricane Sandy
A man tries to ride his bike through flood waters on Van Brunt Street in Red Hook Brooklyn Monday morning as Hurricane Sandy slowly makes her way to New York City, October 29th, 2012. (Photo By: Craig Warga/NY Daily News via Getty Images)

Rising Water: Risk

Historic Shoreline x 2050 Projected 500 year Floodplain



4.

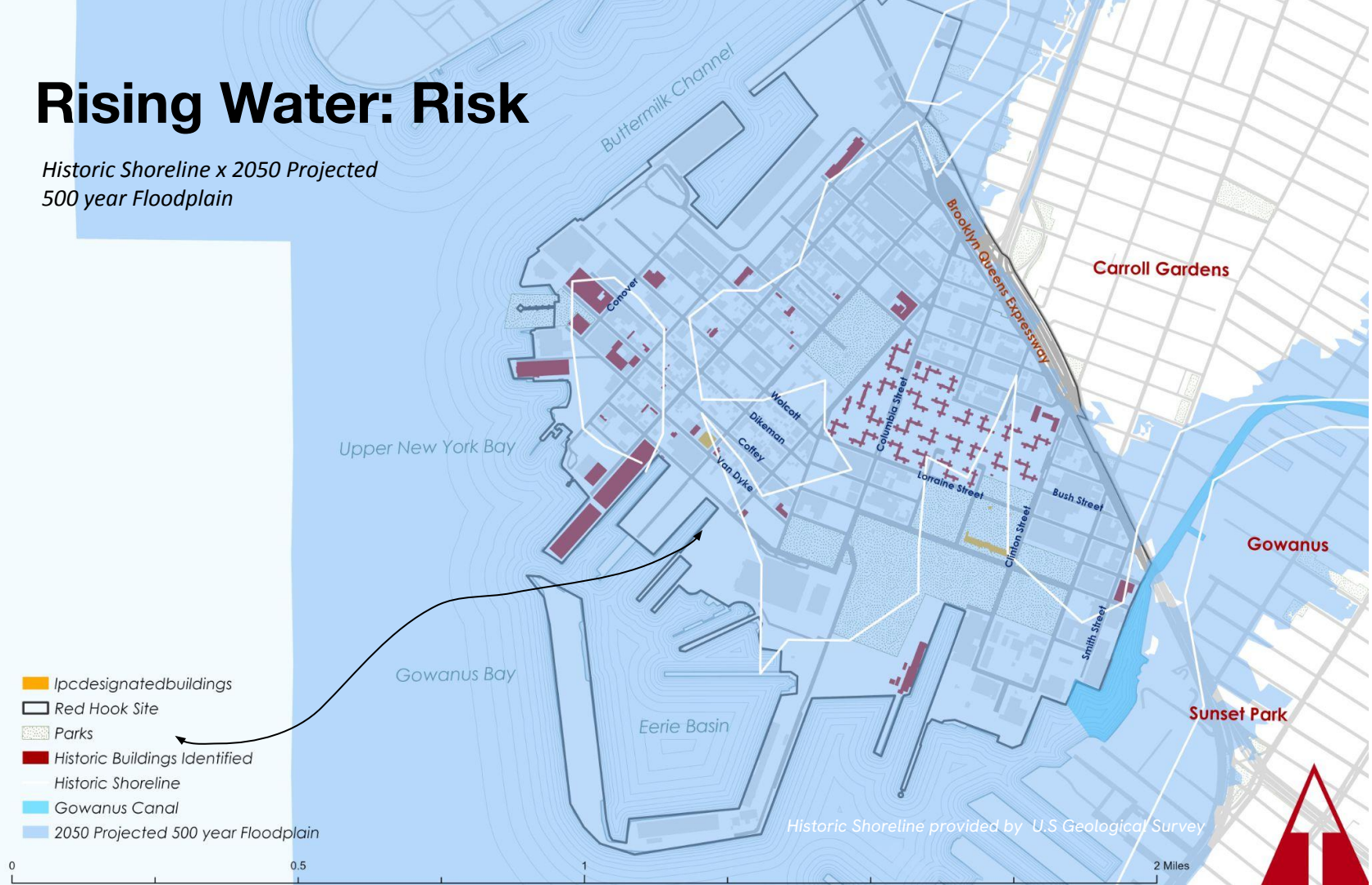
preservation research methodologies: How does the past inform current urban problems?

Pratt HP

Pratt GCPE

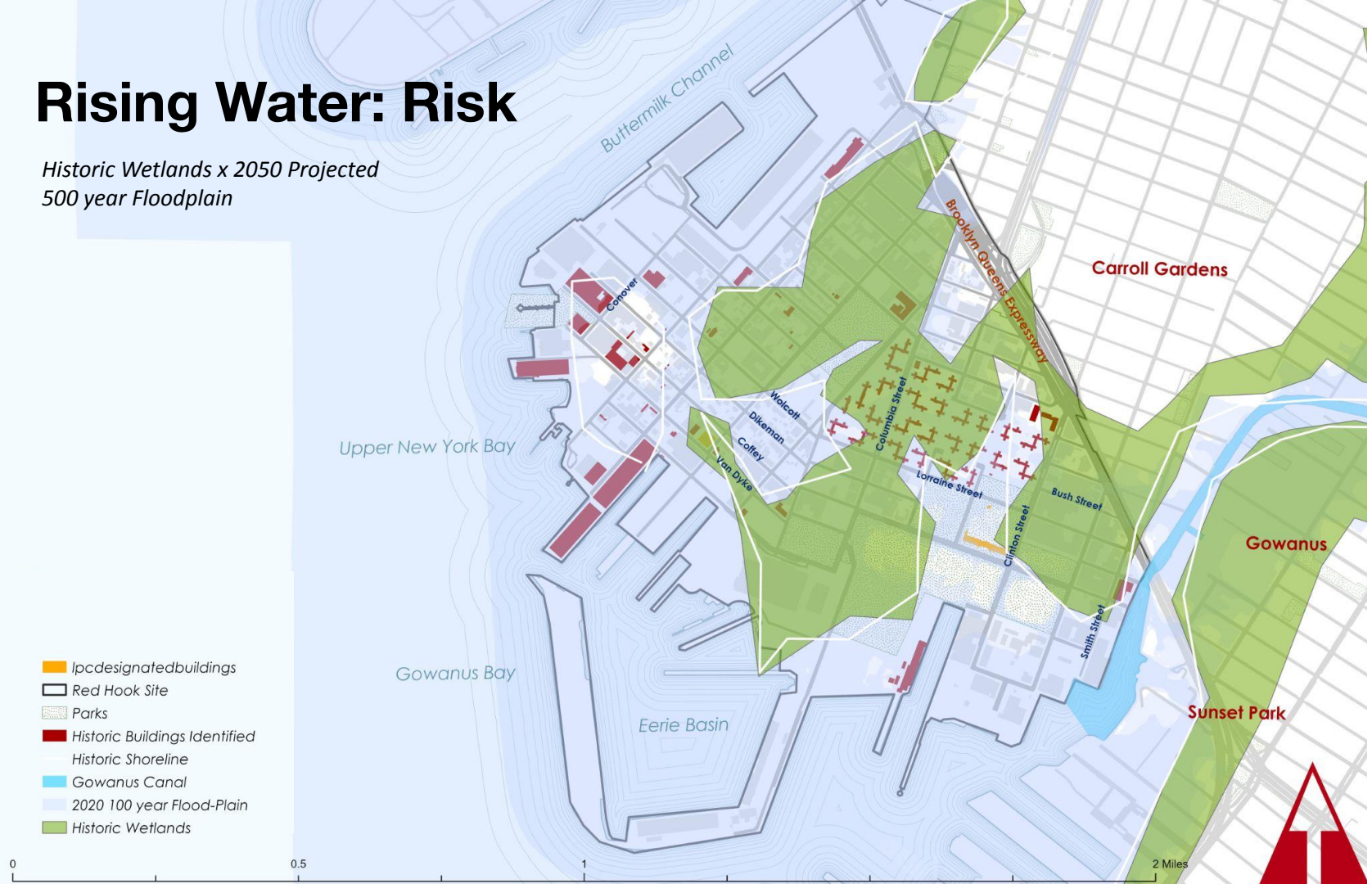
Rising Water: Risk

Historic Shoreline x 2050 Projected 500 year Floodplain



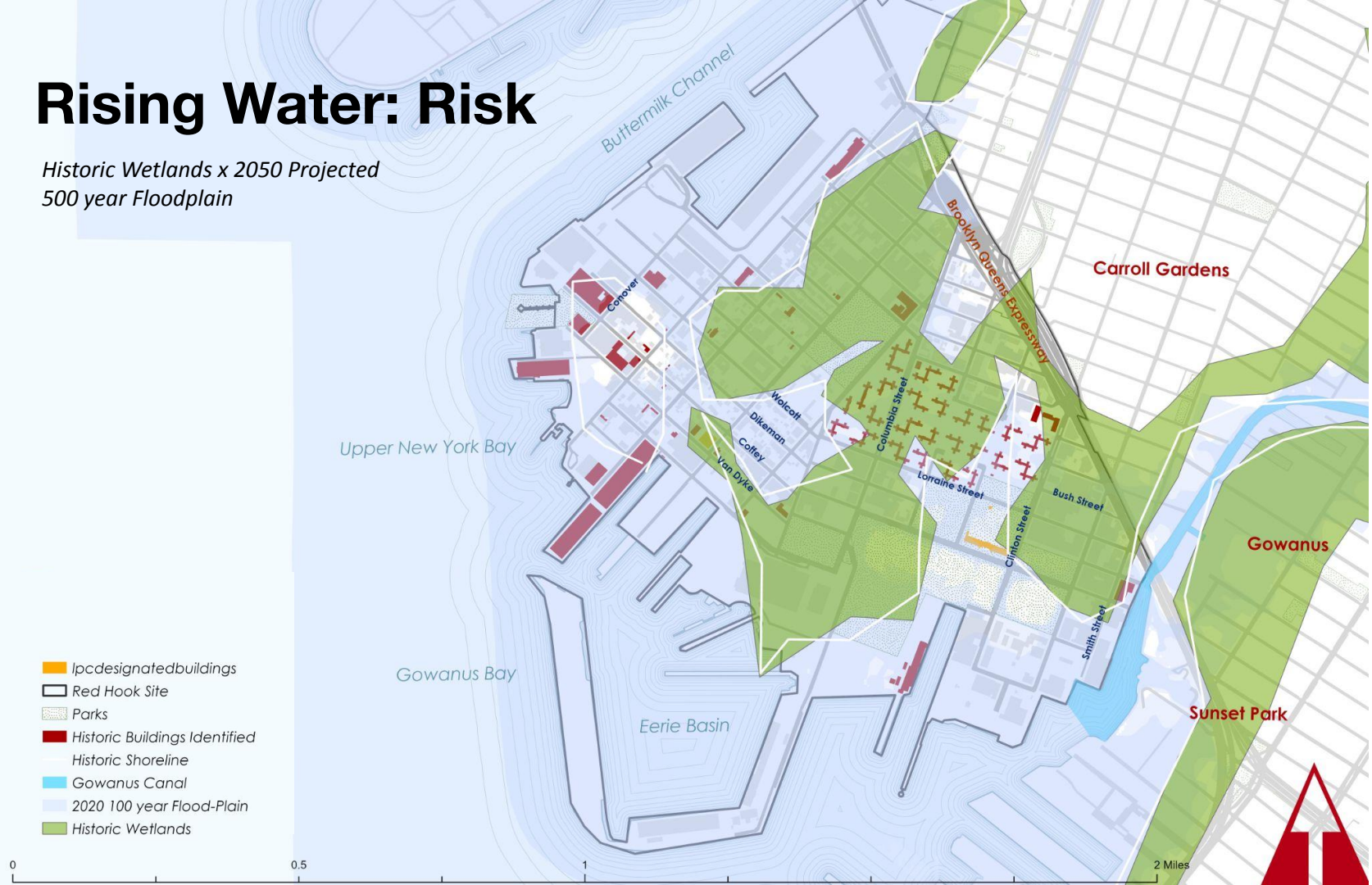
Rising Water: Risk

Historic Wetlands x 2050 Projected
500 year Floodplain



Rising Water: Risk

Historic Wetlands x 2050 Projected
500 year Floodplain

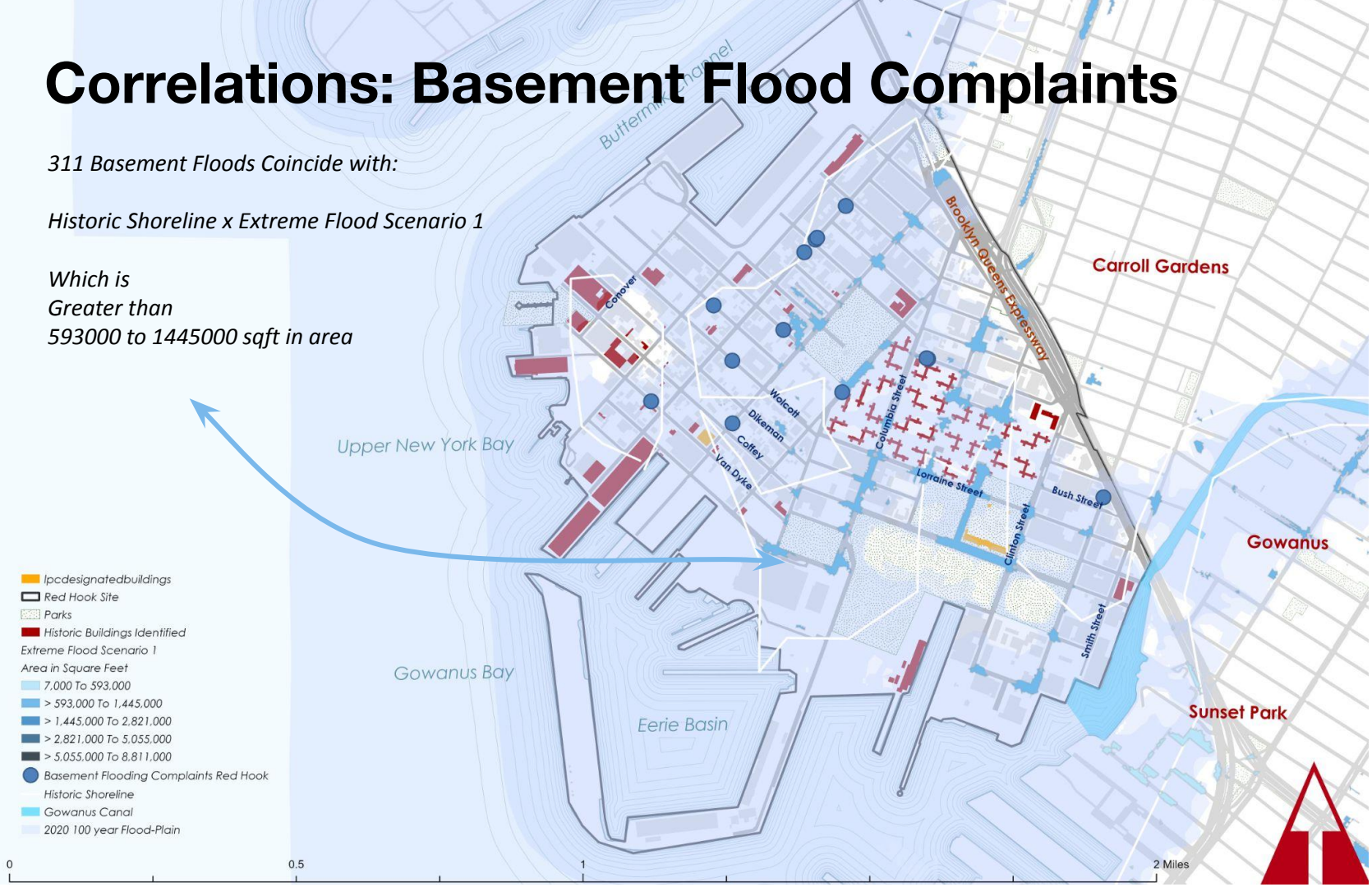


Correlations: Basement Flood Complaints

311 Basement Floods Coincide with:

Historic Shoreline x Extreme Flood Scenario 1

Which is
Greater than
593000 to 1445000 sqft in area

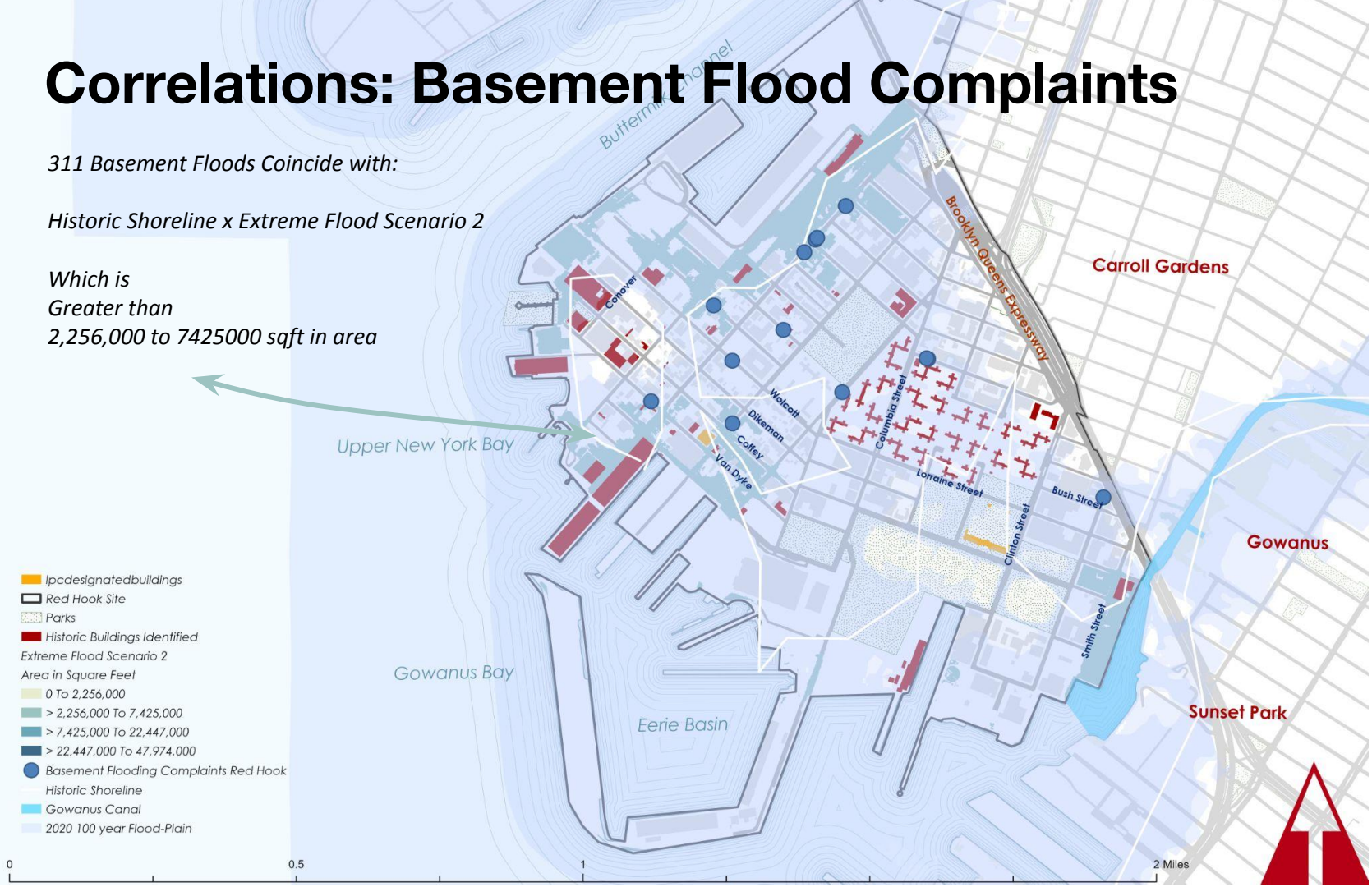


Correlations: Basement Flood Complaints

311 Basement Floods Coincide with:

Historic Shoreline x Extreme Flood Scenario 2

Which is
Greater than
2,256,000 to 7425000 sqft in area



Loss of Greenscape: Heat Sinks!

Figure 9. Tree removals at Red Hook enabled the construction of a continuous, passive flood protection system but required extensive tree removals.

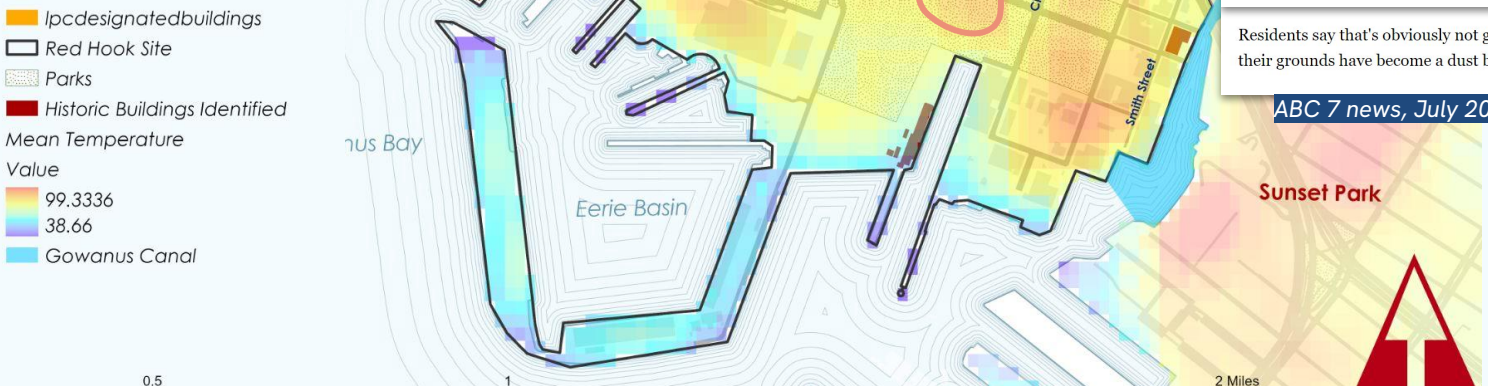
NYCHA's Urban Forest Publication October 2021

Red Hook Houses residents demand NYCHA slow down construction project

Tuesday, July 28, 2020

Residents say that's obviously not good enough. Roughly 450 trees were removed, and their grounds have become a dust bowl.

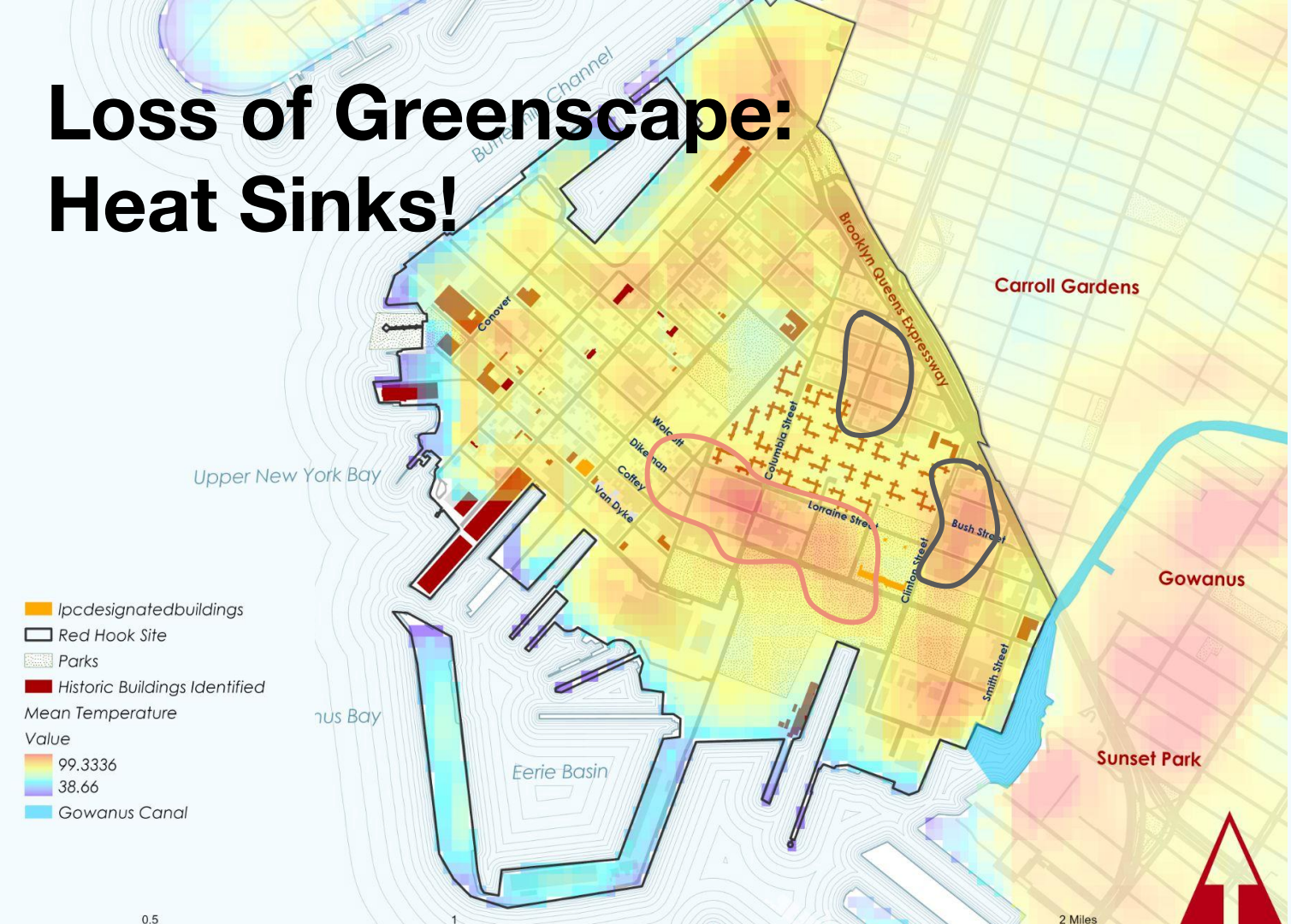
ABC 7 news, July 2020

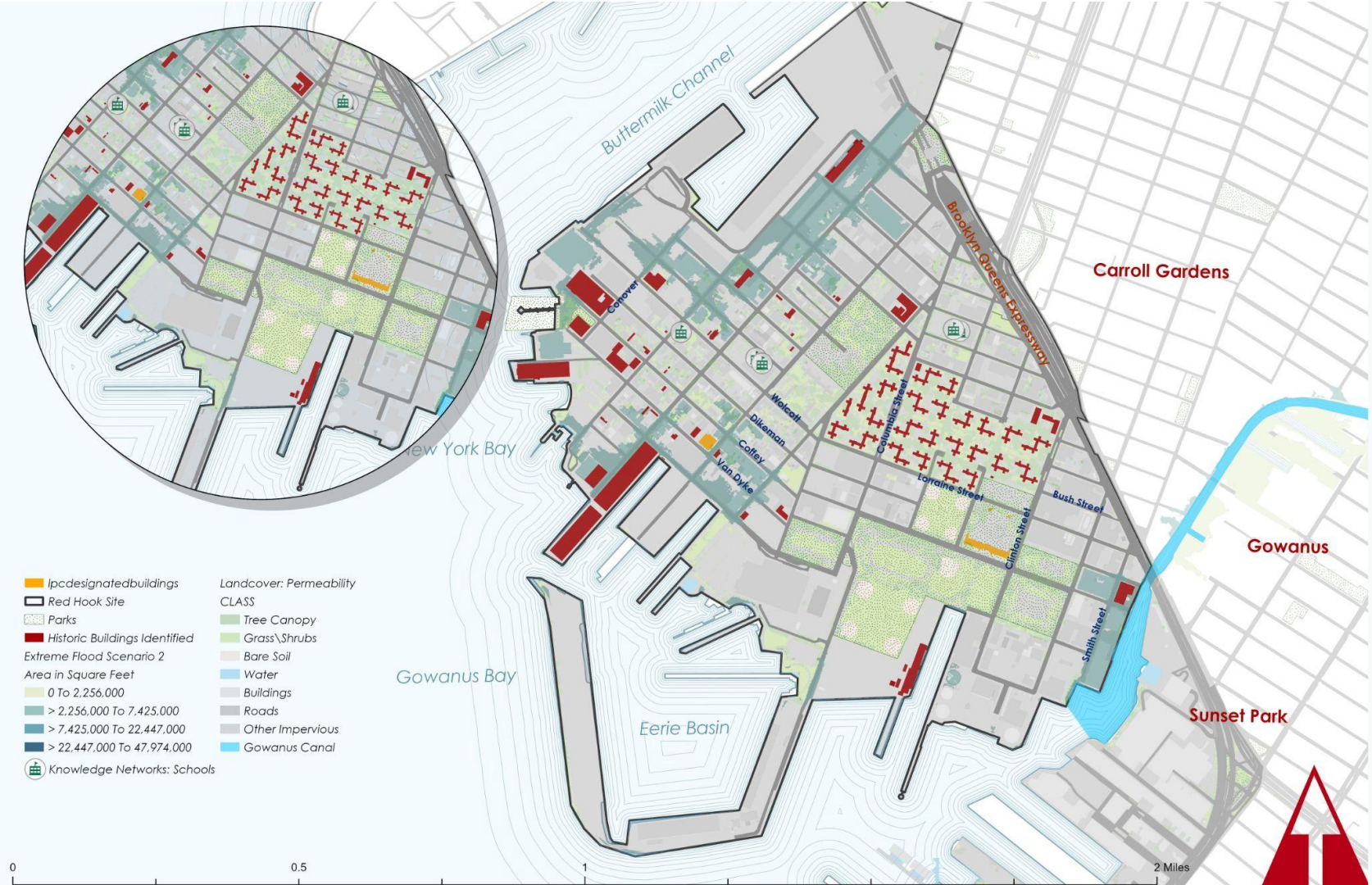


Pratt HP

Pratt GCPE

Loss of Greenscape: Heat Sinks!




Buttermilk Channel
New York Bay
Gowanus Bay
Eerie Basin
Carroll Gardens
Gowanus
Sunset Park
Brooklyn Queens Expressway
Conover
Wolcott
Dikeman
Coffey
Van Dyke
Columbia Street
Lorraine Street
Clinton Street
Bush Street
Smith Street
lpcdesignatedbuildings
Red Hook Site
Parks
Historic Buildings Identified
Extreme Flood Scenario 2
Area in Square Feet
0 To 2,256,000
> 2,256,000 To 7,425,000
> 7,425,000 To 22,447,000
> 22,447,000 To 47,974,000
Knowledge Networks: Schools
Landcover: Permeability
CLASS
Tree Canopy
Grass\Shrubs
Bare Soil
Water
Buildings
Roads
Other Impervious
Gowanus Canal
0
0.5
1
2 Miles

5 Years After Sandy: Vulnerable Red Hook Is Booming, Right at the Water's Edge

This growing Brooklyn neighborhood, flooded during Superstorm Sandy, is now confronting the threat of future storms and sea level rise.

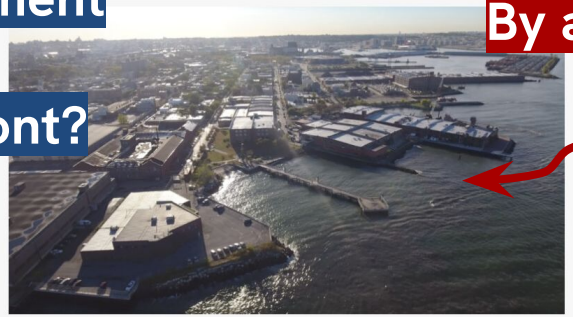
By Bryan Walsh for The Bridge
October 26, 2017

A Commitment to the Waterfront

In the aftermath of Sandy, Mayor Bloomberg made it clear that, whatever the city would do to strengthen its defense, it would not pull back from the water.

"We cannot and will not abandon our waterfront," he said. "It's one of our greatest assets. We must protect it, not retreat from it." And that, ultimately, is what the city has tried to do, in fits and starts, in the five years since Sandy. So has the construction sector—many of the new condos and other developments being built along New York's waterfront, including in Red Hook, will have their own protections against rising seas and floods.

"We're living in a world in which technology has changed how construction can happen," says Carlo Scissura, the president of the New York Building [illegible] can do things the right way."



A drone's-eye view of the Red Hook area of Brooklyn. Credit: Lucas McGowen via The Bridge

Commitment to the Waterfront?

By and for WHOM?

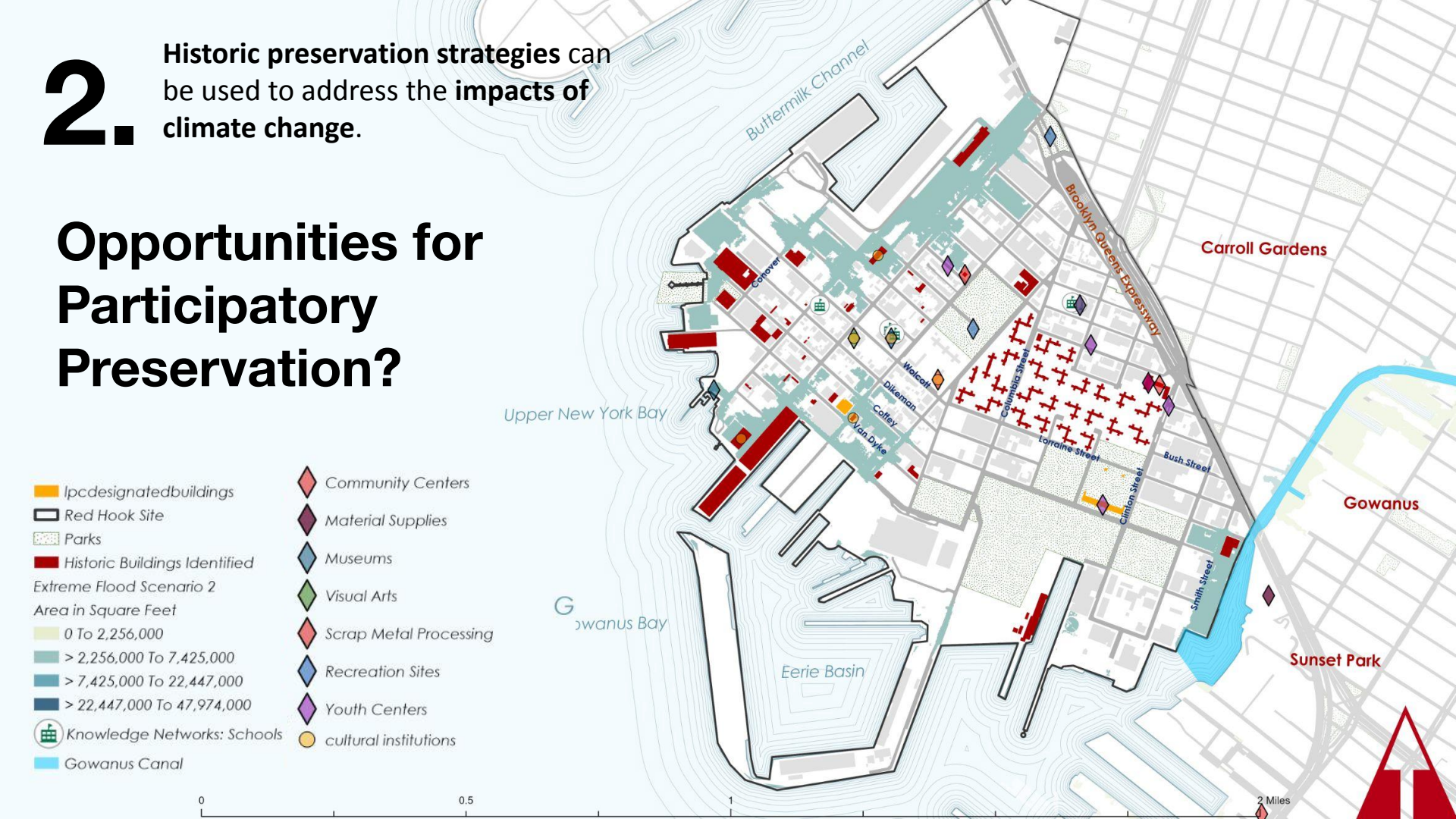
But as the years have passed, some of the momentum around the most ambitious efforts has been lost. Take the biggest project to come out of Sandy: the Big U.

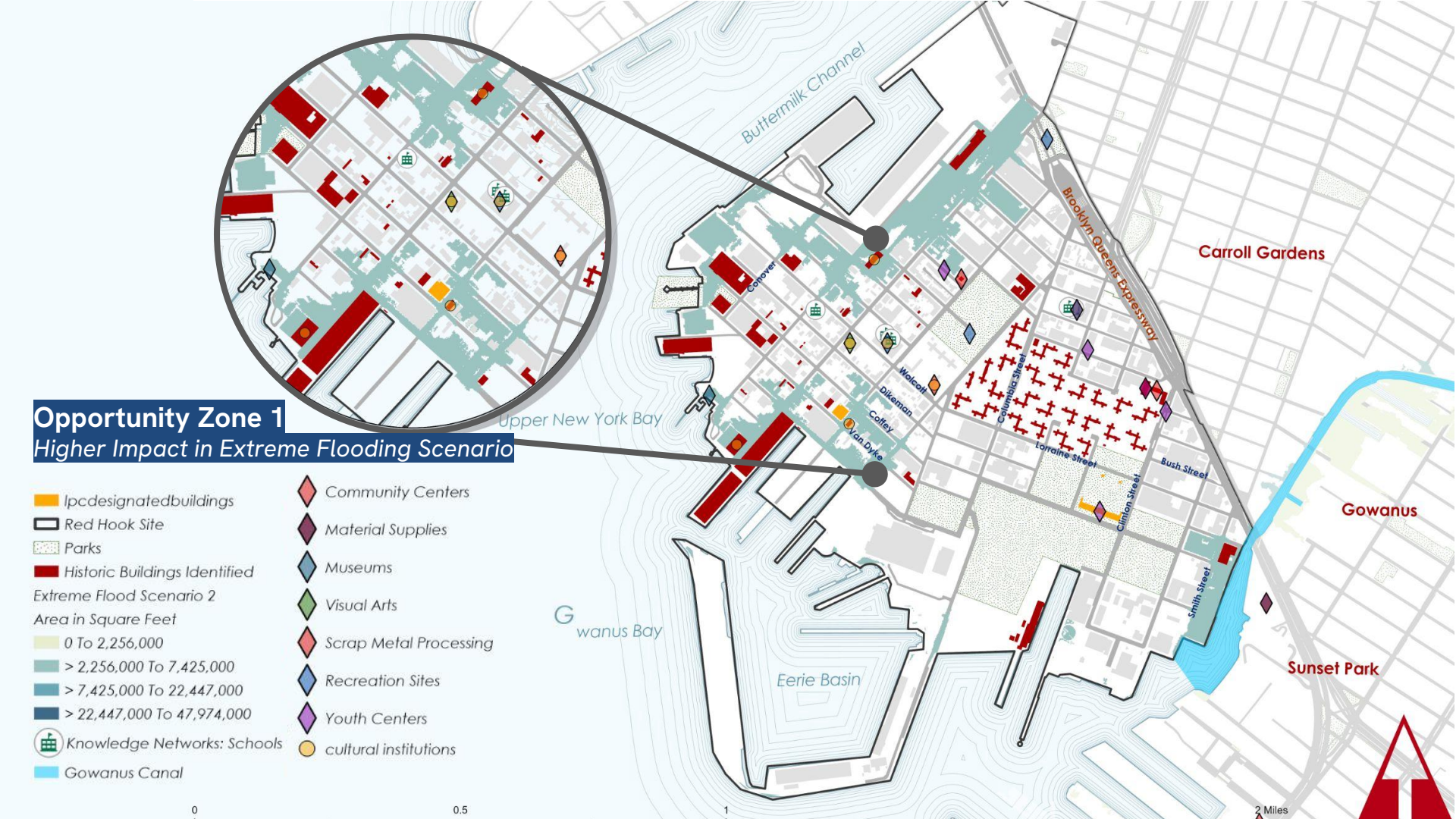
The Big U project is being designed to expand parks along the waterfront to help buffer low-lying areas of Manhattan from storm surges. Credit: Rebuild by Design

Existing buildings, even decades-old brownstones, can be renovated in ways that make them less vulnerable to frequent floods, by moving boilers and electrical equipment above flood levels. (New or "substantially

2. **Historic preservation strategies** can be used to address the **impacts of climate change**.

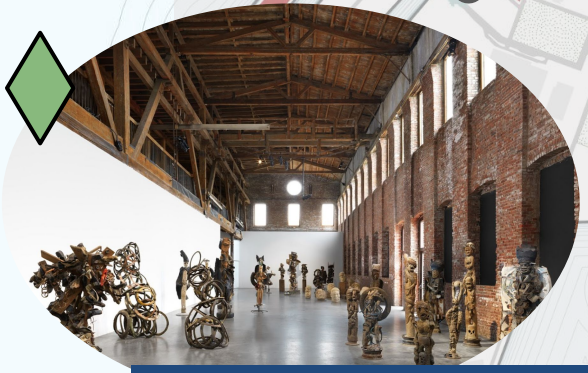
Opportunities for Participatory Preservation?




Opportunity Zone 1
Higher Impact in Extreme Flooding Scenario
lpcdesignatedbuildings
Red Hook Site
Parks
Historic Buildings Identified
Extreme Flood Scenario 2
Area in Square Feet
0 To 2,256,000
> 2,256,000 To 7,425,000
> 7,425,000 To 22,447,000
> 22,447,000 To 47,974,000
Knowledge Networks: Schools
Gowanus Canal
Community Centers
Material Supplies
Museums
Visual Arts
Scrap Metal Processing
Recreation Sites
Youth Centers
cultural institutions
Buttermilk Channel
Upper New York Bay
Gowanus Bay
Eerie Basin
Carroll Gardens
Gowanus
Sunset Park
Brooklyn Queens Expressway
Conover
Wolcott
Dikeman
Coffey
Van Dyke
Columbia Street
Lorraine Street
Bush Street
Clinton Street
Smith Street
0
0.5
1
2 Miles

Scrapmetal Processing/ Re-Use

Repairs/ Makers/ Maintenance



Visual Arts: Adaptive Re-Use

- lpcdesignatedbuildings
- Red Hook Site
- Parks
- Historic Buildings Identified

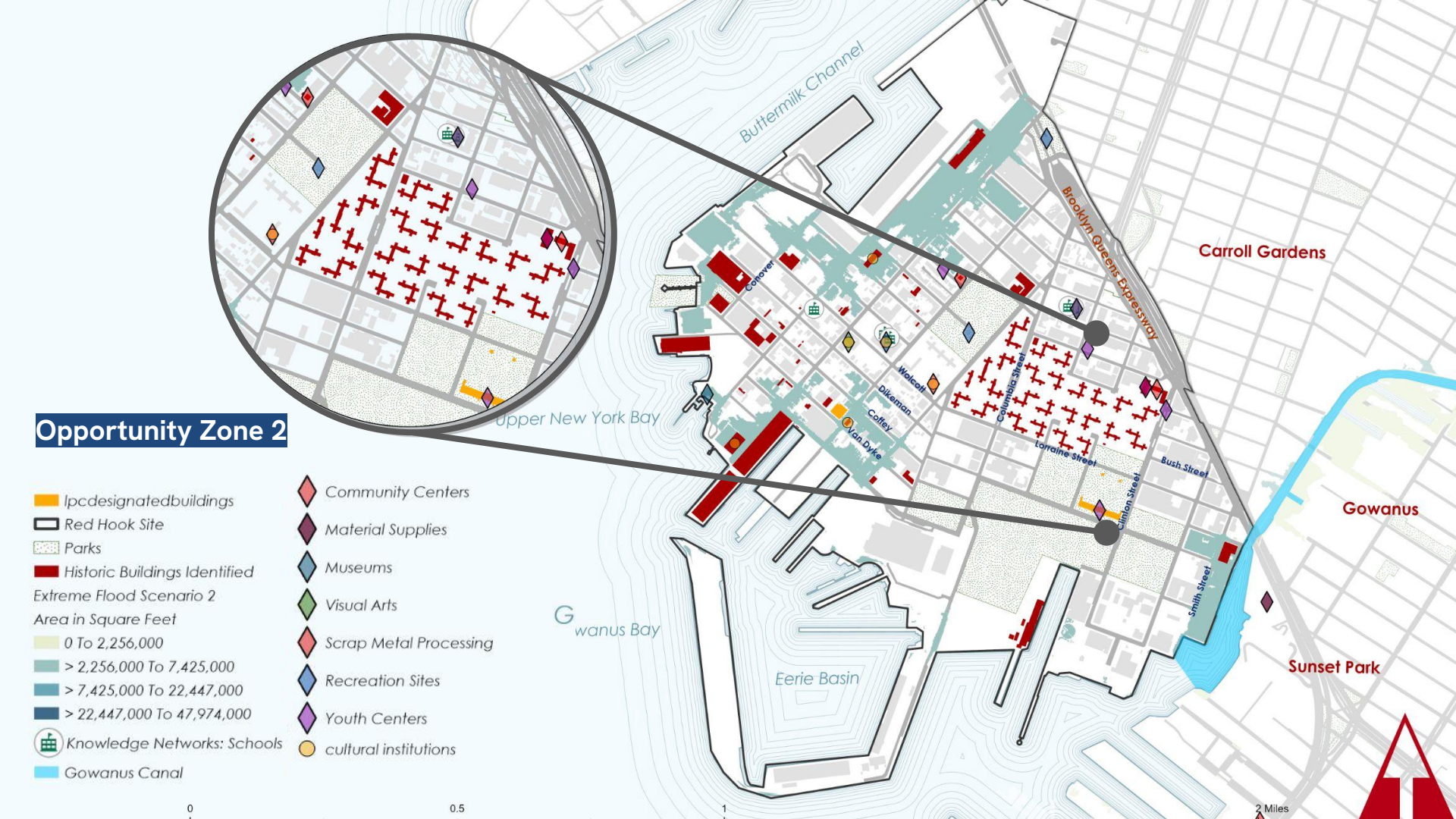
Extreme Flood Scenario 2

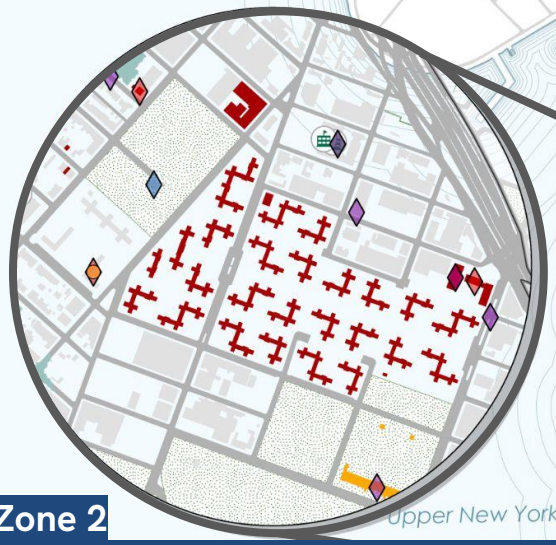
Area in Square Feet

- 0 To 2,256,000
- > 2,256,000 To 7,425,000
- > 7,425,000 To 22,447,000
- > 22,447,000 To 47,974,000
- Knowledge Networks: Schools
- Gowanus Canal

- Community Centers
- Material Supplies
- Museums
- Visual Arts
- Scrap Metal Processing
- Recreation Sites
- Youth Centers
- cultural institutions

0 0.5 1 2 Miles


Opportunity Zone 2
Buttermilk Channel
Upper New York Bay
Gowanus Bay
Eerie Basin
Carroll Gardens
Gowanus
Sunset Park
Brooklyn Queens Expressway
Conover
Wolcott
Dikeman
Coffey
Van Dyke
Columbia Street
Lorraine Street
Bush Street
Clinton Street
Smith Street
lpcdesignatedbuildings
Red Hook Site
Parks
Historic Buildings Identified
Extreme Flood Scenario 2
Area in Square Feet
0 To 2,256,000
> 2,256,000 To 7,425,000
> 7,425,000 To 22,447,000
> 22,447,000 To 47,974,000
Knowledge Networks: Schools
Gowanus Canal
Community Centers
Material Supplies
Museums
Visual Arts
Scrap Metal Processing
Recreation Sites
Youth Centers
cultural institutions
0
0.5
1
2 Miles



Opportunity Zone 2

Comparatively lower impact in Extreme Flood Scenario

- lpcdesignatedbuildings
- Red Hook Site
- Parks
- Historic Buildings Identified

Extreme Flood Scenario 2

Area in Square Feet

- 0 To 2,256,000
- > 2,256,000 To 7,425,000
- > 7,425,000 To 22,447,000
- > 22,447,000 To 47,974,000
- Knowledge Networks: Schools
- Gowanus Canal
- Community Centers
- Material Supplies
- Museums
- Visual Arts
- Scrap Metal Processing
- Recreation Sites
- Youth Centers
- cultural institutions

0 0.5

Buttermilk Channel

Upper New York Bay

Gowanus

Bush Street

The Red Hook Houses: Housing Brooklynites During the Great Depression

When NYCHA was founded in 1934, one of their first proposals for Brooklyn was a housing project in Red Hook.

Red Hook Houses, *Brownstoner article, Suzanne Spellen*

New York City Housing Authority Red Hook Houses – Sandy Resiliency & Renewal Program

KPF Architects, *visualisation 2016, not implemented*

Hurricane Recovery Fails the Financially Vulnerable

Based on a decade of data from Hurricane Sandy, two New York City planners explore the inequities of disaster mitigation and recovery — and what needs to change to prevent climate gentrification.

APA, *2022 Article*

2 Miles

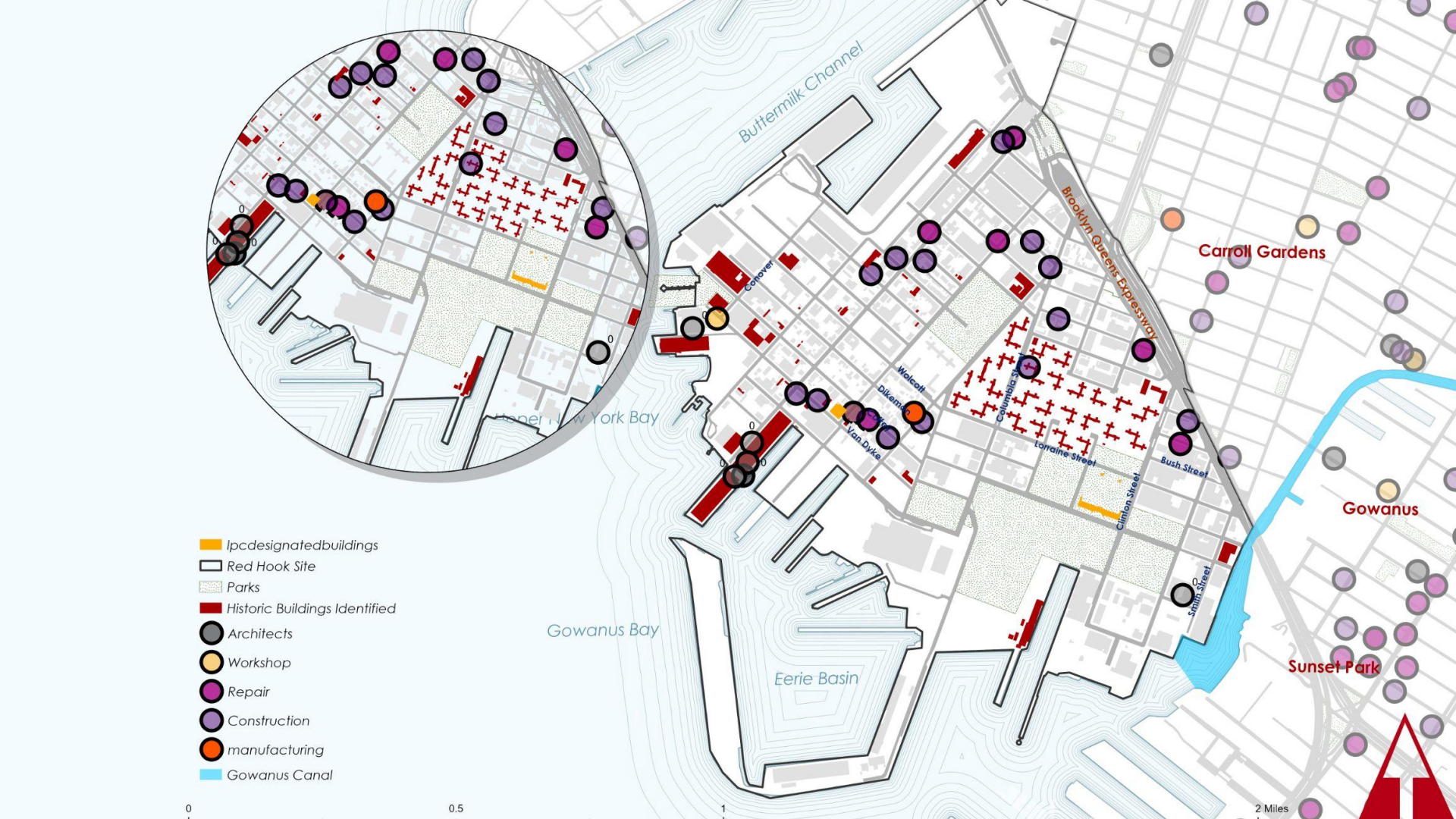
Here's a hard truth: no one really knows how to adapt to the coming climate-related floods.

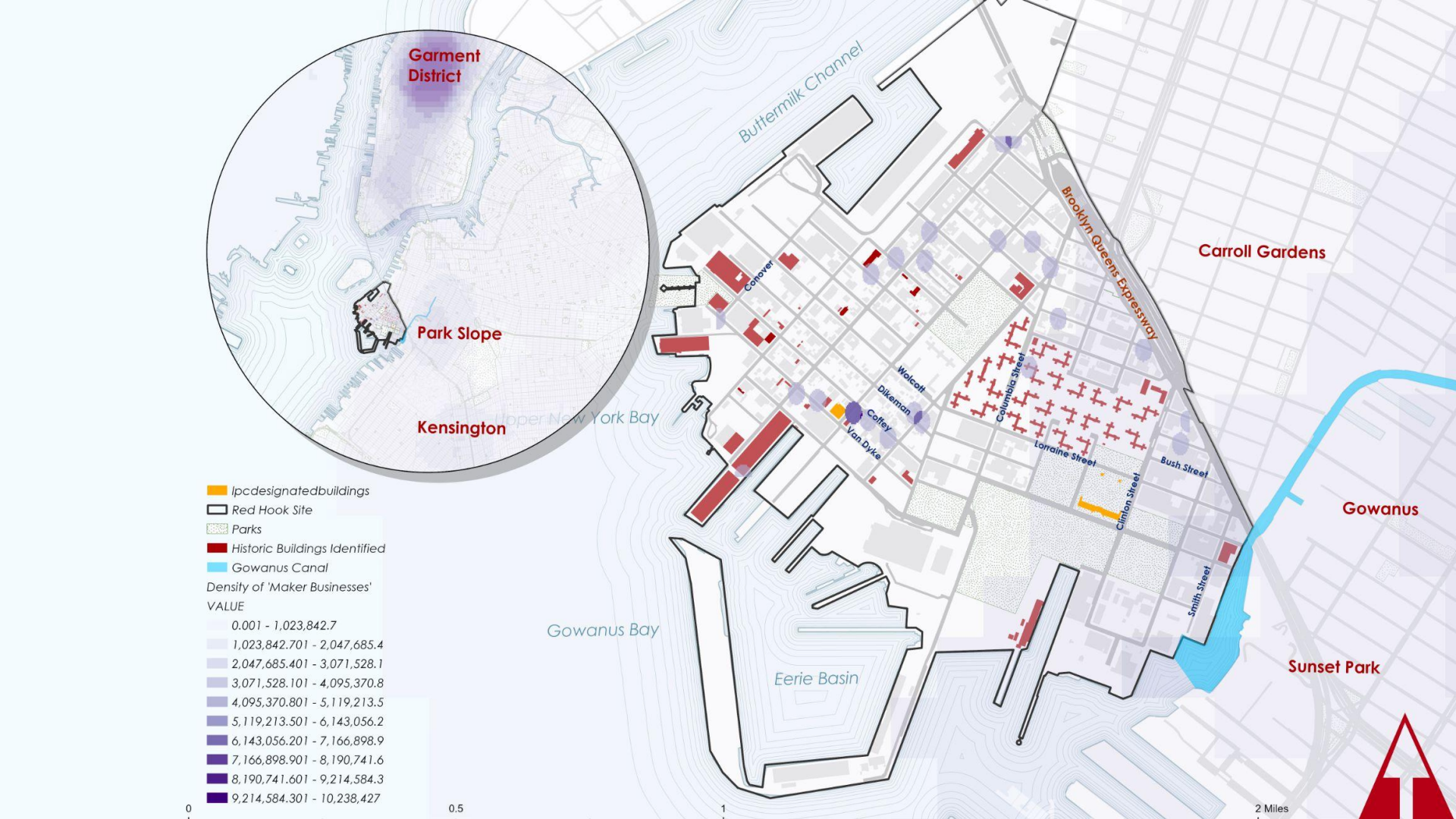
So much of urban planning, or any kind of planning, is built on the past. But as climate change accelerates, the past no longer provides an accurate map to the future—even a past event as recent as Sandy.

"The solutions of the past won't protect us from the future," Ovink warns. To survive a wetter and warmer tomorrow, neighborhoods like Red Hook will need to be creative and flexible, and they'll need help from the city and the federal government. But most of all, they'll need to depend on themselves.

3.

Identify **points of convergence** between **historic preservation, cultural landscape conservation and natural environment conservation**.


Buttermilk Channel
Gowanus Bay
Eerie Basin
Carroll Gardens
Gowanus
Sunset Park
Brooklyn Queens Expressway
Conover
Wolcott
Dikeman
Van Dyke
Columbia Street
Lorraine Street
Bush Street
Clinton Street
Smith Street
lpcdesignatedbuildings
Red Hook Site
Parks
Historic Buildings Identified
Architects
Workshop
Repair
Construction
manufacturing
Gowanus Canal
0
0.5
1
2 Miles


Garment District
Park Slope
Kensington
Buttermilk Channel
Upper New York Bay
Gowanus Bay
Eerie Basin
Carroll Gardens
Gowanus
Sunset Park
Brooklyn Queens Expressway
Conover
Wolcott
Dikeman
Coffey
Van Dyke
Columbia Street
Lorraine Street
Bush Street
Clinton Street
Smith Street
lpcdesignatedbuildings
Red Hook Site
Parks
Historic Buildings Identified
Gowanus Canal
Density of 'Maker Businesses'
VALUE
0.001 - 1,023,842.7
1,023,842.701 - 2,047,685.4
2,047,685.401 - 3,071,528.1
3,071,528.101 - 4,095,370.8
4,095,370.801 - 5,119,213.5
5,119,213.501 - 6,143,056.2
6,143,056.201 - 7,166,898.9
7,166,898.901 - 8,190,741.6
8,190,741.601 - 9,214,584.3
9,214,584.301 - 10,238,427
0
0.5
1
2 Miles

Red Hook

Assessing Participatory Preservation: Opportunities

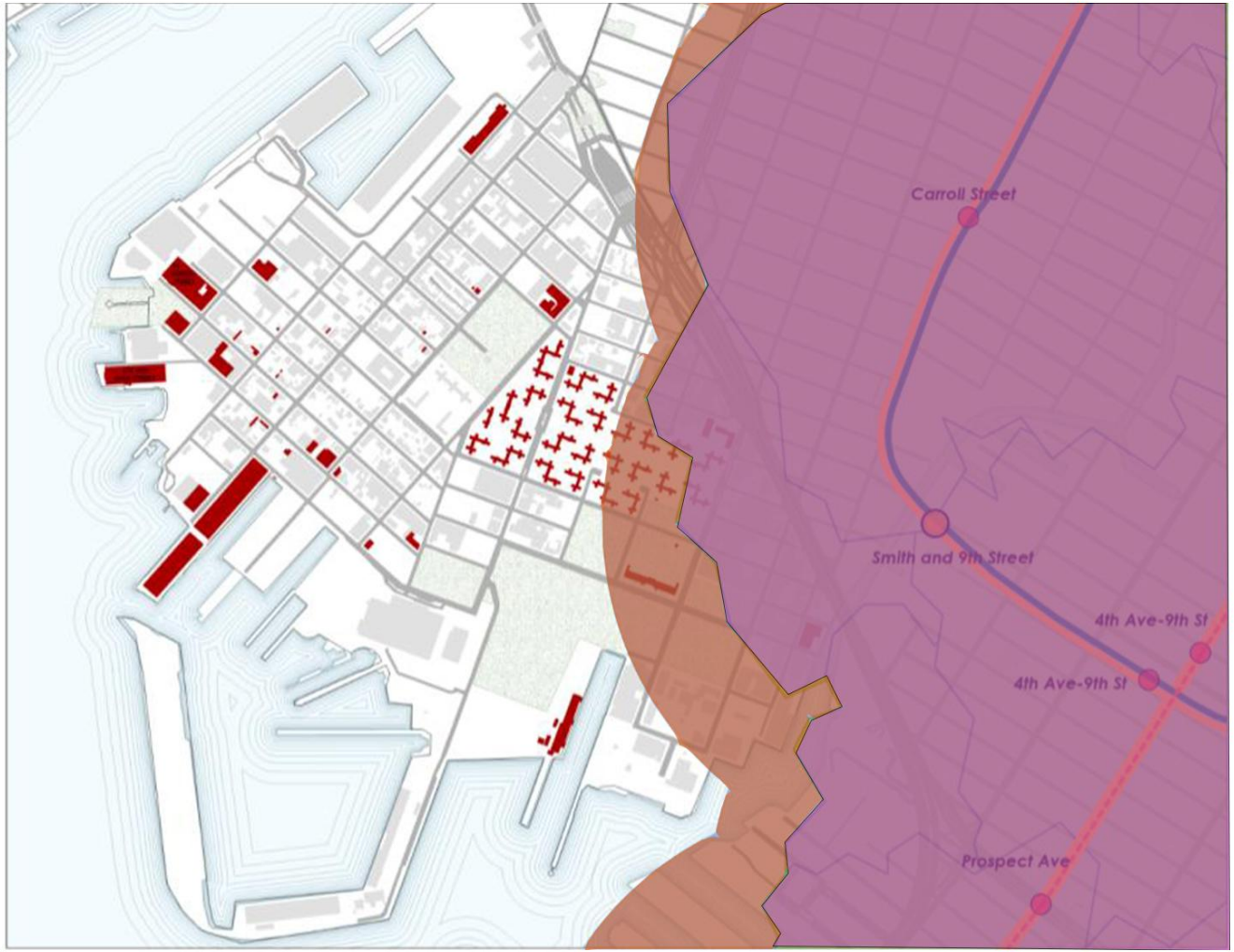
Walkability/ Subways

- Red Hook Site
- Parks
- Red Hook Buildings
- Historic Buildings Identified
- Subway Stations
- Smith and 9th Street Station
- SubwayRoutes2017
- F Line
- G Line
- D Line
- N Line

Walksheds

Cutoff

- 0.5 Cutoff Range: 0 - 0.5
- SubwayStations_Half a Mile Buffer

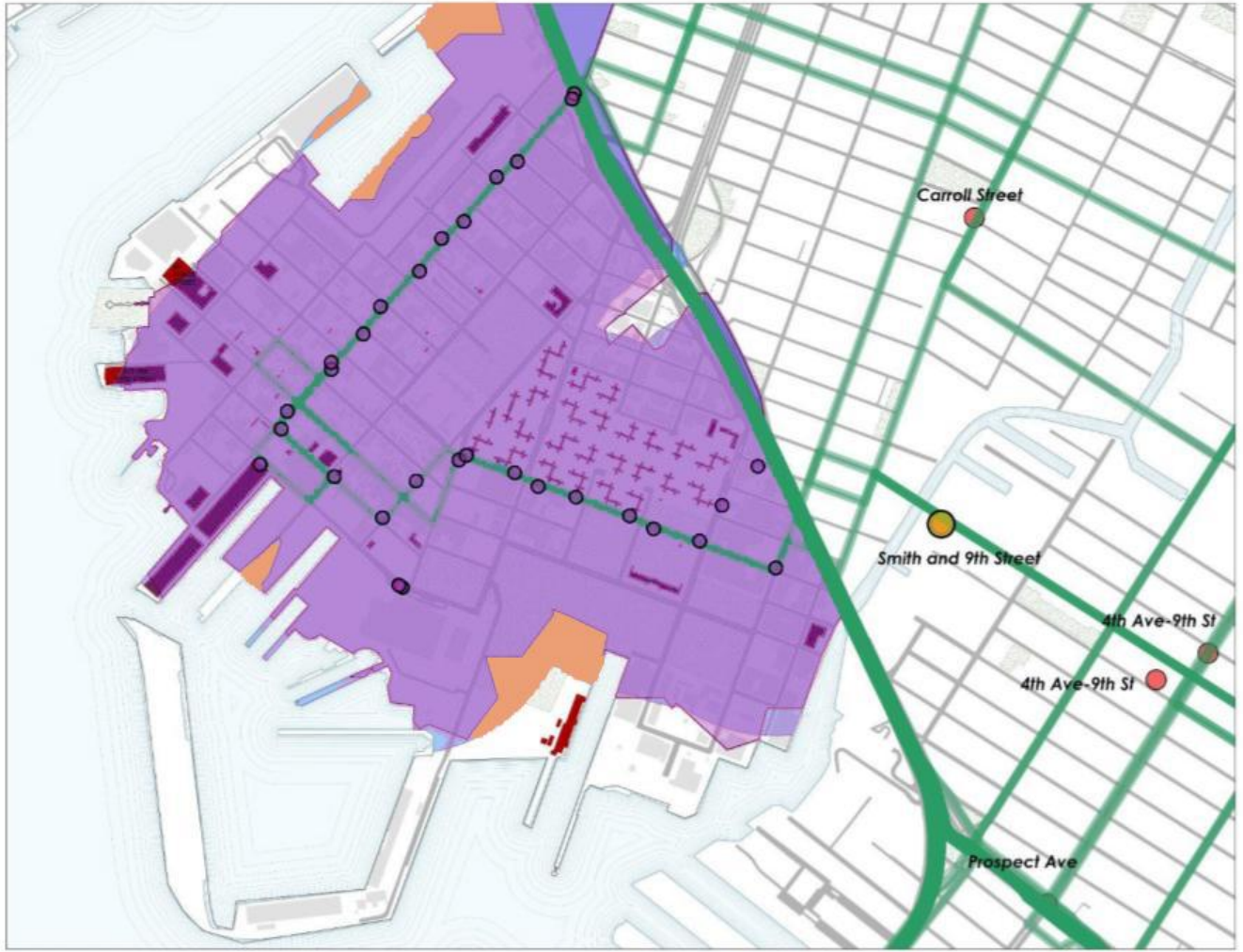


Red Hook

Assessing Participatory Preservation: Opportunities

Walkability/ Bus

- Red Hook Site
- Parks
- Red Hook Buildings
- Historic Buildings Identified
- Subway Stations
- Bus Routes
- Smith and 9th Street Station
- Bus Stops
- Walkability Difference Bus



Prioritizing Street Fronts for Participatory Preservation

1 + 4

methodology to assess **possibilities** of **unconventional adaptive re-use**

learning from the past

A ‘shack’ from tin-city

A shack near Columbia Street in 1933. Photo by P.L. Sperr via New York Public Library:

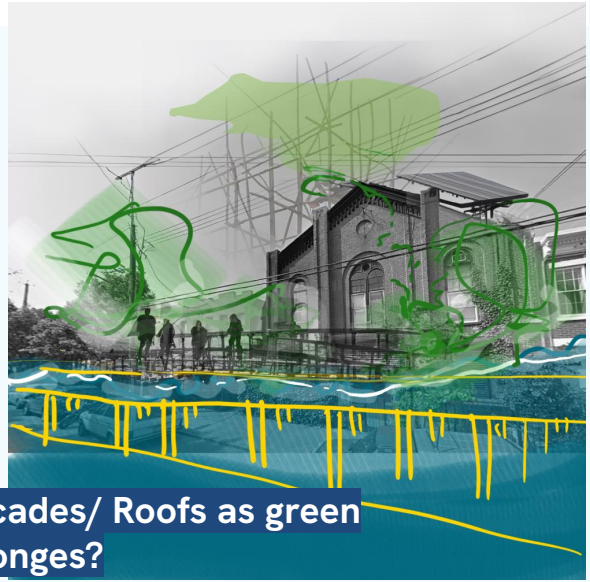
One wonders at the potential of looking at these vernacular self-built structure and the use of a ‘greenwall’ well before the new-fangled notions of ‘green infrastructure’ existed.

2

points of convergence +

envision possibilities for historic preservation x environmental conservation

3



Facades/ Roofs as green sponges?