REBUILD BY DESIGN
RESILIENT BRIDGEPORT

5 APRIL 2014

WB unabridged
w/ Yale ARCADIS

CLAIM THE EDGE, CONNECT THE CENTER

MODEL FOR THE SOUND

NORTHEAST REGIONAL CORRIDOR (NEC)

LEGEND

- *NEC REGIONAL RAIL STOP*
- *NEC REGIONAL RAIL CORRIDOR*

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MODEL FOR THE SOUND

NEC CONNECTING CITIES

LEGEND

- *NEC REGIONAL RAIL STOP*
- *NEC REGIONAL RAIL CORRIDOR*

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MODEL FOR THE SOUND

WATERSHED BASED PLANNING

LEGEND

- POPULATION DENSITY
- REGIONAL RAIL CORRIDOR
- PRIMARY WATERSHED
- SECONDARY WATERSHED
- 2080 SEVERE SURGE/SLR RISK

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MODEL FOR THE SOUND

WATERSHED BASED PLANNING

UPLAND

RIPARIAN

COASTAL

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MODEL FOR THE SOUND

FORCES OF WATER

RIPARIAN

RIVER/WATERSHED RESTORATION

STREAM DAYLIGHTING

STREAM CAPACITY ENHANCEMENT

PARK-TO-RIPARIAN CORRIDOR CONNECTIONS

URBAN

GREEN DRAINAGE

CSO SEPARATION

FLOOD-PROOF/ELEVATED BUILDINGS

CROSS-CITY CONNECTIONS/ NETWORKS

COASTAL

SHORELINE STABILIZATION AND ENHANCEMENT

BERMS AND STORM SURGE BARRIERS

CRITICAL FACILITIES PROTECTION

RELOCATION OF FLOOD PLAIN DEVELOPMENT

STORMS ON THE HORIZON

SUPERSTORM SANDY FLOODING

SEASIDE VILLAGE

BRIDGEPORT ELEVATION

PENINSULAS WITH ISLANDS

Legend

LIDAR

<VALUE>

- 0 - 0
- 1 - 5
- 6 - 10
- 11 - 15
- 16 - 20
- 21 - 40
- 41 - 60
- 61 - 80
- 81 - 100
- 101 - 120
- 121 - 140
- 141 - 160
- 161 - 180
- 181 - 200
- 201 - 220
- 221 - 240
- 241 - 260
- 261 - 280
- 281 - 300
- 301 - 320
- 321 - 340
- 341 - 360
- 361 - 380
- 381 - 400
- 401 - 420
- 421 - 440
- 441 - 460
- 461 - 480
- 481 - 500

"BRIDGEPORT GATHERS UP IN HER GRASP VARIOUS RAILROADS AND OTHER COMMUNICATIONS AND THUS PERMITS EASY ACCESS TO HER BOSOM..."

- LETTER TO FREDERICK DOUGLASS, 1854

ECONOMIC LANDSCAPE

COMMERCIAL AND INDUSTRIAL

CITY REVENUE

LAND PRESSURE RAISES VALUE

DOWNTOWN OPPORTUNITIES

ABUNDANCE

WET EDGES ARE RICH

INTEGRATED LINES OF RESILIENCE

GREEN EDGES

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INTEGRATED LINES OF RESILIENCE

STRONG LINES

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INTEGRATED LINES OF RESILIENCE

ECONOMIC DRIVERS

INTEGRATED LINES OF RESILIENCE

RESILIENCY CENTERS

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RESILIENT BRIDGEPORT

INVESTMENT ZONES

1 SOUTH END

NEIGHBORHOOD

PROTECTING THE COMMUNITY

2 BLACK ROCK HARBOR

INFRASTRUCTURE

POWERING THE CITY

3 DOWNTOWN

CIVIC CORE

CONNECTING THE CENTER

4 PEQUONNOCK

PRODUCTIVE ECOLOGIES

CLAIMING THE EDGE

ONE CITY
FOUR ZONES
TEN PROJECTS
FIVE STUDIES

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SOUTH END

PROTECTING THE COMMUNITY

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SOUTH END

SEASIDE PARK ON LONG ISLAND SOUND

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SOUTH END

SEASIDE PARK TO DOWNTOWN

CLAIM THE EDGE, CONNECT THE CENTER

SOUTH END

TRANSFORMING THE NEIGHBORHOOD

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SOUTH END

S1: MULTIFUNCTIONAL INTEGRATED BERM

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SOUTH END

S2: LIVING SHORELINE

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SOUTH END

S2: SEASIDE PARK EXTENSION

SOUTH END

S3: RESILIENCY CENTER

Resilience Education and Community Center
Residential Neighborhood Redevelopment

CLAIM THE EDGE, CONNECT THE CENTER

SOUTH END

PROTECTING THE COMMUNITY

CLAIM THE EDGE, CONNECT THE CENTER

BLACK ROCK HARBOR

POWERING THE CITY

CLAIM THE EDGE, CONNECT THE CENTER

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BLACK ROCK HARBOR

POWERING THE CITY

CLAIM THE EDGE, CONNECT THE CENTER

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Wheelabrator Waste to Energy Plant

Sikorsky Helicopter

Dymaxion Car

BLACK ROCK HARBOR

POWERING THE CITY

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BLACK ROCK HARBOR

B1+B3: OFFSHORE PARK + BARRIER BRIDGE

CLAIM THE EDGE, CONNECT THE CENTER

BLACK ROCK HARBOR

B1: OFFSHORE OUTFALL PARK

CLAIM THE EDGE, CONNECT THE CENTER

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BLACK ROCK HARBOR

B2: ELEVATED INFRASTRUCTURE CORRIDOR

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REBUILD BY DESIGN: RESILIENT BRIDGEPORT

BLACK ROCK HARBOR

POWERING THE CITY

CLAIM THE EDGE, CONNECT THE CENTER

REBUILD BY DESIGN: RESILIENT BRIDGEPORT

DOWNTOWN
CONNECTING THE CENTER

CLAIM THE EDGE, CONNECT THE CENTER

REBUILD BY DESIGN: RESILIENT BRIDGEPORT

DOWNTOWN

BRIDGE AND PORT

CLAIM THE EDGE, CONNECT THE CENTER

DOWNTOWN

BRIDGE AND PORT

Downtown

CONNECTING THE CENTER

CLAIM THE EDGE, CONNECT THE CENTER

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DOWNTOWN

D1 + D2: LOWER + UPPER FLOODWALL

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D3: CONGRESS STREET BRIDGE AND GREEN

Because of the closing of the bridge, the whole East Side of Bridgeport has gone **down the drain**.

Millie Maldanado, President Bridgeport Spanish Merchants Association
New York Times, 19 May 2002

DOWNTOWN

D3: CONGRESS BRIDGE AND EAST SIDE

D4: BRIDGEPORT DESIGN CENTER

DOWNTOWN

D5: TRANSPORTATION AND INVESTMENT PLAN

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DOWNTOWN

CONNECTING THE CENTER

CLAIM THE EDGE, CONNECT THE CENTER

REBUILD BY DESIGN: RESILIENT BRIDGEPORT

PEQUONNOCK

CLAIMING THE EDGE

CLAIM THE EDGE, CONNECT THE CENTER

REBUILD BY DESIGN: RESILIENT BRIDGEPORT

PEQUONNOCK

RIVER'S EDGE, PARK TO PARK

CLAIM THE EDGE, CONNECT THE CENTER

PEQUONNOCK

UPSTREAM BEARDSLEY PARK

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PEQUONNOCK

BUNNELLS POND DAM AND FISH LADDER

OPPORTUNITIES AT THE EDGE

PEQUONNOCK

CLAIMING THE EDGE

CLAIM THE EDGE, CONNECT THE CENTER

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PEQUONNOCK

P1: EAST SIDE GREEN STREETS

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PEQUONNOCK

P2: PEQUONNOCK TERRACES

UPLAND DEVELOPMENT

BIORENTENTION PONDS

UPPER TERRACE

RECREATION AREAS

CIVIC OPEN SPACE

LOWER TERRACE

BOARDWALK CONNECTIONS

NATURALIZED BANKS

PEQUONNOCK RIVER

2100 BFE

2050 BFE

2050 SLR

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REBUILD BY DESIGN: RESILIENT BRIDGEPORT

P2: AQUACULTURE AS INDUSTRY

140 LF Waterfront > 4,000,000 Oysters/Year x 40 cents > $1,600,000

PEQUONNOCK

CLAIM THE EDGE, PARK TO PARK

CLAIM THE EDGE, CONNECT THE CENTER

1893 USGS Map

Existing

PEQUONNOCK

P2: COVERED RIVER AT SHOPPER'S PLAZA

CLAIM THE EDGE, CONNECT THE CENTER

PEQUONNOCK

P2: COVERED RIVER AT SHOPPER'S PLAZA

PEQUONNOCK

P2: ISLAND BROOK CONFLUENCE

RESILIENT BRIDGEPORT

PHASE ONE (2014-2020)

South End

S.1 Multifunctional and Integrated Protective Alignment
- S.1.1 Multifunctional Berm
- S.1.2 Elevated Singer Street
- S.1.3 Feasibility Study for Onshore CSO Park

S.2 Living Shoreline: Constructed Breakwaters with Wetland

S.3 Neighborhood Transformation Grant with Resilience Education and Community Center

Black Rock Harbor

B.1 Offshore Outfall Park with Study for Onshore Mitigation and Neighborhood Transformation
- B.1.1 Offshore Outfall Park: Water Filtration Reef and Wetland
- B.1.2 Study for Onshore Mitigation and Neighborhood Transformation

B.2 Elevated Infrastructure Corridor

B.3 Comprehensive Feasibility Study for Bridge with Integrated Surge Protection

Downtown

D.1 Lower Floodwall (Connecting from RR to South End (Singer Street))

D.2 Upper Floodwall (North of RR to Congress St. Bridge)

D.3 Congress St. Bridge and Green

D.4 Downtown Design Center and Community Development

D.5 Bridgeport Transportation and Investment Plan

Pequonnock River

P.1 East Side Green Streets (East Main, Arctic, Barnum)

P.2 Lower Pequonnock Design and Implementation Plan
- P.2.1 Design and Implementation Plan from Beardsley Park to River Street
- P.2.2 Regional Watershed Planning Documentation
- P.2.3 Aquaculture and Fin-fish Economic Development and Industrial Redevelopment Study

10 Projects

5 Plans & Studies

$283 Million Investment

RESILIENT BRIDGEPORT

PHASE TWO (2020-2050)

Coastal Protection

Extend 100-year Surge Protection to East Side and East End
Elevate South End Berm to maintain 100-year Surge Protection
Mixed-Use Development along Elevated Corridors
Construct Onshore CSO Park in South End and Other Locations
Extend Breakwater Alignment and Wetland to Protect all of Seaside Park
Continue Housing Redevelopment and Services Enhancement throughout South End

Coastal Flats, Inlets, and Industry

Construct Green Streets and Onshore Stormwater Retention and Filtration Features
Develop Offshore Outfall Parks at Other Outfall Locations
Green Streets and Onshore Retention, with Barnum Housing Redevelopment
Build Out Elevated Infrastructure Corridor Network in Black Rock and South End
Build Bridge with Integrated Surge Protection with Best Modeled Alignment

Urban Core

Build Pedestrian Bulkhead and Terraced Edge Along Riverfront
Expand Pedestrian and Bike Amenities
Connect Parks and Parkways
Downtown Building Rehabilitation
Integrate New Facilities for Multi-modal Transit into Downtown Coastal Protection

Pequonnock and Yellow Mill Rivers, Inland Waterways

Complete Green Streets Network in East Side, Extend to other Neighborhoods
Implement Sending and Receiving for Smart Waterfront Development
Build Downtown Floodplain Park and East Side Marina
Daylighting Pequonnock at Route 1, with Fish Ladder to Bunnell's Pond
Bank Naturalization, Oyster Beds, Fish Nursery

BENEFIT COST ANALYSIS

Existing
Plans & Initiatives

$52.8 Million in Awarded Projects
$1.9 million pending

Resilient Bridgeport
PHASE I (2014-2020)

$291 Million Investment
10 Integrated Projects
5 Plans and Studies

Resilient Bridgeport
PHASE II (2020-2050)

Further Investment
Full 21' Surge Protection with Restored, Working Waterfront

PHASE I CO-BENEFITS

Jobs Created
+3,354

Smart Development/Mitigation
Assets elevated or removed from floodplain

Green Infrastructure
37+ acres

Room for the River
Expanded floodplain,
Improved riverine habitats and recreation, Aquaculture

Revitalized Urban Core
Building rehabilitation
Implementation support
Resilience research

Assets Protected
Historic coastal neighborhoods,
Critical facilities,
Eco-Industrial Park,
U. of Bridgeport

Surge Protection
100 year storm for most vulnerable areas

Coastal Wetlands
28+ acres

Filter Feeder Reefs
2+ acres

$670 million in Loss Avoidance with 21' Surge Protection, complete in Phase II

BCA OVER TIME

Existing
Plans & Initiatives

Resilient Bridgeport
PHASE I (2014-2020)

Resilient Bridgeport
PHASE II (2020-2050)

Resilient Bridgeport

Integrated Lines of Resilience
Increased Watershed Capacity
Resilient Social infrastructure
Strong Coastal Habitats
Revitalized Urban Core
Improved Water Quality
Continued Insurability

Reference Situation

Frequent pluvial flooding
Heightened storm surge risk
Permanent loss of coastal habitats, critical facilities, taxable property
Uninsurable properties
Uninhabitable coastline

RESILIENT BRIDGEPORT
COALITION

Primary Coalition

City of Bridgeport
Bridgeport Housing Authority
Greater Bridgeport Regional Council
Bridgeport Neighborhood Trust
The Nature Conservancy
Bridgeport Regional Business Council

Local Coalition

BGreen 2020 Committees
Bridgeport School Board
Bridgeport Housing Authority
Seaside Village Board of Directors
Marina Village Tenants Association
Mercy Learning
UConn Landscape Design
University of Bridgeport
Aquaculture School
Groundwork Bridgeport
Freeman Center
Save the Sound
B:Hive
JHM Consulting
Poko Partners
O&G
PSEG
Wheelabrator
Santa Energy

Regional Supporters

American Planning Association
City of New Haven
City of Stamford
City of Norwalk
Sierra Club (Fairfield County Group)
Trust for Public Land
GBRC CTAC
Yale Urban Design Workshop

State, Federal & International Supporters

CT DEEP & CT Dept of Labor
DECD
ConnDOT
EMHS
NOAA
EDA
City of Amsterdam

Design Team

Waggonner and Ball
unabridged Architecture
Gulf Coast Community Design Studio
Yale University
ARCADIS

Design Affiliates

Carl Pucci
Kathy Dorgan
Robbert DeKoning
Derek Hoeferlin
Don Watson

NEXT GENERATION

CLAIM THE EDGE, CONNECT THE CENTER

CURRENT RISK

PROTECTION FROM PHASE 1

PROTECTION FROM PHASES 1 + 2