

# Rockaway East Community Reconstruction

Conceptual Plan  
October 2013



This document was developed by the Rockaway East Planning Committee as part of the NY Rising Community Reconstruction (NYRCR) Program within the Governor's Office of Storm Recovery. The NYRCR Program is supported by NYS Homes and Community Renewal, NYS Department of State, and NYS Department of Transportation. Assistance was provided by the following consulting firms: HR&A Advisors, Parsons Brinckerhoff, Beyer Blinder Belle, Mathews Nielson, OpenPlans, and Hammes Company. All photographs were taken by the planning team unless otherwise noted.

## Foreword

The New York Rising Community Reconstruction (NYRCR) Program was established by Governor Andrew M. Cuomo to provide additional rebuilding and revitalization assistance to communities damaged by Superstorm Sandy, Hurricane Irene, and Tropical Storm Lee. This program empowers communities to prepare locally-driven recovery plans to identify innovative reconstruction projects and other needed actions to allow each community not only to survive, but also to thrive in an era when natural risks will become increasingly common.

The NYRCR Program is managed by the Governor's Office of Storm Recovery in conjunction with New York State Homes and Community Renewal and the Department of State. The NYRCR Program consists of both planning and implementation phases, to assist communities in making informed recovery decisions.

The development of this conceptual plan is the result of innumerable hours of effort from volunteer planning committee members, members of the public, municipal employees, elected officials, state employees, and planning consultants. Across the state, over 102 communities are working together to build back better and stronger.

This conceptual plan is a snapshot of the current thoughts of the community and planning committee. The plans will evolve as communities analyze the risk to their assets, their needs and opportunities, the potential costs and benefits of projects and actions, and their priorities. As projects are more fully defined, the potential impact on neighboring municipalities or the region as a whole may lead to further modifications.

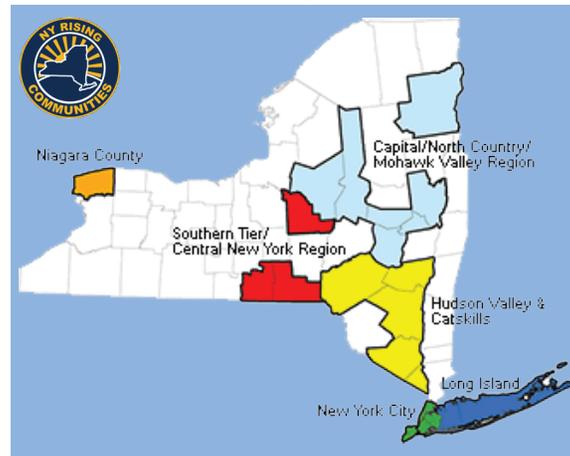
In the months ahead, communities will develop ways to implement additional strategies for economic revitalization, human services, housing, infrastructure, natural and cultural resources, and the community's capacity to implement changes.

Implementation of the proposed projects and actions found in this conceptual plan is subject to applicable federal, state, and local laws and regulations. Inclusion of a project or action in this conceptual plan does not guarantee that a particular project or action will be eligible for Community Development Block Grant – Disaster Recovery (CDBG-DR) funding. Proposed projects or actions may be eligible for other state or federal funding, or could be accomplished with municipal, nonprofit or private investment.

Each NYRCR Community will continue to engage the public as they develop a final plan for community reconstruction. Events will be held to receive feedback on the conceptual plan, to provide an understanding of risk to assets, and to gather additional ideas for strategies, projects and actions.

October 31, 2013

## New York Rising Communities



Find out more at:

[StormRecovery.ny.gov/Community-Reconstruction-Program](http://StormRecovery.ny.gov/Community-Reconstruction-Program)



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# I. Introduction

## NY Rising Community Reconstruction Program

**The NY Rising Community Reconstruction Program was established to provide additional rebuilding and revitalization assistance to communities severely damaged by Superstorm Sandy, Hurricane Irene, and Tropical Storm Lee.**

It will enable communities to identify reconstruction and resiliency projects that address current damage, future threats and the communities’ economic opportunities. In connection with the program, the State has allocated funds for community planning in 50 communities across New York State, 10 of which are in New York City.

**New York State has allocated up to \$15 million to Rockaway East in Community Development Block Grant Disaster Recovery (CDBG-DR) funding** from the US Department of Housing and Urban Development (HUD). These funds can be used for a wide variety of short and long-term recovery and resiliency projects, and Rockaway East will be eligible to receive additional project funding from federal, state, and local sources. Regional coordination with other Jamaica Bay and Rockaway Peninsula communities will be considered and may increase eligibility for additional funding.

As shown on page 4, this process will include 5 steps:

- Identify **Assets, Risks, Needs and Opportunities**
- Define **Community Vision**
- Identify, Evaluate, and Prioritize **Projects and Actions**
- Identify **Funding Sources** and Develop **Implementation Plan**
- Create **Final Community Reconstruction Plan**

The plan will focus on needs, opportunities, and projects that address six recovery functions: Community Planning and Capacity Building, Housing, Economic, Health and Social Services, Infrastructure Systems, Natural and Cultural Resources.

**Each NY Rising Community is led by a Planning Committee** made up of community leaders and residents. The Committee is taking the lead in developing the content of the plan. Rockaway East’s Planning Committee consists of: Al Moore (Co-Chair), Linda Plummer (Co-Chair), Silaka Cox, Denean Ferguson, Evan Gray, Nathan Krasnovsky, Chaim Leibtag, Betty Leon, Rev. Leslie Mullings, Joanne Peterson, Isaac Richter, Gerry Romski, Eli Shapiro, Patricia Simon, Milan Taylor, and Jose Velez.

The State has also provided each NY Rising Community with a planning team to help prepare a plan. The New York State planning team includes: Regional Leads Claudia Filomena and Chelsea Muller; NYC Lead Planner Steve Ridler; and Rockaway East Community Planners Fred Landa and Ken Smith. The consulting team is led by HR&A Advisors (project management, community planning, economic development and housing analysis) and Parsons Brinckerhoff (planning, coastal protection, infrastructure engineering, and natural/coastal management). They are being supported by Beyer Blinder Belle (urban design), Mathews Nielsen (landscape architecture), OpenPlans (participatory mapping), and Hammes Company (healthcare). By the end of the planning process, two deliverables will be produced for public review:

**Conceptual Plan** (this document):

- Community Context
- Storm Impacts and Risk
- Rebuilding and Resiliency Planning
- Additional Considerations: Regional Perspectives and Existing Plans
- Preliminary Strategies, Projects, and Actions



**Final Community Reconstruction Plan**, Spring 2014: The second report will include more in-depth discussion of the below:

**Overview**

- Geographic Scope of Plan
- Description of Storm Damage
- Critical Issues
- Community Vision
- Relationship to Regional Plans

**Assessment of Risk and Needs**

- Community Assets
- Assessment of Risk to Assets
- Assessment of Risk to Systems
- Assessment of Needs and Opportunities

**Reconstruction Strategies**

- Community Planning and Capacity Building
- Economic Development
- Health and Social Services
- Housing
- Infrastructure
- Natural and Cultural Resources

**Implementation Schedule**

- Schedule of Implementation Actions

**Appendices**

- List of Planning Committee Members
- Description of Public Engagement Process



The ocean visible from a Rockaway East street

- Description of Priority Projects and their Costs and Benefits
- Inventory of Assets

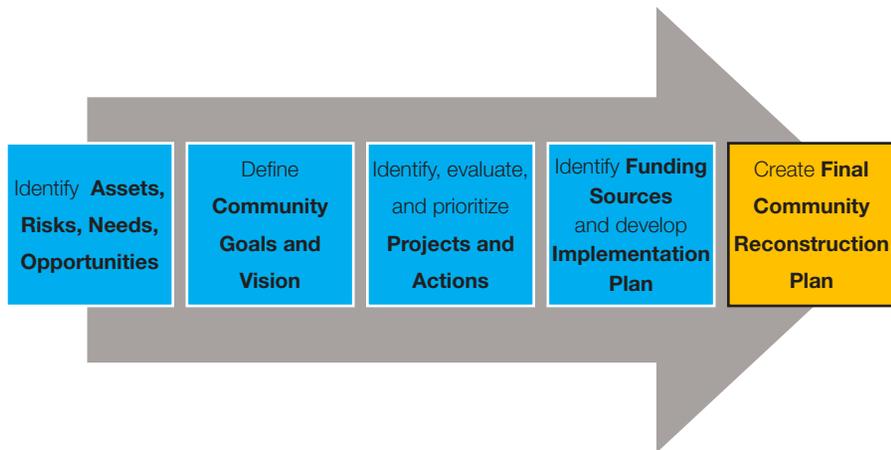


### NYRCR Work Schedule

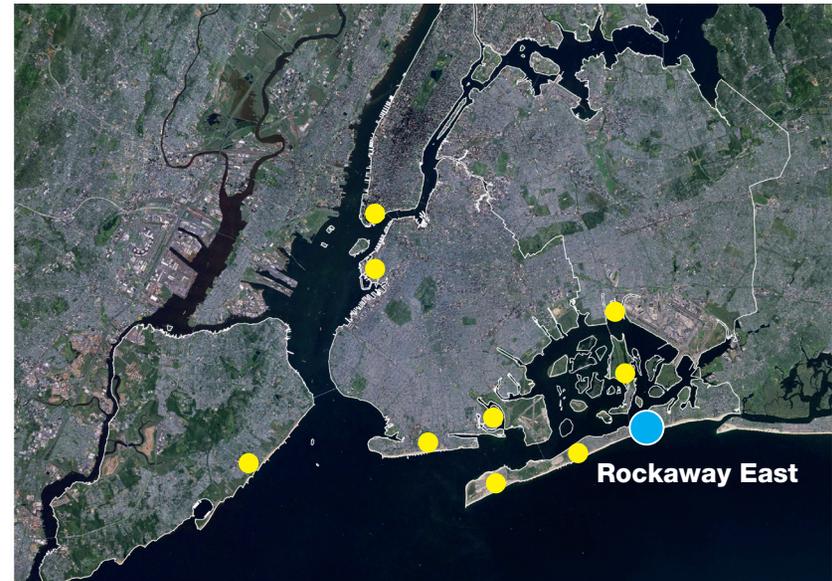
- Planning Committee Meeting
- Public Meeting
- Deliverable Due Date

| Deliverables                     | Sept. | Oct. | Nov. | Dec. | Jan. | Fen.  | Mar. |
|----------------------------------|-------|------|------|------|------|-------|------|
| Work Plan                        |       | ●    |      |      |      |       |      |
| Vision, Assets & Risk Assessment | 1     | ●    |      |      |      |       |      |
| Conceptual Plan                  |       | 2 1  | ●    |      |      |       |      |
| List of Strategies               |       |      | 2 3  | ●    |      |       |      |
| List of Priority Projects        |       |      |      |      | ●    |       |      |
| Community Reconstruction Plan    |       |      |      |      |      | 4 3 5 | 4 ●  |

### 5-Step Process



### NY Rising Communities in New York City





## Approach to Public Outreach

**Because NYRCR is a community driven process, informing people of the program and encouraging maximum involvement is essential.** Both outreach and community engagement are critical to identifying needs and priorities, setting direction, and ensuring the success of the final plan.

### Outreach

In Rockaway East, the Planning Committee's public outreach strategy focuses on leveraging Rockaway East's community distribution channels, including social media outreach, as well as direct outreach through advertisements in the Rockaway Wave newspaper.

Maintaining engagement over the six month program will require ongoing outreach, and the Committee will continue to evolve its approach to communicate key NYRCR information as broadly as possible. The Committee has identified an outreach lead who will be responsible for expanding the outreach approach moving forward.

### Public and Committee Meetings

There will be a total of four public meetings before the finalization of the Community Reconstruction Plan, one of which has been held to date. The meetings will cover the following subjects:

- **Public Meeting #1** (October 10, 2013)

– Program Scope, Goals, and Timeline; Feedback on Vision, Community Assets, and Needs and Opportunities

- **Public Meeting #2** (November 2013) – Contents of Draft Conceptual Plan; Feedback on Strategies, and Projects
- **Public Meeting #3** (January 2014) – Analysis and Prioritization of Strategies, Projects, and Actions
- **Public Meeting #4** (February 2014) – Final Community Reconstruction Plan

**Each public meeting is designed to maximize interaction between members of the public, the Planning Committee, and the consulting team.** Members of the public are also welcome to attend the five (minimum) Committee Meetings that will occur by March 31, 2014.

### Online Engagement

**The NYRCR homepage** is a valuable online resource, located at <http://stormrecovery.ny.gov/community-reconstruction-program>.

Each community in the Program has a dedicated page which includes notices for all meetings and houses all meeting materials. It also includes links for visitors to review information about the program, directly contact the NYRCR staff, and visit the program's Facebook page. The Rockaway East

page is located at <http://stormrecovery.ny.gov/nyrccr/community/rockaway-east>.

**Residents can submit comments via the website or email: [info@stormrecovery.ny.gov](mailto:info@stormrecovery.ny.gov).** Comments provided are combined with other feedback from the public and incorporated into the plan in progress.

**Another valuable source of public input will be the online interactive mapping tool** which can be accessed at <http://nyrisingmap.org/>.

The online map will allow users to click on assets in the community and provide three forms of input:

- Confirm important community assets and information gathered about them
- Identify recovery and resiliency needs
- Provide ideas for rebuilding and resiliency

**Compiled public input will be included** in the Conceptual Plan and the Final Community Reconstruction Plan:

- All corrected community asset information will be incorporated into the plan.
- Analysis of storm recovery and resiliency needs identified by the community will help to identify common threads and issues.
- Ideas for projects and actions for rebuilding



Rockaway East Public Meeting 1, October 10, 2013



## II. Community Context

### Geographic Scope

The Rockaway East planning area was defined by the Planning Committee according to consideration of multiple factors, including data on damage resulting from Sandy; local understanding of community boundaries; areas where assets are most at risk; and where reconstruction or future construction should be encouraged.

The Rockaway East area is made up of five neighborhoods: Arverne; Somerville; Edgemere; Bayswater; and Far Rockaway, from west to east. Located on the easternmost end of the Rockaway Peninsula, it includes an Atlantic Ocean-facing beach to the south and a shoreline on Jamaica Bay to the north, and is bounded by Beach 74th Street to the west and by the Nassau County line to the east.

It is an area rich in natural resources. Along the ocean side, the Rockaway Beach and Boardwalk stretches the length of the planning area. On the bay side, the community is graced by the 253-acre Rockaway Community Park. Brant Point Wildlife Sanctuary – located between Somerville and Jamaica Bay – comprises mostly undeveloped marshland that preserves natural habitats and helps protect neighboring areas from floodwaters. Other major natural resources along the bay side include the Dubos Point Wildlife Sanctuary, Bayswater Park, and Jamaica Bay Park.

### Rockaway East Planning Area



Source: NYC Department of City Planning MapPluto, 13v1

### Community Overview

Rockaway East is a predominantly residential community that is also the most densely populated of all the neighborhoods on the Peninsula. According to the 2010 U.S. Census, the area was home to 76,978 residents (59 percent of the total population in South Queens) and 24,535 housing units. However, much like many of the

communities affected by Sandy, the size of the local population may have declined since the storm.

The area's density can partly be attributed to the high proportion of large multi-family residential buildings, many of which are public housing or government regulated developments. Far Rockaway contains five New York City Housing Authority (NYCHA) public



housing developments (including over 3,400 units) and seven regulated Mitchell-Lama buildings.

**The housing stock varies widely by typology and vulnerability to storm damage.** Older single-family homes and bungalows vulnerable to structural damage are concentrated in the Somerville, Edgemere, and Bayswater neighborhoods. Medium and large multi-family buildings are concentrated in Far Rockaway, and were more susceptible to ground floor flooding that damaged electrical and mechanical systems.

**Primarily comprised of lower-income households, Rockaway East also has the highest poverty rate in South Queens.** The estimated median household income in 2012 was \$35,452, which is lower than that of Queens and New York City as a whole. The area has a high proportion of renters – 69 percent of all households in 2010 – and a lower homeownership rate than that of nearby communities and New York City as a whole.

**The community is home to a few clusters of commercial activity, including Mott Avenue in Far Rockaway and a retail hub on Rockaway Beach Boulevard in Arverne.** Anchored by governmental and educational institutions, Mott Avenue is home to small businesses and the offices of nonprofit organizations, as well as larger format retailers and supermarkets. The corridor in Arverne includes restaurants, a bank, small retail, and a Stop-n-Shop.

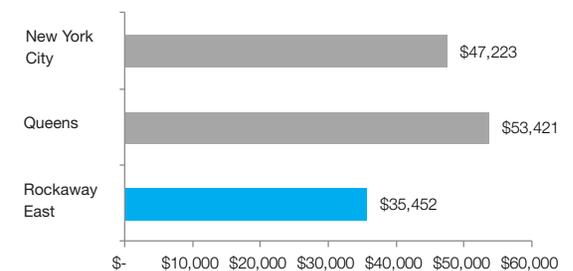
**Rockaway East is also home to some of the only healthcare facilities on the peninsula, and the healthcare sector is one of the most important employers in the community.** The sole hospital serving South Queens, St. John’s Episcopal Hospital, is located in Rockaway East and has an inpatient bed capacity of approximately 400.

**The community benefits from substantial natural social and recreational amenities,** such as the Rockaway Beach Boardwalk and Rockaway Community Park. The beaches are an important economic driver, attracting visitors from throughout New York City.

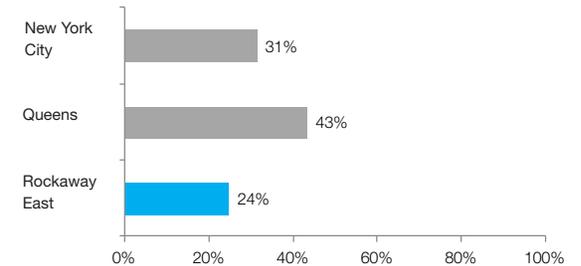
**The area is served by multiple modes of public transit, including the subway system and Long Island Railroad (LIRR).** There are A train subway stops at Beach 67th Street, 60th Street, 44th Street, 36th Street, and 25th Street, and an LIRR station in Far Rockaway. Beach Channel Drive, along the northern Jamaica Bay side of the Peninsula, is the main vehicular thoroughfare, connecting the area to the mainland of Queens via the Marine Parkway–Gil Hodges Memorial Bridge and the Cross Bay Bridge.

**Sources: 2010 U.S. Census; 2010 U.S. Census ESRI Projections, 2012 and 2017; American Community Survey Housing Summary, 2005-2009; “A Stronger, More Resilient New York,” NYC Mayor’s Office, 2013.**

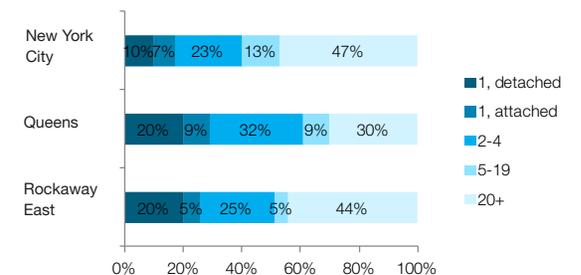
Median Household Income (2010 Census, 2012 ESRI Estimate)



Percent Owner Occupied Housing (2010 U.S. Census)



Housing Units by Type (2005-2009 American Community Survey)





### III. Storm Impacts and Risk

#### Summary of Storm Impacts

**The combination of high tide, a full moon, and Superstorm Sandy slamming into New York City created a massive surge of water that devastated many of the exposed coastal communities of the Rockaways.** Wave action from the ocean damaged structures and inundated streets and properties, while Jamaica Bay surge waters flooded the Peninsula from the other side. Beyond the storm and the emergencies in its immediate aftermath, all residents have been affected in some way by building damage, extended power outages, lasting transportation disruptions, displacement, and financial hardship.

**Compared to other peninsula communities in Rockaway West and Breezy Point, Rockaway East fared relatively well.** Particularly in Far Rockaway, the area experienced less flooding due to higher land elevation and the partial protection afforded by the Atlantic Beach Peninsula. Building damage was therefore less extensive than in other areas.

**Flooding nevertheless caused damage to many buildings and homes.** From the bay side, floodwaters inundated Edgemere, Bayswater, Somerville, and Arverne. Along the coast, portions of Far Rockaway also flooded.

Structural damage and complete destruction disproportionately hit single-family homes, many

built before 1960. In high- and mid-rise buildings, many residents found themselves trapped during and after the storm due to power outages and flooding that knocked out electrical and mechanical systems. This disproportionately affected vulnerable populations, including seniors, who were stranded with limited access to vital services. Health professionals who normally provide elder care services were unable to reach their job sites, so residents relied heavily on neighbors to come to their assistance.

A more recent nearby planned housing development, Arverne by the Sea, was largely unaffected due to a variety of built-in measures against flooding, including raised elevation, dune protections, and drainage.

**Sewage overflow compounded the damage and created an immediate health challenge.** The Rockaway Wastewater Treatment Plant in Rockaway West was inundated and rendered inoperative. Sewage overflow mixed with flood waters and seeped into homes, creating a pollutive mix that would linger for weeks to come.

**Critical bridges, roadways, and public transportation were severely impacted.** The Cross Bay Bridge closed in advance of Sandy and did not reopen for several days. Portions of the A train subway between Howard Beach and the Rockaway Peninsula were washed away, leaving riders without subway access. While the MTA

provided shuttle services, full service along the A line was not restored for seven months.

Intra-Peninsula arteries were blocked or damaged as well. Combined with constrained communication channels, the lack of mobility created obstacles to accessing vital supplies. For example, Stop-n-Shop on Beach 74th Street, had ample stock of fresh food, but few residents of Rockaway East were aware of this.

**Utility outages left residents without power for weeks.** The substations of the Long Island Power Authority (LIPA) were knocked out of service by floodwaters, and LIPA was unable to regenerate its grid for approximately 2 weeks. Due to electrical damage, many people were not able to turn on their electricity until they received certification from an electrician that it was safe.

**Important health and social services were also rendered inoperable, while houses of worship and schools were damaged and unable to reopen in a timely manner.** Businesses were also shut down and many have yet to return.

#### Recovering from the Storm

**Issues surrounding rebuilding homes and rehousing displaced residents have been persistent and remain among the most critical issues for residents.** Structurally damaged or destroyed homes identified by the NYC Department



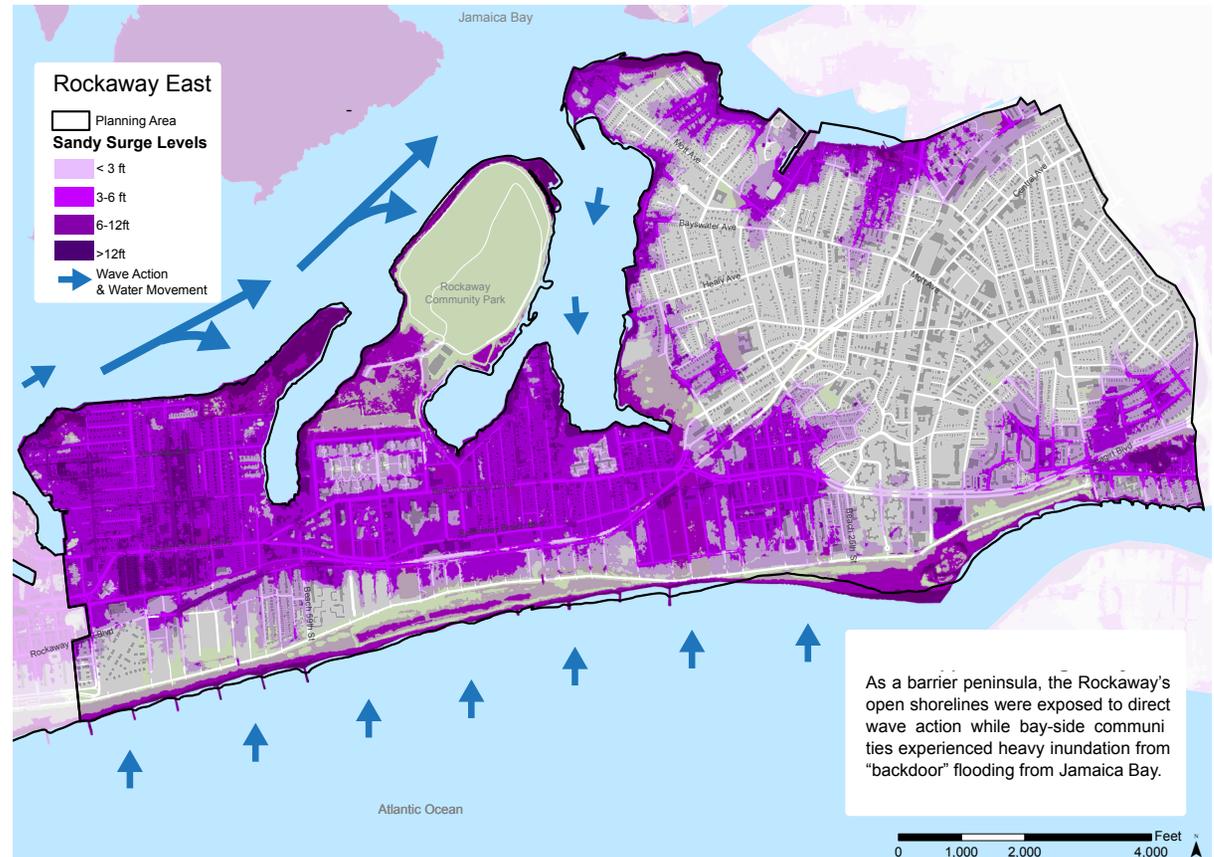
of Buildings in Sandy's aftermath were especially concentrated in Edgemere and Somerville, although homeowners in all flooded areas were affected. While some homeowners have recovered from Sandy damage, many houses remain off-limits or are under repair, and residents must continue to live away from their homes. For houses under repair, mold remediation – as a result of effluent seepage into the buildings – has posed a challenge. Permitting and funding are both issues, and while they fix their homes, many residents are concerned about rising flood insurance rates.

**A train subway service was restored at the end of May 2013** after the causeway that connects the Peninsula to Howard Beach was repaired. The MTA is investing in a sea wall to prevent future destruction of the embankment.

Retail corridors have been slow to recover. Even though storm damage to commercial buildings was less severe than other areas, businesses that managed to reopen after the storm found they had fewer customers because so many Peninsula residents had been displaced.

**Long-term plans for strengthening the coastline are also underway.** The US Army Corps of Engineers (USACE) is currently leading a two-phased emergency beach renourishment project. The first phase of this project is complete, while the second phase (1B), which will deposit 3 million cubic yards on the beach from Beach 149 to Beach 19 will be completed by Memorial Day 2014.

### What Happened During Sandy?



As a barrier peninsula, the Rockaway's open shorelines were exposed to direct wave action while bay-side communities experienced heavy inundation from "backdoor" flooding from Jamaica Bay.

Source: FEMA



Assessment and regrouping. Photo sources: Flickr, Leonard Wiggins; Flickr, Andrea Silenzi



In addition, it is conducting a long-term reformulation study for greater coastal protection, including the ocean and bay edges of the Peninsula, to be completed in 2015.

**A combined dune and boardwalk system is under development**, led by the NYC Department of Parks and Recreation, the NYC Economic Development Corporation, and USACE. This would serve both to “harden” the protective infrastructure along parts of the peninsula’s ocean side and to provide a scenic pedestrian and recreational path for residents.

## Future Risk

The variety of factors that led to the tremendous damage caused by Superstorm Sandy remain vulnerabilities in the community, and risks may rise in the future.

**Nearly half of the Rockaway East planning area lies in extreme and high risk zones according to NYS DOS risk analysis.** Most of the neighborhoods of Bayswater, Edgemere and Somerville are in low-elevation areas and are highly exposed to multiple risks from coastal storms. On the Atlantic side, the community is exposed to heavy wave action. Unlike other areas of the

Peninsula, Rockaway East also contains ground located above the floodplain, which should be an important consideration when planning for future flood events. However, **risk of coastal flooding will continue to increase with rising sea levels.**

**Erosion may also have effects on future risks.** Essentially located on a barrier island, the shoreline of the Peninsula has shifted significantly over time and is still a dynamic and changing landscape. Portions of the shoreline are subject to erosion, while the ocean side continues to receive sand deposits. Planning coastal projects in such a dynamic environment will continue to be a challenge.

### NY Department of State Risk Zones

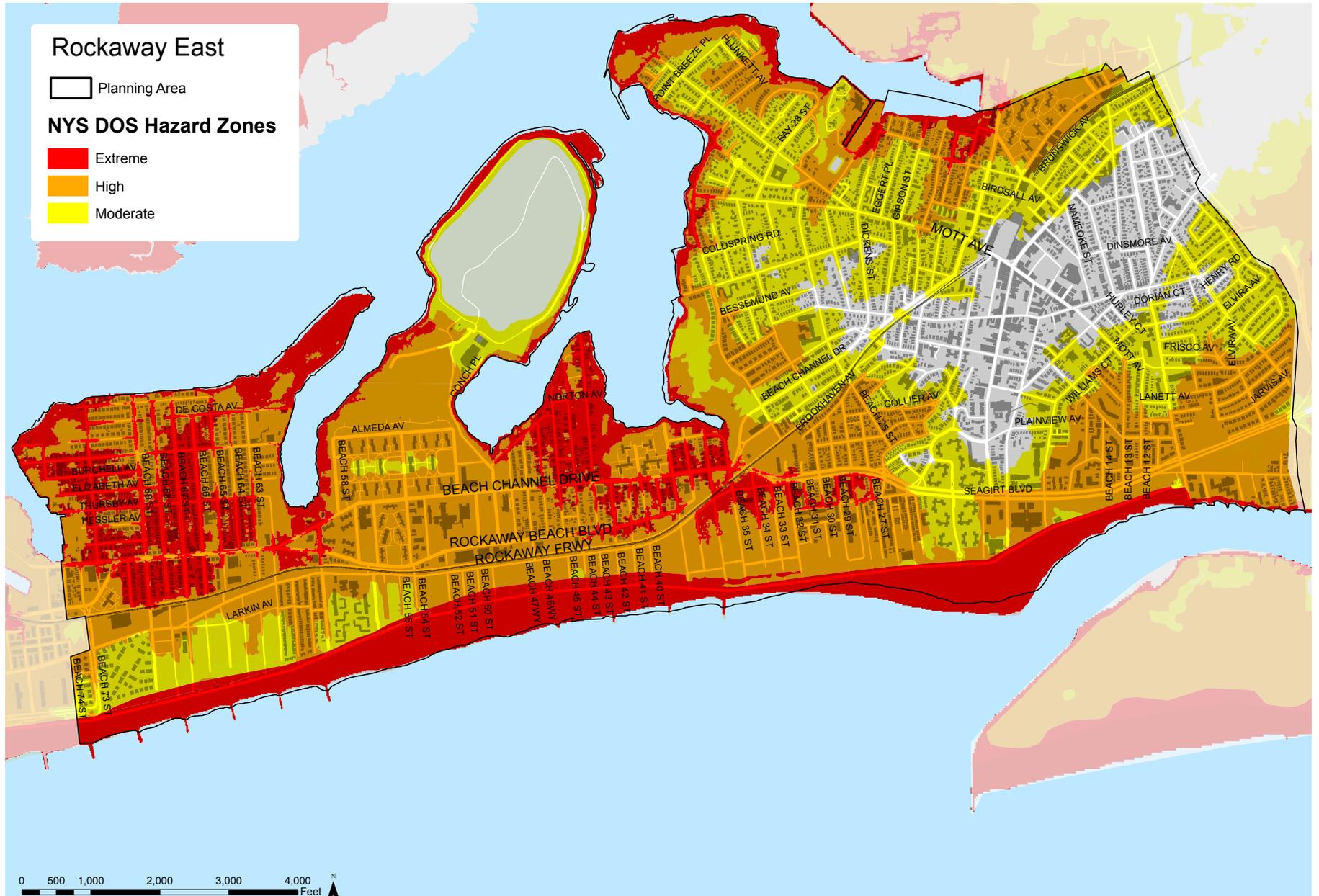
While FEMA’s flood insurance rate maps incorporate detailed analysis of possible storm scenarios, they do not consider future factors such as sea level rise. In order to map and assess risk, taking into account sea level rise and differences in exposure of the landscape, NYS DOS developed its own Risk Assessment Area Mapping tool that takes additional factors into account. In addition to the FEMA flood zones, these factors include: a sea level rise estimate of three feet, areas expected to be inundated by a category 3 hurricane, areas subject to shallow coastal flooding, and areas of the coast subject to shoreline erosion. Considering these

factors, the State established three risk assessment areas:

- **Extreme:** Areas currently at risk of frequent inundation and vulnerable to erosion and heavy wave action (in the FEMA V-Zone, meaning the area is subject to hazards associated with storm-induced waves over 3 feet), subject to shallow coastal flooding (within the National Weather Service’s shallow coastal flooding advisory threshold), or likely to be inundated in the future due to sea level rise (assumption of 3 feet).
- **High:** Areas outside the Extreme Risk Area that are currently at risk of infrequent inundation (in the FEMA A-Zone, meaning there is a 1 percent annual chance of flooding) or at future risk of shallow coastal flooding with sea level rise (assumption of 3 feet).
- **Moderate:** Areas outside the Extreme and High Risk Areas but currently at moderate risk of inundation from infrequent events (in the FEMA shaded X-Zone, meaning there is a .2 percent annual chance of flooding) or at risk of being in the 100 year floodplain with sea level rise (assumption of 3 feet), and any areas expected to be inundated by a category 3 hurricane.



# NY Department of State Risk Zones



Source: NY Department of State



# IV. Rebuilding and Resiliency Planning

## Process Overview

As previously mentioned, the NYRCR Program contains five key steps for rebuilding and resiliency planning. This section summarizes the outcomes of the two steps of the NYRCR Process that have been completed thus far: Identifying Assets, Needs and Opportunities, and Defining Community Goals and Vision.

Through a series of Planning Committee and Public Meetings, the community:

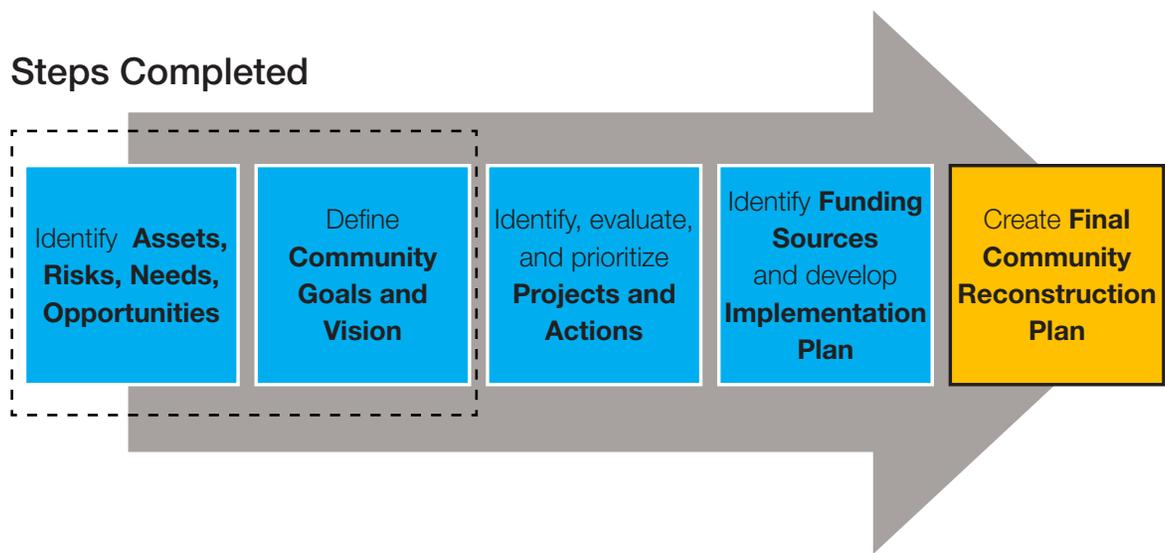
- **Identified community assets and risks,**

noting places or resources within the community that residents value and/or deem at risk.

- **Defined community needs and opportunities** by evaluating the issues and challenges as well as the resources presented by the unique landscape, housing, economies, demographics, and services within the community. These recovery and resiliency needs and opportunities may be associated with a specific asset or apply to a community as a whole.

- **Established short- and long-term goals and an overall vision** for resiliency and recovery in Rockaway East.

The results of this collective work will support the next steps in the rebuilding and resiliency planning process, starting with drafting strategies and identifying potential projects in November 2013. Content completed in the first two steps will evolve through the process and revised content will be presented in the Final Community Reconstruction Plan delivered at the end of March 2014.





## Community Assets

**Assets include a variety of places and resources within a community.** They may facilitate economic and social activities in a community, or may refer to critical infrastructure required to support those activities. Assets may also be part of the built or the natural environment.

**The goal of the asset inventory process is to assemble a complete description of the assets located within a community,** targeting assets whose loss or impairment due to flood and storm events would compromise essential social, economic or environmental functions or critical facilities of a community. The inventory aims to include sufficient information to assess risk to the assets under current and future conditions.

**The asset inventory has been developed based on a combination of public data and input from the Planning Committee and the public.** The first draft of an asset inventory was presented at the first Planning Committee Meeting. The inventory was organized by the key NYRCR recovery functions: Community Planning and Capacity Building, Economic Development, Health and Social Services, Housing, Infrastructure, and Natural and Cultural Resources.

The inventory and associated map were initially generated using publicly available land use and infrastructure data to identify assets within the planning study area. (The primary data source used was the NYC Department of City Planning’s MapPluto data, release 13v1.) The building class

values in the MapPluto data were assigned to the appropriate asset class categories defined in the NYRCR Program guidance.

The maps were refined with input from the committee. The refined maps were then presented to the public at the first public meeting, where community residents identified any missing assets and identified their priorities. The Committee then reviewed and confirmed the inventory.

Additional public input on assets will be captured through an online community asset map located at <http://nyrisingmap.org/>. This interactive map will be available as an online reference through the NYRCR process.



Elevated A train subway



Waterfront high-rise housing



Local retail



## Housing Assets

The Planning Committee and the public felt that all housing in the area should be protected, but identified several specific areas that merited particular focus. Given the variety of housing stock across the community, special attention must be paid to the various needs of these critical assets.

Small homes in particularly high risk areas are a priority. Bay side housing, particularly in Bayswater and Edgemere, was seen as especially vulnerable given its low elevation and the flooding that it experienced in Superstorm Sandy.

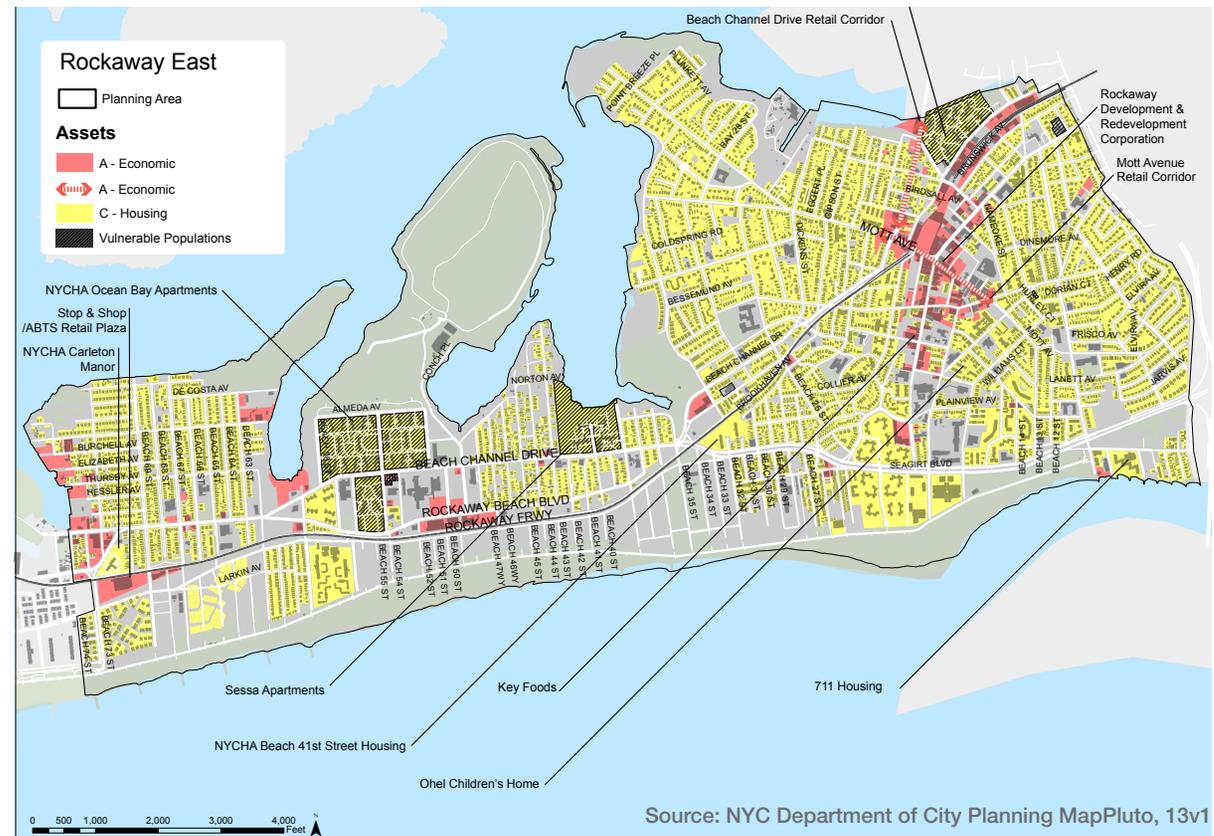
At-risk mid- and high-rise buildings face different issues and those that house many seniors warrant special focus. After Sandy, many seniors were trapped without access to goods or services or often water because power was out, elevators were not functional, and water did not reach past the sixth floor in buildings.

## Economic Assets

Rockaway East has two key economic corridors, along Mott Avenue and scattered along Rockaway Boulevard. The consistency and vibrancy of the corridors varies.

The Mott Avenue commercial corridor, which is in Far Rockaway along the central section of Mott Avenue as well as Beach 20th Street and Sheridan Boulevard, is one of the largest concentrations of commercial activity in the Rockaways. It is primarily made up of retail, small businesses and basic

## Housing and Economic Asset Map



services, however common consensus is that this corridor could use improvement. This section of Mott Avenue is on more higher ground than much of the Rockaways and escaped the flooding of Superstorm Sandy.

In the western end of Rockaway East are economic assets distributed across Arverne, along Rockaway Beach Boulevard, Beach Channel Drive, and 73rd and 74th Streets. This area includes retail, restaurants, a

bank and post office, and the relatively new Stop-n-Shop grocery store, which was the only supermarket that remained open on the Peninsula after Sandy.

Further, while perhaps not currently seen as an asset, there is significant vacant land along commercially viable corridors. This underdeveloped land is a significant asset to the community, as it presents opportunity for creative resiliency planning and potential for new mixed-use corridors that



could bolster the economy and stitch together disconnected areas.

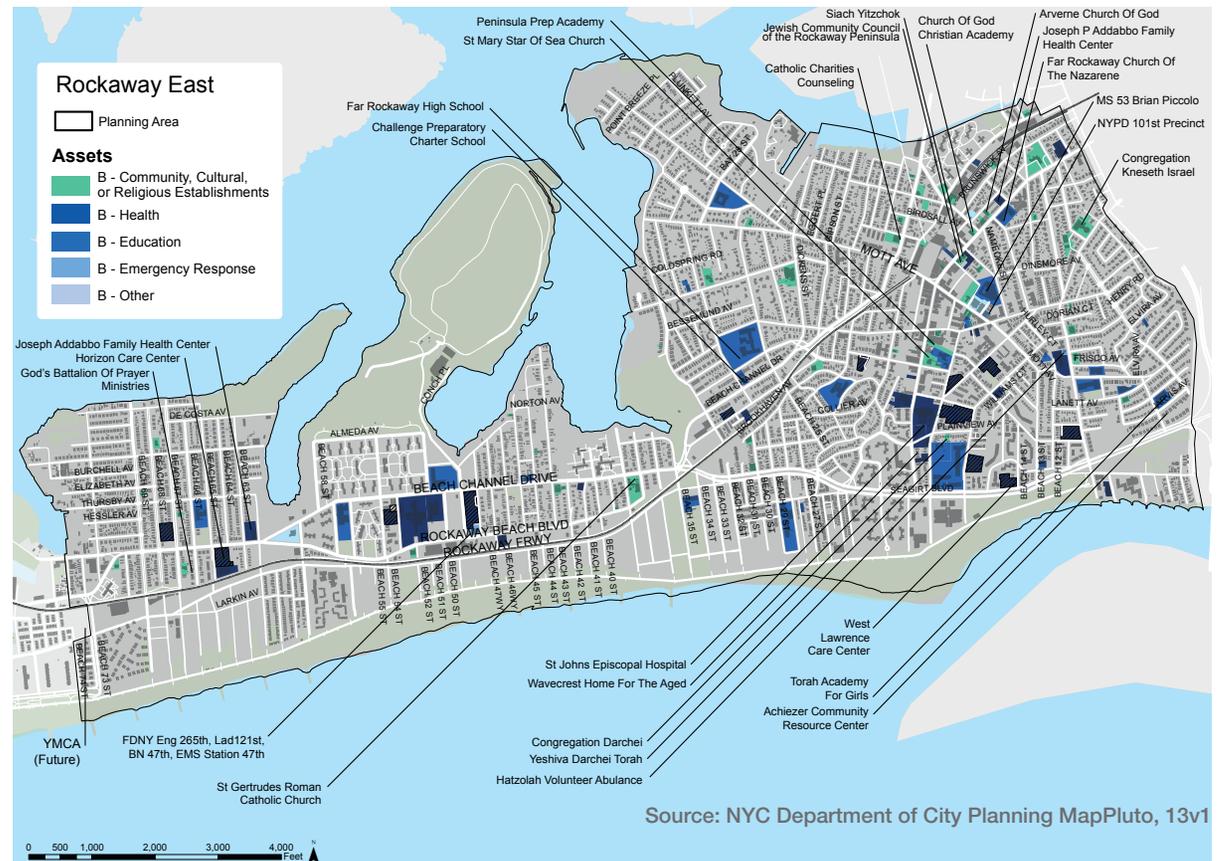
Arverne East is a development project being lead by the NYC Department of Housing Preservation and Development on a large 80+ acre Urban Renewal site between Beach 32th Street and Beach 55th Street. The site was the location of a recent design competition, won by White Arkitekter, who will enter in negotiations with the developers to potentially serve as master planner and architects for the site.

### Health and Social Service Assets

Rockaway East has a rich variety of health and social services, especially compared to the rest of the Peninsula, many of which served a critical role during Sandy emergency response and recovery. Specifically, the health and community centers, schools, and houses of worship on the higher ground around Mott Avenue played an instrumental role in the distribution of supplies and provided a place for the community to gather. Congregation/Yeshiva Darchei Torah, Rockaway Development and Revitalization Corporation, the Nazarene Community Church, Church of God Christian Academy, Peninsula Preparatory Academy, and St. Mary Star of the Sea were all particularly important to recovery efforts.

In the western end of Rockaway East, God's Battalion of Prayer Ministries was also noted as a priority asset, as was the new YMCA at Beach 74th Street and Addabbo Health Center.

## Health and Social Service Asset Map



Source: NYC Department of City Planning MapPluto, 13v1

The Rockaway East community emphasized the role of schools to ensure continuity of service and improve children's education. Also important are the New York Fire and Police Departments.

While there are a number of health care providers in the area, general consensus is that there are not enough, and many people travel outside of the community to receive care. St. John's Episcopal Hospital is an important asset and is the only hospital

in the Rockaways, although it does not provide trauma care and could benefit the community by providing other services. There are other important community health facilities, including St. Gertrudes, Hatzollah volunteer ambulance services, and many senior homes. These health care assets are important not only because of the services they provide the community, but also because of the significant jobs they offer local residents.



### Infrastructure Systems Assets

Due to the presence of LIRR and the A train subway, Rockaway East is the only place on the peninsula where residents have 24/7 access to a one-seat ride to Manhattan. This was underscored by the Planning Committee and public’s identification of several important transportation infrastructure assets in Rockaway East. Priority transportation assets include the LIRR’s Far Rockaway station as well as the area’s six A train stations. Beach Channel Drive (which becomes Sheridan Boulevard) and Seagirt Boulevard are also important points of connectivity to Nassau County.

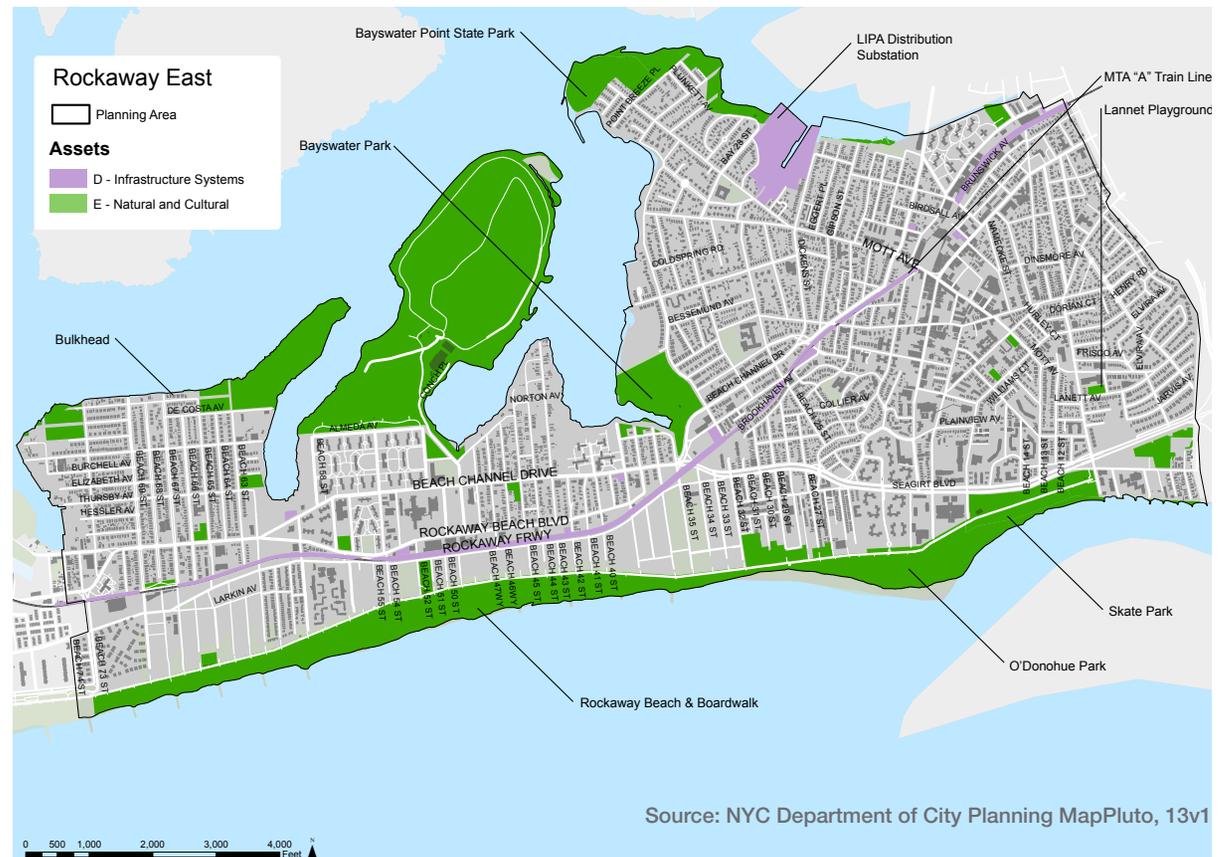
A number of prioritized infrastructure assets are on or near Jamaica Bay, including the LIPA substation in Bayswater. Additionally, stormwater/wastewater management infrastructure is important to this planning area, but the existing system backs up even in normal tide cycles and storm conditions in Bayswater. Communications pre- and post-storm are also important, but were shown to be lacking during Sandy.

### Natural and Cultural Resource Assets

Rockaway East’s abundant and important natural and recreational assets are generally clustered along the water, and thus provide both protective and recreational functions.

Rockaway Beach and Boardwalk are important assets on the ocean side. They help shape the identity of the community and should not only be

## Infrastructure and Natural & Cultural Resource Asset Map



Source: NYC Department of City Planning MapPluto, 13v1

protected, but also enhanced. There are also other parks and amenities along the beach and scattered through the community that the community values.

On the bay side, the Dubos Point, Bayswater Park, and the underutilized Rockaway County Park and Bayswater Point State Park are all important. These natural wetlands and parks serve as a protective barrier to the communities along the bay, but if they are not sufficiently built up or maintained, they could

be vulnerabilities. For example, marshland in Dubos Point was seen as having an important protective function. There is limited access to Bayswater Point State Park, and residents suggested that it be cleaned up and services added. Further, the inlets along the bay seemed to funnel surge waters directly into low lying residential communities. It will be important to bolster these assets to ensure Rockaway East becomes and remains more resilient.



The beach, one of the community's greatest natural and recreational assets



## Needs and Opportunities

**This section identifies Rockaway East's needs and opportunities.** This includes what it **needs** to be safe and sustainable in the face of extreme events, emergencies, and impacts of climate change. It also identifies **opportunities** that exist within the community that can be taken advantage of to better address the community's resiliency goals—such as underutilized assets, vacant land, or other existing resources.

Identifying these needs and opportunities is an important part of the NYRCR process because it reflects the community's knowledge of risks, challenges, unmet demands, and untapped potential across the neighborhoods in the community.

The Planning Committee drafted an initial list of needs and opportunities based on risks, the asset inventory, and its first-hand experiences. The list, categorized by the six recovery functions, was then vetted and updated by community residents at Public Meeting #1. The table on this page presents the summary of needs and opportunities for Rockaway East, categorized by asset type, and notes the number of times the public mentioned each. The detailed suggestions from the Committee and the community can be found in the following page.

Through aggregating the list of comments from the public and Planning Committee into categories and quantifying the number of times these categories were mentioned at the public meeting, a clear

hierarchy of needs and opportunities for Rockaway East begins to emerge.

### Protecting the Edge

**It is critical to protect the assets and communities across Rockaway East with resilient ocean and bay edges. The bay side is particularly vulnerable** and there is a need to evaluate optimal solutions to bolster the bay side wetlands, parks, and bulkheads. There is also an opportunity to learn from and replicate

development strategies implemented at Arverne-By-The-Sea, which experienced the least amount of flooding on the low-lying part of the Peninsula. The community was intentionally designed with heightened land and features to withstand flooding. Additionally, because the edge does not stop at the 74th Street boundary of the Rockaway East planning area, any edge solutions need to coordinate across the Peninsula, with Long Island, and Jamaica Bay.

**Rockaway East  
Needs & Opportunities  
Public Meeting Feedback Summary**

| Recovery Function                      | Needs & Opportunities               | Times Mentioned by Public |
|--|-------------------------------------|---------------------------|
| HEALTH & SOCIAL SERVICES               | Access to medical services          | 18                        |
|  | Coordinated emergency response      | 4                         |
|  | Improved communications             | 3                         |
|  | Broadened educational opportunities | 2                         |
| INFRASTRUCTURE                         | Accessibility to rest of NYC        | 15                        |
|  | Improved internal circulation       | 6                         |
|  | Improved water/sewer & drainage     | 3                         |
|  | Resilient power & utilities         | 2                         |
| COMMUNITY PLANNING & CAPACITY BUILDING | Bayside protection                  | 11                        |
|  | Defined identity                    | 4                         |
| NATURAL & RECREATIONAL                 | Better sanitation service           | 1                         |
|  | Beach & recreation amenities        | 8                         |
| ECONOMIC DEVELOPMENT                   | Increased quality public spaces     | 6                         |
|  | Strengthened retail corridor        | 8                         |
| HOUSING                                | Green building standards            | 1                         |
|  | Affordable housing                  | 2                         |
|  | Quality senior housing              | 1                         |



# Public Meeting #1: Representative List of Needs and Opportunities

## HEALTH & SOCIAL SERVICES

### Access to medical services

*"Protect St. John's Hospital"*  
*"Open Peninsula Hospital"*

## HEALTH & SOCIAL SERVICES

### Coordinated emergency response

*"Faster relief response"*  
*"10-12 all-weather relief centers vital!"*  
*"Area on the Peninsula with generators, resources, etc."*  
*"Elevated evacuation centers on the Rockaways"*

## HEALTH & SOCIAL SERVICES

### Improved communications

*"Peninsula-wide alarm system"*  
*"Information post-disaster & service"*  
*"Post boxes at street corner"*

## HEALTH & SOCIAL SERVICES

### Broadened educational opportunities

*"More schools"*

## INFRASTRUCTURE

### Improved internal circulation

*"Maintain streets"*  
*"Improve road transport options...at Arverne"*  
*"Bike lanes on boardwalk from beginning to end"*  
*"Maintain road infrastructure"*

## INFRASTRUCTURE

### Improved water/sewer & drainage

*"Improved drainage"*  
*"Reduce impact of sewer treat @ B 116 St"*

## INFRASTRUCTURE

### Resilient power & utilities

*"Relocate transformers to higher ground"*  
*"Alt. energy for elevators"*

## OVERALL

### Bayside protection

*"Strengthen baywall"*  
*"Rebuilt bulkhead walls in bayside"*  
*"Bayside shoreline restoration"*

## OVERALL

### Defined identity

*"Places that give F. Rock and identity!"*  
*"Improved neighborhood character"*  
*"Maintain low-density character"*

## OVERALL

### Better sanitation service

*"Improved sanitation quality"*

## NATURAL & RECREATIONAL

### Beach & recreational amenities

*"More recreation"*  
*"Multi-purpose boardwalk protection & recreation"*  
*"Recreational opportunities for youth"*

## NATURAL & RECREATIONAL

### Increased quality open spaces

*"Better retail & places for people to come together"*  
*"Public space"*

## ECONOMIC DEVELOPMENT

### Strengthened retail corridors

*"Better retail"*  
*"Improved retail and economic development"*  
*"Mom + Pop econ. dev. local!!!"*  
*"Create tourist attractions"*

## ECONOMIC DEVELOPMENT

### Green building standards

*"Build in env. sensitive matter"*

## HOUSING

### Affordable housing

*"Affordable housing"*

## HOUSING

### Quality senior housing

*"Senior housing that feels like a neighborhood"*



## Expanded Healthcare and Social Services

**Medical services are lacking in the Rockaways as a whole, a condition that was exacerbated by the closing of Peninsula Hospital in 2012.** While Rockaway East houses the highest concentration of such services, there remains a great need for more. This is especially the case for emergency services, especially during natural disasters and other large-scale emergencies, but also on a regular basis. The accessibility of St. John's as the only hospital, with only one access point by land and two bridge connections, is particularly problematic, especially in the summer months when beach visitation is in full swing. Given its existing healthcare base as well as its higher, safer elevation, there is an opportunity to robustly build out the healthcare section in Rockaway East to be a central hub for all of South Queens.

## Emergency Preparedness

**While the Rockaway East communities quickly organized to meet emergency needs and provide safe havens in the aftermath of the storm, there is a need to strengthen the communities' ability to be more prepared, resilient, and responsive to the next major emergency.** There are a number of needs and opportunities in this area, but some key needs have been raised thus far: ensure emergency service providers have sufficient emergency response equipment and supplies; identify and prepare common community spaces that can serve as emergency centers; create protection and continuity plans for schools; ensure key commercial providers

are resilient and can provide goods and services after an emergency; require multi-family building owners to create and enforce emergency plans; focus on identifying and being prepared to help vulnerable populations. There is also an opportunity to outfit buildings under development with greater resiliency measures while they are being built. This might include the YMCA as well as a new charter school in Arverne."

## Transportation and Accessibility

**Even though Rockaway East has some of the most important public transportation assets on the Peninsula, making Rockaway East more connected and accessible, both with the rest of the City and across the Peninsula, is one of the community's high needs.** There is a need to improve existing transportation infrastructure and service, but there are also many opportunities to create new transportation networks. For example, an opportunity identified by the Committee to better connect and extend the LIRR down to Rockaway Park, reactivating a line that has been out of service for over fifty years. There is also a need and opportunity to introduce ferry service to Rockaway East by expanding the current (temporary) low-fare service that stops in Rockaway West, and perhaps connecting it further to JFK Airport.

There is also an opportunity to introduce Bus Rapid Transit (BRT) and improve overall road circulation across the community to improve access, integration of the community fabric, and possibly spur economic growth. For example, roadways along and under the elevated train tracks can create

physical barriers between communities and can cause issues with traffic flow.

## Protecting Housing and Vulnerable Populations

There is a need to rebuild and make resilient all housing types across Rockaway East. Multi-family buildings need to implement preparedness plans and resiliency standards to ensure quick recovery and/or back-up power for elevator service and access to water. Protection for small homes is also very important. Presumably, strong edge protection will afford substantial protection, but additional alternatives are needed.

## Increase economic opportunities and recreational amenities

**A few related needs across a few categories of assets and recovery functions uncover a desire to better define Rockaway East, to improve both the quality of life for residents and appeal to visitors seeking sun and sand.** These include an increase in recreational amenities and an improved retail presence that adds to the identity of Rockaway East communities. There are many opportunities to develop new economic, recreation, and cultural amenities across the communities, especially on underdeveloped land with rich waterfront access. For example, community members identified a vacant parcel at Rockaway Beach Boulevard and Beach 67th Street as having redevelopment potential, along with the site of the former Peninsula Hospital.



## Community Goals and Vision

**The final key objective in this stage of the NYRCR process has been to establish overarching short-term (2-5 years) and long-term (5-10 years) resiliency and recovery goals for the Rockaway East Communities.** Setting targets and aspirations for the future helps to think beyond the current state and begins to paint the picture of a more resilient, sustainable community. By looking at assets and needs, and then setting goals and a vision, the community can then begin to devise strategies to reach those goals.

**Goals help define particular objectives that the community hopes to achieve over the short and long term.** They can range from small, simple goals to much more complex multi-pronged ambitions. Overall, they are action-oriented and aspirational in nature.

**The community vision is an overarching statement that encapsulates a collective sense of purpose and direction and maximum potential for the future.**

Much like the determination of assets and needs, the preliminary goals and vision have been established from two sources: Planning Committee deliberation on short- and long-term goals and collective vision and a work station at the first public meeting. From these two inputs, the team organized the feedback to create consolidated summary goals and a draft vision statement.

## Goals

| Short-Term (2-5 years)  | Long-Term (5-10 years)   |
|---|--|
| <ul style="list-style-type: none"> <li>• Improve quality and type of services in existing healthcare centers</li> <li>• Strengthen emergency preparedness</li> <li>• Improve transit and access to existing infrastructure</li> <li>• Address any immediate risks with both the ocean and bay edges</li> <li>• Support strengthening of existing commercial corridors</li> <li>• Pursue short-term beach and boardwalk renewal</li> </ul> | <ul style="list-style-type: none"> <li>• Become a health services hub for Southern Queens and Long Island</li> <li>• Enable self-sufficiency in and after emergencies</li> <li>• Expand and improve overall transit and connectedness of Rockaway East</li> <li>• Create hard and soft edges to maximally protect all of the communities in Rockaway East</li> <li>• Expand overall economic development and activity through the community and become a regional destination</li> <li>• Strengthen relationship between community, water, and abundant natural resources</li> </ul> |

## Vision Statement

**The neighborhoods of Rockaway East will rise up and leverage our robust social networks, diverse economy, and abundant natural resources to restore and develop a more vibrant, resilient, and sustainable community.**



## V. Additional Considerations

### Regional Perspectives

#### Jamaica Bay and Rockaway Peninsula Overview

**Connected hydrologically and ecologically, Jamaica Bay is a unifying feature tying together six NY Rising community planning areas:** Breezy Point, Rockaway West, Rockaway East, Broad Channel, New and Old Howard Beach, and Gerritsen Beach/Sheepshead Bay. A seventh planning area, Brighton Beach, Coney Island, Manhattan Beach, and Sea Gate, is also in close proximity to the mouth of the bay. With their shared shoreline, these communities share climate change-related risks, and collaboration can produce solutions that address recovery and resiliency needs affecting the bay as a whole.

#### Regional Resiliency Issues

**Situated on land that originally made up a series of barrier islands and marshland, these Jamaica Bay communities have a similar geomorphology and feature soft, marshy soil.** At the lowest elevation of any area in New York City, many of them are located at sea level, making some vulnerable to flooding even during normal high tides. Broad Channel, New and Old Howard Beach, and Hamilton Beach feature housing and important commercial corridors adjacent to the waterways or on piers and are protected by varying types of built bulkheads, barrier walls, and stilts. The bay feeds into inlets and basins in New and

Old Howard Beach that can be a regular source of flooding in addition to posing serious risk during elevated tides and emergencies. Sheepshead Bay and channels bordering Gerritsen Beach were also sources of flooding during the storm.

#### **Communities along the bay side of the 11-mile-long Rockaway Peninsula are also at risk.**

Some communities sit directly on open beaches and others are buffered by open space and marshland, but the bulk of the bay side is protected by a seawall which was overtopped during Sandy. Many natural and constructed protective features around the bay are insufficient, aging, or inadequately maintained, leaving significant flooding risk for all of these communities.

**On the ocean side, the Rockaway Peninsula faces risks due to its extensive unobstructed coastline.** While much of the coastline contains beaches, many lack extensive protective features and experience regular erosion. At the same time, the Rockaway Peninsula provides valuable protection to communities within the bay, acting as a barrier island and reducing surge and wave heights within the bay itself. The beach nourishment and dune-building efforts being undertaken by the USACE on the Rockaway Peninsula therefore have risk-reducing impacts for all communities on the bay.

**All of the Jamaica Bay communities suffered significantly during Superstorm Sandy, some from flooding or surge and some from wave action damage.** According to an assessment conducted by the NYC Department of Buildings, 37 percent of the buildings destroyed during Superstorm Sandy were located in this region. Homes, businesses, beaches and parklands, schools, roadways, and mass transit were all damaged; the area also endured one of the most extensive and long-lasting power outages in the City.

**Flooding risks are likely to be exacerbated by projected sea level rise associated with climate change.** According to FEMA's Preliminary Work Maps, the 100-year floodplain in the area has expanded for the borough of Queens by 40 percent since 1983, and floodplain expansion has been especially dramatic for the Jamaica Bay/South Queens area.

**Many Jamaica Bay communities also face insufficient emergency access.** On multiple locations throughout the Rockaway Peninsula, including Breezy Point, Belle Harbor, and Rockaway Beach Boulevard, fires started due to the interaction of seawater and electrical infrastructure. Fire trucks were unable to reach these areas due to extensive flooding. Single access routes to communities such



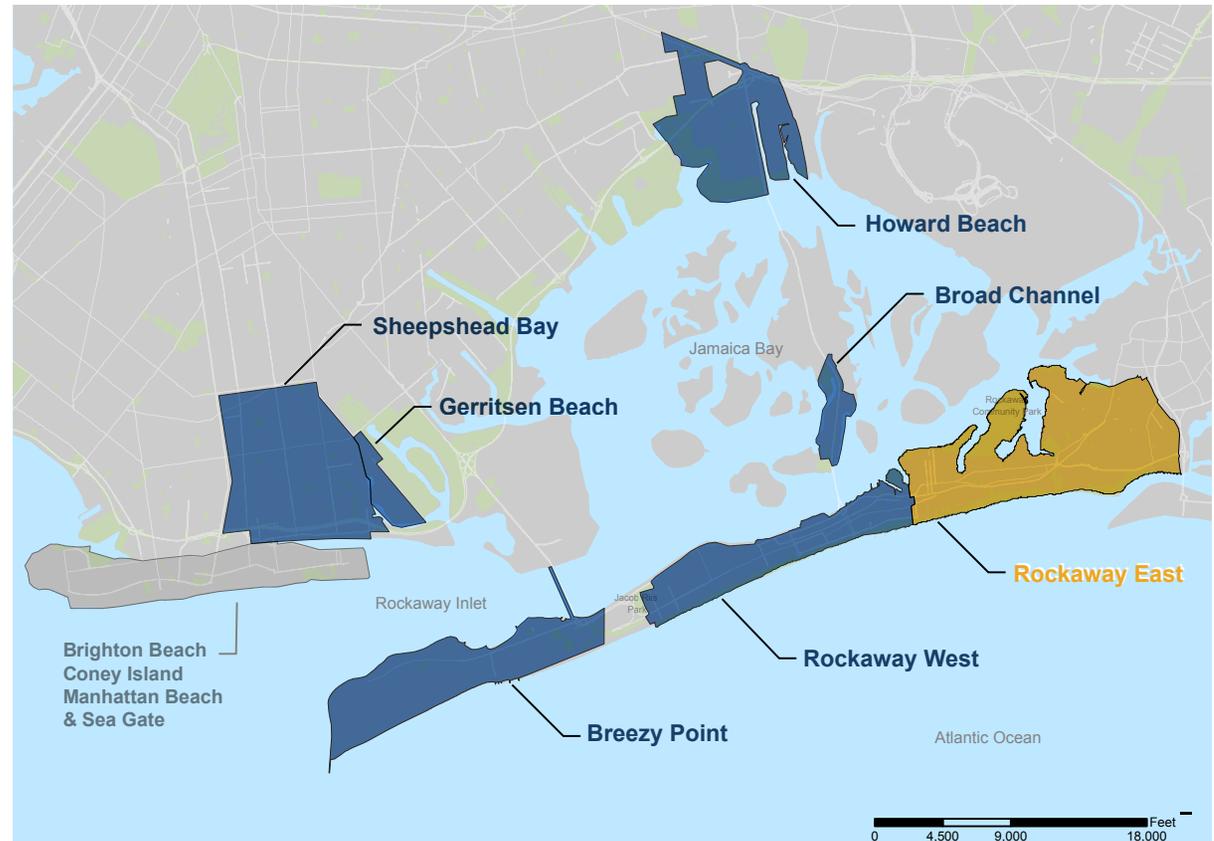
as Breezy Point and Broad Channel and certain parts of Old Howard Beach, including bridges and roadways that were damaged or flooded, also constrained emergency response and hindered evacuation.

**There are also ecological factors to consider: Jamaica Bay is a tidal estuary.** Though severely degraded over the 19th and 20th centuries, it is still a dynamic ecosystem providing critical habitat to a variety of species, including a number of protected and threatened birds and other species who inhabit both the beach and bay. Habitat loss and degradation of the bay’s chemical, physical and biological environment has largely been due to human activities, although initiatives by the City and Federal agencies over the last two decades have yielded dramatic improvements in the bay’s water and habitat quality.

**In this hydrologically connected system, projects and interventions in one area of the bay can have ecological and coastal protection ramifications across the estuary.** The cumulative impact of individual projects implemented in different locations around the bay can be greater than the sum of their individual impacts. At the same time, interactions between projects can sometimes have negative effects including, though rarely, induced wave or surge activity.

**Because of these interdependencies, the six NY Rising bay communities will form a Jamaica Bay NY Rising Working Group.** The group will review respective conceptual plans

## Planning Areas in Jamaica Bay



and assess opportunities to strategically protect their communities in concert. These regional strategies will be included in the Final Community Reconstruction Plans.

**To maximize benefits and minimize risk, coordination among efforts by NY Rising communities as well as the various City, State and Federal agencies active within the bay will be needed.** The newly formed Jamaica Bay

Resiliency Institute, established through an initiative to be led by CUNY in partnership with New York City, the National Parks Service (NPS), and the Trust for Public Land, among other organizations, is a potential partner and presents an opportunity for NY Rising communities in Jamaica Bay to collaborate with other organizations and agencies.



## Existing Plans, Studies, and Projects

**In order to avoid duplication of plans and to best identify how the NYRCR Program may fill existing gaps, the planning team has reviewed past and ongoing plans, studies, and projects in Rockaway East and surrounding areas.**

Major existing plans, studies, and projects in Jamaica Bay and citywide are described below. Relevant plans are also described in more detail in the following matrix indicating the organization leading the planning process, key analysis and proposed initiatives, the Recovery Functions these initiatives address, and the status of the plan, study, or project.

### Jamaica Bay Initiatives

**NYC Department of Environmental Protection's Jamaica Bay Watershed Protection Plan.** Authorized in 2005 and initially published in 2007, the plan is intended to support restoring and maintaining the water quality and ecological integrity of the bay. A number of ongoing initiatives driven by this plan include wastewater treatment upgrades, green infrastructure and other stormwater management improvements and a variety of ecological improvements and pilot projects.

**Gateway National Park General Management Plan.** The majority of the undeveloped land in and around the bay is part of Gateway National

Recreation Area, one of the nation's few urban national parks, encompassing 26,607 acres in Brooklyn, Queens, Staten Island and New Jersey. Given this large presence, the National Parks Service will be an important player in resiliency efforts in the bay. The park is currently updating the General Management Plan, which has been prepared over the last four years and will guide future management of the park. The public comment period for the plan's EIS concluded on October 22, 2013.

**USACE Efforts.** The USACE is also a major player in both coastal protection and restoration efforts within Jamaica Bay. In addition to the emergency beach nourishment and dune construction projects completed and ongoing on the Rockaway Peninsula, the USACE has a number of ongoing studies and projects in the bay which could provide resiliency benefits for NY Rising communities. These include studies that pre-date Superstorm Sandy as well as post-Sandy updates to the previous plans and studies.

**Hudson Raritan Estuary (HER) Comprehensive Restoration Plan (CRP).** Adopted in 2009, The HER-CRP was developed in collaboration with federal, state, municipal, and non-governmental organizations as well as other regional stakeholders. It sets forth a consensus vision, master plan and strategy for ecosystem future restoration in the New York/New Jersey Harbor. In Jamaica Bay, the plan

identified 39 potential restoration sites. Some of these restoration projects have been acted upon, but most have not.

**Jamaica Bay, Marine Park and Plumb Beach, New York Ecosystem Restoration Feasibility Study.** The study is a joint undertaking of the USACE and the NYCDEP and is intended to provide an expedited limited reevaluation of USACE restoration projects in the bay to address post-Sandy changes. The interim draft report identified 8 priority restoration sites (550 acres) from the HER-CRP recommendations, 6 of which are in NY Rising Communities: Dead Horse Bay, Paerdegat Basin, Fresh Creek, Spring Creek, Hawtree Point, Bayswater State Park, Dubos Point, and Brand Point. In addition, the feasibility study will look at Marsh Island Restoration Projects and two other restoration projects being undertaken under the USACE's Continuing Authorities Program – Gerritsen Creek and Upper Spring Creek, as well as ongoing USACE Storm Reduction Studies and Navigation projects in the area.

**East Rockaway Inlet to Rockaway Inlet (Rockaway Beach) - Reformulation Study.** This project is a reevaluation of the recommendations of the existing USACE plan for the area in light of the impacts of Sandy. Phase 1, for which the draft report should be completed this fall, looks at beach nourishment and additional erosion control and/



or storm damage risk reduction measures on the ocean side of the Rockaway Peninsula. Phase 2, for which the draft report is expected in October of 2015, will investigate flooding on the Jamaica Bay side of the Peninsula and evaluate potential coastal storm risk management reduction measures.

### Additional Citywide Initiatives

#### **Special Initiative for Rebuilding and Resiliency.**

On June 11th Mayor Michael Bloomberg announced the release of “A Stronger, More Resilient New York,” (SIRR Report) forming New York City’s plan for rebuilding post-Sandy and ensuring resiliency into the future. The plan contains actionable recommendations both for rebuilding communities in the City impacted by Sandy and for increasing the resiliency of buildings and infrastructure city-wide. All NY Rising communities within the City will need to coordinate their proposed projects with the initiatives proposed in the City’s plan. Specific initiatives for Breezy Point proposed in the SIRR Report are summarized in the following section, “Existing Plans and Projects.” More broadly, the plan lays out numerous city-wide initiatives to improve resiliency for systems including coastal protection, buildings, insurance, utilities, liquid fuels, healthcare, telecommunications, transportation, parks, water and wastewater and other critical networks that NY Rising communities will need to coordinate with their own proposals.

#### **Future Updates to the Building and Zoning Code.**

The City’s Building Resiliency Task force identified 33 recommendations to the City Council. Many of these recommendations are still in various

states of review by the Council, but five initiatives have been passed. In addition, the Department of City Planning’s Flood Resilience Zoning Text Amendment was approved by City Council on October 9th. The report and latest updates on implementation can be found on the SIRR website: <http://www.nyc.gov/html/sirr/>.

**NYC Recovery Program.** In addition to resiliency, the City has launched several initiatives to help residents across the five boroughs recover from the damage caused by Sandy. The City’s “Build it Back” program seeks to assist homeowners, landlords, and tenants whose homes were damaged by Sandy. The NYC Recovery Program is also offering business loans and grants to small business owners, whose businesses were damaged by Sandy. Most of these recovery programs support resiliency investments and will help improve individual homes and businesses in the communities surrounding Jamaica Bay. More information on the NYC Recovery program can be found here: <http://www.nyc.gov/html/recovery/>.

#### **FEMA Flood Maps and Flood Risk Assessment.**

FEMA describes its assessment of flood risk through flood maps referred to as Flood Insurance Rate Maps (FIRMs). These maps are used by the National Flood Insurance Program (NFIP) to set flood insurance rates. When Superstorm Sandy hit New York City, the FIRMs in use were based on information from 1983. Sandy inundation extended well beyond what these maps estimated would be the 100 year floodplain, calling attention to the fact that an update to these maps was needed. In

fact, before Superstorm Sandy, FEMA had begun a coastal flood study to update FIRMs for portions of New York and New Jersey using improved methods and data to better reflect coastal flood risk.

After Sandy, FEMA first released Advisory Base Flood Elevation (ABFE) maps based on the partially completed flood study for certain communities, which were designed to help in rebuilding and recovery efforts. In June of 2013, FEMA released preliminary work maps for New York City, including the full results of the coastal flood study. The preliminary work maps are based on the same underlying data as the earlier ABFE maps, but include the results of a more refined analysis of shoreline conditions, including the effects of erosion and wave runoff. The maps are a “draft” product that FEMA shared in advance of the preliminary FIRMs, which are expected to be released by the end of 2013. The final updated FIRMs are anticipated to be released in 2015. These final FIRMs will guide new flood insurance rates for homeowners and businesses in the floodplain.

FEMA’s flood maps do not take into account future conditions and thus do not factor in potential sea level rise. The NYC Panel on Climate Change (NPCC) is continuing to analyze potential climate change impacts on New York City, namely sea level rise. The NPCC released a report “Climate Risk Information 2013: Observations, Climate Change Projections, and Maps” in conjunction with the SIRR Report and provides New York City with estimates for sea level rise over various time frames. They are expected to update these estimates in the



near future. In addition, New York City has hired the Steven's Institute of Technology to map flood zones with added sea level rise for future decades. This is being done within the NPCC framework and will be reported and released through NPCC this winter.



An elevated Rockaway East home



## Detailed List of Plans and Projects

| Plan/Project Name                                       | Lead Organization(s)  | Initiative Description   | 6 Recovery Functions                   |                      |                          |         |                |                              | Sub-Category (if applicable) | Status (Pre-Planning, Planning, In Construction, Complete/In Operation)  |
|---|---|--|--|----------------------|--------------------------|---------|----------------|------------------------------|------------------------------|--|
|   |   |  | Community Planning & Capacity Building | Economic Development | Health & Social Services | Housing | Infrastructure | Natural & Cultural Resources |                              |  |
| <b>Projects</b>   |   |  |  |                      |                          |         |                |                              |                              |  |
| NYC Department of Environmental Protection Programs     | NYC Department of Environmental Protection  | Pilot program to remotely monitor flows inside the sewer system  |  |                      |                          |         | x              |                              | Utilities                    | In operation   |
| Brant Point Wetlands Pilot                              | United States Army Corps of Engineers   | Wetland restoration project located near Edgemere, part of reformulation study   |  |                      |                          |         |                | x                            |                              | Planning   |
| NYC Department of Parks and Recreation Capital Project  | NYC Department of Parks and Recreation, CH2MHILL                                      | Post-Sandy beach & boardwalk restoration work  |  |                      |                          |         | x              |                              | Coastal Protection           | Community Board 14 reviewed & approved the following elements of the plan on 10/8/2013: Boardwalk elevation, baffle walls, dune planting, concrete boardwalk materials. Construction to begin Winter 2014. |
| Port Authority of NY & NJ Capital Projects              | Port Authority of NY & NJ   | \$450M to rebuild and enhance Port Authority facilities  |  |                      |                          |         | x              |                              | Transportation               | Various stages of completion   |
| Sandy Recovery and Resilience Division                  | Metropolitan Transit Authority  | Repair of A line from Howard Beach to Rockaways  |  |                      |                          |         | x              |                              | Transportation               | Completed  |
| United States Army Corps of Engineers Capital Project   | United States Army Corps of Engineers   | Emergency Dredging and Beach Nourishment for the Atlantic Coast of New York City, Rockaway Beach / Continue to work with the United States Army Corps of Engineers to complete emergency beach nourishment on the Rockaway Peninsula |  |                      |                          |         | x              |                              | Coastal Protection           | Phase I complete: 600,00 cubic yards placed on beach from B 149-89 Street. Phase II to be completed by June 2014: Additional 3 million cubic yards of sand on beach from B 149-19th                        |
| United States Army Corps of Engineers Capital Project   | United States Army Corps of Engineers   | Jacob Riis Park Restoration  |  |                      |                          |         |                | x                            | Public Realm                 | In construction  |
| 20th Street Pedestrian Plaza                            | Rockaway Development and Revitalization Corporation, NYC Department of Transportation | Improvement of pedestrian plaza connecting Beach 20th Street and Beach 21st Street   |  | x                    |                          |         |                |                              |                              | Passed Planning and Design Commission May 2013   |
| Street resurfacing                                      | NYC Department of Transportation  | Roadway resurfacing with 2" asphalt/concrete wearing course, installation of pedestrian ramps at designated streets, and installation of new curbs and sidewalks where directed.   |  |                      |                          |         | x              |                              | Transportation               | In construction  |
| Food Retail Expansion to Support Health (FRESH) Program | NYC Industrial Development Agency   | Food Retail Expansion to Support Health to help fund repairs of supermarket  |  | x                    |                          |         |                |                              | Retail                       | Completed  |



| Plan/Project Name                                     | Lead Organization(s)   | Initiative Description  | 6 Recovery Functions                   |                      |                          |         |                |                              | Sub-Category (if applicable) | Status (Pre-Planning, Planning, In Construction, Complete/In Operation)  |   |   |
|---|--|---|--|----------------------|--------------------------|---------|----------------|------------------------------|------------------------------|--|---|---|
|   |  |   | Community Planning & Capacity Building | Economic Development | Health & Social Services | Housing | Infrastructure | Natural & Cultural Resources |                              |  |   |   |
| <b>Programs and Plans</b>                             |  |   |  |                      |                          |         |                |                              |                              |  |   |   |
| A Stronger, More Resilient NY                         | National Park Service & City of NYC  | Establish a center for resiliency and restoration efforts in the Jamaica Bay-Rockaway Parks   |  |                      |                          |         |                |                              |                              | Consortium to be lead by City University of NY (announced 8/12/2013). Initial resiliency symposium held 10/18/2013. Jamaica Bay - Rockaway Parks Conservancy established 8/12/2013 to be funded by public-private partnership. |   |   |
| Build It Back   | NYC Recovery   | Rebuild of homes significantly damaged in storm   |  |                      |                          | x       |                |                              | Social Services              | As of Monday, September 30th, more than 22,000 New Yorkers have registered for NYC Build it Back, including 9,400 registrants from Queens, nearly 7,000 from Brooklyn and 5,000 from Staten Island.                            |   |   |
| Greater Rockaways: 2020 Waterfront Vision Plan        | Rockaway Waterfront Alliance   | Improve Bike & Ped Network, Enhance Boardwalk, Concessions, Accessible waterfront   | x                                      |                      |                          |         |                | x                            | Transportation/ Public Realm | Published  |   |   |
| Hudson-Raritan Estuary Comprehensive Restoration Plan | United States Army Corps of Engineers  | The entire New York/New Jersey Harbor region is working towards common restoration goals to create habitat, improve water and sediment quality, and provide access and recreational benefits to the region. The sites below were examined in the study: |  |                      |                          |         |                |                              |                              | Ongoing  |   |   |
|   | United States Army Corps of Engineers/NY State Parks                         | SITE 148. Bayswater State Park  |  |                      |                          |         |                |                              | x                            | Ecological Restoration   | This site has been funded for restudy for resiliency by USACE as part of the Jamaica Bay Feasibility Study. |   |
|   | United States Army Corps of Engineers/NYC Department of Parks and Recreation | SITE 149. Dubos Point   |  |                      |                          |         |                |                              |                              | x  | Ecological Restoration  | This site has been funded for restudy for resiliency by USACE as part of the Jamaica Bay Feasibility Study. |
|   | United States Army Corps of Engineers  | SITE 162. Conch Basin (Little Bay)  |  |                      |                          |         |                |                              |                              | x  | Ecological Restoration  | Potential restoration site.   |
|   | United States Army Corps of Engineers/NYC                                    | SITE 165. Mott Basin  |  |                      |                          |         |                |                              |                              | x  | Ecological Restoration  | Potential restoration site.   |
|   | United States Army Corps of Engineers  | SITE 167 & 811. Somerville Basin  |  |                      |                          |         |                |                              |                              | x  | Ecological Restoration  | Potential restoration site.   |
|   | United States Army Corps of Engineers/NYC                                    | SITE 171/172. Vernam Barbadoes  |  |                      |                          |         |                |                              |                              | x  | Ecological Restoration  | Potential restoration site.   |



| Plan/Project Name  | Lead Organization(s)   | Initiative Description   | 6 Recovery Functions                   |                      |                          |         |                |                              | Sub-Category (if applicable) | Status (Pre-Planning, Planning, In Construction, Complete/In Operation) |
|--|--|--|--|----------------------|--------------------------|---------|----------------|------------------------------|------------------------------|---|
|  |  |  | Community Planning & Capacity Building | Economic Development | Health & Social Services | Housing | Infrastructure | Natural & Cultural Resources |                              |   |
|  | United States Army Corps of Engineers  | SITE 628. Rockaway Peninsula   |  |                      |                          |         |                | x                            | Ecological Restoration       | Potential restoration site.   |
|  | United States Army Corps of Engineers  | SITE 638. Silver Hole Marsh  |  |                      |                          |         |                | x                            | Ecological Restoration       | Potential restoration site.   |
|  | United States Army Corps of Engineers  | SITE 647. Rockaway Reef  |  |                      |                          |         |                | x                            | Ecological Restoration       | Potential restoration site.   |
|  | United States Army Corps of Engineers/National                                 | SITE 9. Seagirt Avenue Wetlands  |  |                      |                          |         |                | x                            | Ecological Restoration       | Potential restoration site.   |
| NYC Housing and Neighborhood Recovery Donors Collaborative Grantee | Supportive Housing Network of NY   | Research and report on best practices in disaster response plans to supportive housing providers and government partners; clarify government agency roles and protocols as they apply to supportive housing during disasters                               |  |                      |                          | x       |                |                              |                              | Ongoing   |
| NYC Housing and Neighborhood Recovery Donors Collaborative Grantee | NYC Energy Efficiency Corporation  | Incorporation of additional resiliency and energy saving analysis into Physical Needs Assessment (PNA), Develop a model for PNA reports that includes energy efficiency and resiliency   |  |                      |                          |         | x              |                              |                              | Ongoing   |
| NYC Housing and Neighborhood Recovery Donors Collaborative Grantee | Legal Services NYC   | Technical assistance to homeowners and training on insurance and mortgage issues   |  |                      |                          | x       |                |                              |                              | Ongoing   |
| NYC Housing and Neighborhood Recovery Donors Collaborative Grantee | Furman Center for Real Estate and Urban Policy                                 | Identify promising retrofit strategies for three common affordable, multi-family housing building types; Prepare and publicize three case studies and engineering analysis and a white paper on findings and recommendations to reduce regulatory barriers |  |                      |                          | x       |                |                              |                              | Ongoing   |
| NYC Housing and Neighborhood Recovery Donors Collaborative Grantee | Enterprise Community Partners  | Strengthen disaster preparedness capacity, physical resilience and climate adaptation capacity of multi-family affordable housing properties   | x                                      |                      |                          |         |                |                              |                              | Ongoing   |
| NYC Housing and Neighborhood Recovery Donors Collaborative Grantee | Center for NYC Neighborhoods and Local Initiatives Support Corporation         | Central coordination of grantees and other organizations providing direct assistance to Sandy-impacted homeowners, training resources, and information sharing among grantees, other community organizations providing similar services and City agencies. | x                                      |                      |                          |         |                |                              | Coordination                 | Ongoing   |
| NYC Housing and Neighborhood Recovery Donors Collaborative Grantee | Association for Neighborhood and Housing Development and NY Mortgage Coalition | Outreach to connect community based organizations with homeowners, community based organization capacity building & training, information dissemination  |  |                      |                          | x       |                |                              | Outreach                     | Ongoing   |



| Plan/Project Name   | Lead Organization(s)  | Initiative Description   | 6 Recovery Functions                   |                      |                          |         |                |                              | Sub-Category (if applicable) | Status (Pre-Planning, Planning, In Construction, Complete/In Operation)          |
|---|---|--|--|----------------------|--------------------------|---------|----------------|------------------------------|------------------------------|--|
|   |   |  | Community Planning & Capacity Building | Economic Development | Health & Social Services | Housing | Infrastructure | Natural & Cultural Resources |                              |  |
| NYC Housing and Neighborhood Recovery Donors Collaborative Grantee                                | Queens Public Library   | Develop community emergency resource guide and engage the community in disaster preparedness activities.   | x                                      |                      |                          |         |                |                              | Emergency Response           | Ongoing  |
| Getting Back to Business Addressing the Needs of Rockaway Businesses Impacted by Superstorm Sandy | American Planning Association - NY Metro Chapter; Rockaway Development & Revitalization Corporation | Provision of a staffed, mobile office to educate and provide technical assistance to businesses applying for grants, loans, and other resources and funding opportunities.   |  |                      |                          |         |                |                              | Retail                       | Ongoing  |
| Army Corps Reformulation Study  | United States Army Corps of Engineers   | Studying long-term approach to resiliency of Rockaway Peninsula  |  |                      |                          |         | x              |                              | Coastal Protection           | Ongoing, to be completed in 2015   |
| Gateway General Management Plan   | National Park Service & NYC Department of Parks and Recreation                                      | New management plan reflecting joint programming with city and integration into neighborhoods  |  |                      |                          |         |                | x                            |                              | Environmental Impact Statement currently open for public comment                 |
| Arverne East Redevelopment  | NYC Department of Housing Preservation and Development, L&M Development Partners                    | Development of Arverne East site   |  | x                    |                          | x       |                |                              |                              | For A Resilient Rockaway (FAR ROC) design competition winner selected 10/23/2013 |
| Rockaway Crossings Master Plan and Resiliency Needs   | Metropolitan Transit Authority/Triborough Bridge and Tunnel Authority                               | Engineering study of various long-term capital investment strategies for reconstructino & resiliency measures for Gil Hodges Memorial Bridge and Cross-Bay Veterans Memorial Bridge to guide future capital investment |  |                      |                          |         | x              |                              | Transportation               | Currently in procurement.  |



## VI. Preliminary Strategies and Projects

### Preliminary Strategies, Projects, and Actions

As outlined in the preceding sections, Rockaway East's major needs and goals include: **strengthening the edges, especially on the bay; expanding health and medical services; strengthening emergency preparedness; expanding transportation and accessibility; protecting of housing and vulnerable populations; increasing economic opportunities; and preserving recreational amenities.**

Based on the above, the community has started to discuss strategies and potential initiatives to meet their short- and long-term goals and overall vision for Rockaway East. This section highlights and organizes these preliminary strategies and initiatives in order to share the ideas generated thus

far from the process and meetings. This is not a set of formal proposals, nor is the table ordered in any particular hierarchy.

Over the next two months, the NY Rising Community Reconstruction Program planning process will more fully explore strategies and potential projects, evaluate their financial and regulatory feasibility, and prioritize a final list of projects to propose for funding. As such, the contents in the section will evolve and will be further refined as work continues with the Rockaway East community. It is also important to note that the initial list of initiatives is intended to be comprehensive, and is not limited to those which could necessarily be funded through NYRCCR funding.



**EXPAND HEALTH AND SOCIAL SERVICES**

**EMERGENCY PREPAREDNESS**

| Strategy  | Short-Term Goal  | Long-Term Goal  | Initiatives  |
|---|--|---|--|
| <p>Expand health and social services in Rockaway East, especially during and after emergencies</p>    | <p>Improve quality and type of services within existing healthcare centers</p> | <p>Become a health services hub for Southern Queens and Long Island</p> | <ul style="list-style-type: none"> <li>• Install emergency medical equipment in schools and other community centers</li> <li>• Create plan to build capacity and ensure continuity of service in all schools</li> <li>• Bolster all emergency service providers (e.g. police, fire, hospital) to ensure readiness in a large weather-related event</li> <li>• Evaluate and pursue opportunities to create and expand health services in Rockaway East, especially emergency walk-in centers</li> <li>• Evaluate risks to vulnerable populations in the V-Zone and determine new guidelines on future construction in high-risk areas</li> </ul>  |
| <p>Strengthen Rockaway East's ability to contend with and recover from large-scale weather events</p> | <p>Strengthen emergency preparedness</p>                                       | <p>Enable self-sufficiency in and after emergencies</p>                 | <ul style="list-style-type: none"> <li>• Identify and bolster key locations (e.g. private schools, open spaces) across the community to serve as safe, emergency/evacuation centers and potential temporary sites for pop-up centers; determine needs, locations and resources required (e.g. food, medical, sleeping supplies, etc.) and create emergency management plans</li> <li>• Pursue requirements for multi-family building owners to create, communicate, and ensure adherence to evacuation and emergency planning and recovery, including identifying and assisting seniors, ensuring back-up electricity systems, etc.</li> <li>• Pursue a strategy to create similar emergency plans for single-family homes neighborhoods, especially for vulnerable community residents</li> </ul> |



**EXPAND  
TRANSPORTATION**

**ENSURE  
ECONOMIC SUSTAINABILITY**

| Strategy   | Short-Term Goal   | Long-Term Goal   | Initiatives   |
|--|---|--|---|
| <p>Improve and expand transportation networks for the communities across Rockaway East to ensure ongoing connectivity and multiple access redundancy</p> | <p>Improve and extend transit service and access to existing infrastructure</p> | <p>Improve transportation infrastructure and connectivity of Rockaway East</p> | <ul style="list-style-type: none"> <li>• Ensure roadways and trains are strengthened to withstand extreme weather events</li> <li>• Evaluate opportunities to expand transportation network for the community (e.g. Long Island Railroad extension, Bus Rapid Transit, other ferry opportunities, etc.)</li> <li>• Consider project to raise roadways, especially along the perimeter of the peninsula</li> </ul>   |
| <p>Strengthen commercial corridors to protect and sustain economic health during and after storms and to maintain overall vibrancy of the community</p>  | <p>Support rebuilding and strengthening retailers in commercial corridors</p>   | <p>Expand overall retail offerings and become a regional destination</p>       | <ul style="list-style-type: none"> <li>• Consider regulations to require basic emergency preparedness and recovery standards for businesses, especially critical services like food, water, banks, and gas (e.g. require back-up generators, emergency supplies, etc.)</li> <li>• Evaluate scope of the City’s business recovery plans, determine gaps, and create a proposal to address other needs to rebuild or protect retail corridors</li> <li>• Expand low-cost loan programs to help make businesses more resilient</li> <li>• Pursue business incentive programs to draw more businesses to Rockaway East</li> </ul> |



**MAINTAIN CONNECTION  
TO THE WATER**

| Strategy  | Short-Term Goal   | Long-Term Goal   | Initiatives   |
|---|---|--|---|
| <p>Expand the access and opportunities presented by the water, the nucleus of the Rockaway communities</p>    | <p>Identify short-term projects to improve the boardwalk and expand beach-front and bay side activity</p> | <p>Maximize waterfront use and access along the bay and the beach</p>                          | <ul style="list-style-type: none"> <li>• Create plan to expand recreation, public spaces, and other opportunities that complement the new plans for the boardwalk</li> <li>• Pursue strategies to utilize the bay for recreation (e.g. private boating or commercial outfits, kayaking, windsurfing, sailing, etc.)</li> <li>• Create and implement a comprehensive plan to maximize community engagement with both the ocean and the bay, which aligns with resiliency protection but enables full access, recreation, and economic development along the water</li> </ul> |
| <p>Minimize entry of rising water into Rockaway East Communities by strengthening the ocean and bay edges</p> | <p>Address any immediate flood risks with respect to both the ocean and bay edges</p>                     | <p>Create hard and soft edges to maximally protect all of the communities in Rockaway East</p> | <ul style="list-style-type: none"> <li>• Identify vulnerabilities on the bay side and determine short-term remediation where feasible</li> <li>• Determine any gaps in current beachfront plans and determine short- and long-term projects to address</li> <li>• Evaluate opportunities to protect the vulnerable 'edges' along the parks</li> <li>• Implement green infrastructure projects (e.g., assist with stormwater runoff and sewer overflows), as part of edge remediation projects</li> </ul>  |

**STRENGTHEN  
THE EDGE**



## Next Steps and Implementation Planning

### Next Steps

The next steps in this planning process will be to develop a more comprehensive list of strategies and potential projects and actions. The Planning Committee and public will then, using the technical expertise of their consulting team, begin to evaluate and prioritize projects and actions. This will depend on consideration of the risk assessment, the combined benefits of a project or action, cost and availability of resources, value to the community, timing in coordination with other construction or capital improvements, and availability of funding. Next steps include:

**Identification of strategies** by November 30, 2013:

- Identify comprehensive list of potential strategies to achieve rebuilding, resiliency, and economic growth
- Conducted through Planning Committee, public meetings, and online outreach

**Identification of projects and actions** by January 2014:

- Conducted through Planning Committee, public meetings, and online outreach

**Alternatives evaluation and prioritized list** by March 31, 2014:

- Assess feasibility, cost, risk reduction, co-benefits, funding availability, and degree of public support, and conduct cost-benefit analysis

### Implementation Planning

**After defining priority projects and actions, the Committee will utilize the expertise of its planning team to identify a path towards implementation.**

The goal for the implementation plan will be to achieve actionable results for the community which focuses on four core components: **regulation, funding, complementary programs, and building capacity to implement.**

The plan will identify:

- Assessment of risks to key assets and systems
- Projects and actions to restore and increase the resiliency of key assets.
- Protection of vulnerable populations
- Projects with economic growth co-benefits
- Regional coordination
- Order-of-magnitude project costs associated with implementing an infrastructure resiliency project
- Potential funding sources for projects

- Detailed work plan outlining activities to implement proposed actions including regulatory actions and program development as well as infrastructure investment
- Responsible parties for each of the activities to be conducted in accordance with the recommended project
- Target goals, timelines and project budget for each responsible party
- Process for amending the work plan should timeline lapse or costs exceed projected budgets

To accomplish certain infrastructure resiliency projects, regulatory and legislative changes may be required. In these instances, the plan will include a process for which these changes can be achieved. Regulatory and legislative changes could include changes to current zoning and/or permitted uses in a specific area. The implementation plan will identify the regulatory and legislative entities that will be engaged to initiate the changes as well as the community representative who will champion and push for the appropriate regulatory or legislative change.

The implementation plan will consider Rockaway East's resources and identify if implementation can be achieved with existing resources or if additional staff will be required, and if so, the mechanisms for securing and managing the additional resources.



# Appendix: Complete Asset Inventory

The following table contains the complete list of assets for Rockaway East, with additions from the Planning Committee and public.

## Health and Social Services Assets:

| Asset Name   | Asset Subcategory                    | Address                   |
|--|--------------------------------------|---------------------------|
| 1ST BAPTIST CHURCH                                   | Cultural or Religious Establishments | 15-10 REDFERN AVENUE      |
| ACHIEZER COMMUNITY RESOURCE CENTER                   | Non-Profits                          | 144 BEACH 9 STREET        |
| AGUDATH ISRAEL OF LONG ISLAND                        | Cultural or Religious Establishments | 11-21 SAGE STREET         |
| AGUDATH ISRAEL OF WEST LAWRENCE                      | Cultural or Religious Establishments | 6-31 LANETT AVENUE        |
| ARVERNE CHURCH OF GOD                                | Cultural or Religious Establishments | 13-16 CENTRAL AVENUE      |
| ARVERNE LIBRARY                                      | Libraries                            | 320 BEACH 54 STREET       |
| BAIS MEDRASH EYUN TFI                                | Cultural or Religious Establishments | 24-22 BAYSWATER AVENUE    |
| BAIS YAAKOV ATERES MIRIAM                            | Schools                              | 12-14 HEYSON ROAD         |
| BAYSWATER JEWISH CENTER                              | Cultural or Religious Establishments | 10-87 DICKENS STREET      |
| BEIS MEDRASH ATERES YISROEL                          | Cultural or Religious Establishments | 8-27 CORNAGA AVENUE       |
| BETH ABRAHAM HEALTH SERVICES                         | Healthcare Facilities                | 18-21 CORNAGA AVENUE      |
| BETHEL METHODIST CHURCH                              | Cultural or Religious Establishments | 15-04 BEACH 11 STREET     |
| BETHEL TEMPLE CHURCH                                 | Cultural or Religious Establishments | 11-03 FOAM PLACE          |
| BEZALEL REHABILITATION AND NURSING CENTER            | Daycare and Eldercare                | 29-38 FAR ROCKAWAY BLVD   |
| BISHOP CHARLES WALDO MACLEAN EPISCOPAL NURSING HOME  | Daycare and Eldercare                | 17-11 BROOKHAVEN AVENUE   |
| BLANCHE COMMUNITY DAY CARE 2                         | Schools                              | BEACH 44 STREET           |
| BNOS BAIS YAAKOV                                     | Schools                              | FRISCO AVENUE             |
| BNOS BAIS YAAKOV OF FAR ROCKAWAY                     | Healthcare Facilities                | 621 BEACH 9 STREET        |
| BROOKHAVEN REHABILITATION AND HEALTH CARE CENTER     | Daycare and Eldercare                | 250 BEACH 17 STREET       |
| CATHOLIC CHARITIES COUNSELING                        | Cultural or Religious Establishments | 13-29 Beach Channel Drive |
| CHALLENGE PREPARATORY CHARTER SCHOOL                 | Schools                              | 25-40 BEACH CHANNEL DRIVE |
| CHURCH OF GOD  | Cultural or Religious Establishments | 14-25 BEACH CHANNEL DRIVE |
| CHURCH OF GOD CHRISTIAN ACADEMY                      | Cultural or Religious Establishments | 13-28 CENTRAL AVENUE      |
| COMMUNITY CHURCH-THE NAZARENE                        | Cultural or Religious Establishments | 14-14 CENTRAL AVENUE      |
| COMMUNITY LIFE MINISTRY                              | Cultural or Religious Establishments | 514 BEACH 69 STREET       |
| COMMUNITY MENTAL HEALTH CENTER                       | Healthcare Facilities                | 5-19 BEACH 20 STREET      |
| COMMUNITY PARENTS HEAD START                         | Healthcare Facilities                | 41-05 BEACH CHANNEL DRIVE |
| CONGREGATION BETH ISRAEL                             | Cultural or Religious Establishments | 10-29 BAY 32 STREET       |
| CONGREGATION CHAIM SHLOMO                            | Schools                              | 17-42 SEAGIRT BOULEVARD   |
| CONGREGATION DARCHEI                                 | Cultural or Religious Establishments | 17-29 PLAINVIEW AVENUE    |
| CONGREGATION KNESETH ISREAL                          | Cultural or Religious Establishments | 7-28 EMPIRE AVENUE        |
| CONGREGATION SHAARE                                  | Cultural or Religious Establishments | 315 BEACH 30 STREET       |
| CONGREGATION UTA OF BAYSWATER                        | Schools                              | 29-20 HEALY AVENUE        |
| DAYTOP VILLAGE                                       | Healthcare Facilities                | 3-16 BEACH 65 STREET      |
| EGLISE BAPTISTE D'EXPRESSION                         | Cultural or Religious Establishments | 7-04 BEACH 20 STREET      |
| FAR ROCKAWAY CATHEDRAL                               | Cultural or Religious Establishments | 12-52 BRUNSWICK AVENUE    |
| FAR ROCKAWAY CHURCH                                  | Cultural or Religious Establishments | 21-25 NAMEOKE AVENUE      |
| FAR ROCKAWAY HIGH SCHOOL                             | Schools                              | 8-21 BAY 25 STREET        |
| FAR ROCKAWAY LIBRARY                                 | Libraries                            | 16-15 CENTRAL AVENUE      |
| FAR ROCKAWAY NURSING HOME                            | Daycare and Eldercare                | 13-11 VIRGINIA STREET     |
| FAR ROCKAWAY SPANISH                                 | Cultural or Religious Establishments | 23-60 BROOKHAVEN AVENUE   |
| FAR ROCKAWAY SPANISH SDA CHURCH                      | Cultural or Religious Establishments | 18-30 CORNAGA AVENUE      |
| FDNY ENG 265TH, LAD 121ST, BN 47TH, EMS STATION 47TH | Emergency Operations / Response      | 3-02 BEACH 49 STREET      |
| FIRST BAPTIST CHURCH                                 | Cultural or Religious Establishments | 20-50 NAMEOKE AVENUE      |
| FIRST PRESBYTERIAN CHURCH                            | Cultural or Religious Establishments | 896 CENTRAL AVENUE        |
| FULL GOSPEL TABERNACLE                               | Cultural or Religious Establishments | 358 BEACH 43 STREET       |
| GLORY LIGHT TABERNACLE INTERNATIONAL MINISTRY        | Community Centers                    | 14-10 BEACH CHANNEL DRIVE |
| GOD'S BATTALION OF PRAYER MINISTRIES                 | Cultural or Religious Establishments | 450 BEACH 67 STREET       |
| GOD'S PENTECOSTAL CHURCH SCHOOL                      | Schools                              | 18-36 CORNAGA AVENUE      |
| GOLDIE MAPLE ACADEMY                                 | Schools                              | 3-65 BEACH 56 STREET      |
| GOSPEL TABERNACLE CHURCH OF JESUS CHRIST             | Cultural or Religious Establishments | 411 BEACH 30 STREET       |
| HAITIAN BAPTIST CHURCH                               | Cultural or Religious Establishments | 11-21 BAYPORT PLACE       |
| HATZOLAH VOLUNTEER AMBULANCE                         | Emergency Operations / Response      | 621 BEACH 9 STREET        |
| HAVEN MANOR HEALTH CARE CENTER                       | Daycare and Eldercare                | 14-41 GATEWAY BOULEVARD   |
| HIGHWAY CHURCH OF GOD                                | Cultural or Religious Establishments | 519 BEACH 45 STREET       |
| HORIZON CARE CENTER                                  | Daycare and Eldercare                | 64-11 BEACH CHANNEL DRIVE |
| IGLESIA PENTACOSTAL                                  | Cultural or Religious Establishments | 19-33 CORNAGA AVENUE      |
| IGLESIA PENTECOSTAL                                  | Cultural or Religious Establishments | 13-61 BEACH CHANNEL DRIVE |
| JEWISH COMMUNITY COUNCIL OF THE ROCKAWAY PENINSULA   | Employment Hub                       | 15-25 CENTRAL AVENUE      |
| JOSEPH P ADDABBO FAMILY HEALTH CENTER                | Healthcare Facilities                | 12-84 CENTRAL AVENUE      |
| JOSEPH P ADDABBO FAMILY HEALTH CENTER                | Healthcare Facilities                | 62-00 BEACH CHANNEL DRIVE |
| KERYATH SHMIEL CONGREGATION                          | Cultural or Religious Establishments | 6-12 BEACH 9 STREET       |



NY Rising Community Reconstruction Program

| Asset Name  | Asset Subcategory                    | Address                   |
|---|--------------------------------------|---------------------------|
| KING, STERLING  | Cultural or Religious Establishments | 444 BEACH 44 STREET       |
| LAWRENCE FAR ROCKAWAY                                 | Cultural or Religious Establishments | 12-04 BEACH 12 STREET     |
| LAWRENCE NURSING CARE CENTER, INC                     | Daycare and Eldercare                | 3-57 BEACH 53 STREET      |
| LONG ISLAND HEBREW LIVING CENTER                      | Daycare and Eldercare                | 4-31 BEACH 20 STREET      |
| MACEDONIA BAPTIST CHURCH                              | Cultural or Religious Establishments | 330 BEACH 67 STREET       |
| MESSIANIC CONGREGATION                                | Cultural or Religious Establishments | 612 BEACH 22 STREET       |
| MISS D'S PLAYGROUP DAY CARE                           | Schools                              | 15-26 CENTRAL AVENUE      |
| MS 53 BRIAN PICCOLO                                   | Schools                              | 10-45 NAMEOKE STREET      |
| MT CARMEL BAPTIST CHURCH                              | Cultural or Religious Establishments | 348 BEACH 71 STREET       |
| NEW BEGINNING CHURCH                                  | Cultural or Religious Establishments | 38-16 ROCKAWAY BEACH BLVD |
| NEW HAVEN MANOR CLINIC                                | Daycare and Eldercare                | 15-26 NEW HAVEN AVENUE    |
| NEW SURFSIDE NURSING HOME                             | Daycare and Eldercare                | 22-41 NEW HAVEN AVENUE    |
| NORTHEASTERN CONFERENCE                               | Cultural or Religious Establishments | 52-05 ROCKAWAY BEACH BLVD |
| NY NY CONGREGATION OF JEHOVAH WITNESS                 | Cultural or Religious Establishments | 6-16 BEACH 68 STREET      |
| NYPD 101ST PRECINCT                                   | Emergency Operations / Response      | 16-12 MOTT AVENUE         |
| OCEANVIEW NURSING AND REHABILITATION CENTER           | Daycare and Eldercare                | 3-15 BEACH 9 STREET       |
| ON OUR WAY LEARNING CENTER                            | Schools                              | 264 BEACH 19 STREET       |
| PENINSULA CENTER FOR EXTENDED CARE AND REHABILITATION | Primary / Regional Hospitals         | 51-15 BEACH CHANNEL DRIVE |
| PENINSULA HOSPITAL CENTER                             | Primary / Regional Hospitals         | 51-15 ROCKAWAY BEACH BLVD |
| PENINSULA PREPARATORY ACADEMY CHARTER SCHOOL          | Schools                              | 611 BEACH 19 STREET       |
| PENTECOSTAL CHRISTIAN CHURCH                          | Cultural or Religious Establishments | 18-35 MOTT AVENUE         |
| PRIME HEALTH SERVICES                                 | Daycare and Eldercare                | 1149 CENTRAL AVENUE       |
| PS 104 THE BAYS WATER                                 | Schools                              | 25 BEACH 28 STREET        |
| PS 105 BAY SCHOOL                                     | Schools                              | 420 BEACH 51 STREET       |
| PS 106  | Schools                              | 1-80 BEACH 35 STREET      |
| PS 197 OCEAN SCHOOL                                   | Schools                              | 8-15 LANETT AVENUE        |
| PS 215 LUCRETIA MOTT                                  | Schools                              | 535 GRASSMERE TERRACE     |
| PS 253  | Schools                              | 13-07 CENTRAL AVENUE      |
| PS 43   | Schools                              | 112 BEACH 29 STREET       |
| PS 43 EARLY CHILDHOOD CENTER                          | Schools                              | 6 MARVIN STREET           |
| PS/MS 42 R VERNAM                                     | Schools                              | 460 BEACH 66 STREET       |

| Asset Name   | Asset Subcategory                      | Address                 |
|--|--|-------------------------|
| QUEENS NASSAU REHABILITATION AND NURSING CENTER (21) | Daycare and Eldercare                  | 520 BEACH 19 STREET     |
| RALPH HIRSCHKORN CHILD CARE CENTER                   | Healthcare Facilities                  | 310 PLAINVIEW AVENUE    |
| REFUGE CHURCH OF CHRIST                              | Cultural or Religious Establishments   | 18-37 MOTT AVENUE       |
| RESORT NURSING HOME                                  | Daycare and Eldercare                  | 4-30 BEACH 68 STREET    |
| ROCKAWAY ANIMAL HOSPITAL                             | Healthcare Facilities                  | 18-33 CORNAGA AVENUE    |
| ROCKAWAY CARE CENTER                                 | Daycare and Eldercare                  | 3-53 BEACH 49 STREET    |
| ROCKAWAY MANOR                                       | Daycare and Eldercare                  | 145 BEACH 8 STREET      |
| ROCKAWAY MEDICAL OFFICE                              | Healthcare Facilities                  | 29-15 FAR ROCKAWAY BLVD |
| SANITATION   | Public Works Facilities                | 20-06 NAMEOKE AVENUE    |
| SEAVIEW MANOR  | Daycare and Eldercare                  | 210 BEACH 47 STREET     |
| SHELDON R. WEAVER DAY CARE CENTER                    | Schools                                | 12-79 REDFERN AVENUE    |
| SIACH YITZCHOK                                       | Cultural or Religious Establishments   | 15-13 CENTRAL AVENUE    |
| ST GERTRUDES AUDITORIUM                              | Community Centers                      | 307 BEACH 37 STREET     |
| ST GERTRUDES ROMAN CATHOLIC CHURCH                   | Cultural or Religious Establishments   | 336 BEACH 38 STREET     |
| ST JOHNS EPISCOPAL HOSPITAL                          | Primary / Regional Hospitals           | 19-04 PLAINVIEW AVENUE  |
| ST MARY STAR OF SEA CHURCH                           | Cultural or Religious Establishments   | 19-20 NEW HAVEN AVENUE  |
| TEMPLE CHURCH  | Cultural or Religious Establishments   | 18-01 REDFERN AVENUE    |
| THE PRAYER CENTER OF DELIVERANCE FOR ALL NATIONS     | Cultural or Religious Establishments   | 16-18 CENTRAL AVENUE    |
| TORAH ACADEMY FOR GIRLS ELEMENTARY                   | Schools                                | 444 BEACH 6 STREET      |
| TORAH ACADEMY FOR GIRLS HIGH SCHOOL                  | Schools                                | 610 LANETT AVENUE       |
| UNITED STATES POST OFFICE ARVERNE                    | Government and Administrative Services | 329 BEACH 59 STREET     |
| UNITED STATES POST OFFICE FAR ROCKAWAY               | Government and Administrative Services | 18-02 MOTT AVENUE       |
| WAVECREST HOME FOR ADULTS                            | Daycare and Eldercare                  | 2-42 BEACH 20 STREET    |
| WEST LAWRENCE CARE CENTER                            | Daycare and Eldercare                  | 14-10 SEAGIRT BOULEVARD |
| WORLD HARVEST DELIVERY                               | Cultural or Religious Establishments   | 15-21 CENTRAL AVENUE    |
| YESHIVA B'NEI TORAH                                  | Schools                                | 7-37 ELVIRA AVENUE      |
| YESHIVA DARCHI TORAH                                 | Schools                                | 271 BEACH 17 STREET     |
| YESHIVA FAR ROCKAWAY                                 | Schools                                | 8-01 FRISCO AVENUE      |
| YMCA (FUTURE)  | Community Centers                      |                         |
| YOUNG ISRAEL FAR ROCK                                | Cultural or Religious Establishments   | 7-16 BEACH 9 STREET     |
| YOUNG ISRAEL OF WAVECREST AND BAYSWATER              | Cultural or Religious Establishments   | 27-16 HEALY AVENUE      |



| Housing Assets:                  |                        |                         |
|----------------------------------|------------------------|-------------------------|
| Asset Name                       | Asset Subcategory      | Address                 |
| C VULNERABLE AND SENIORS HOUSING | Supportive Housing     |                         |
| C ALL PUBLIC/REGULATION HOUSING  | Affordable Housing     |                         |
| C 711 Housing                    | Multi-Family Residence | 7-11 SEAGIRT AVENUE     |
| C OHEL CHILDREN'S HOME           | Supportive Housing     | 12-17 GATEWAY BOULEVARD |
| C SESSA APARTMENTS               | Multi-Family Residence | 407 BEACH 45 STREET     |

| Natural and Cultural Assets:     |                      |                         |
|----------------------------------|----------------------|-------------------------|
| Asset Name                       | Asset Subcategory    | Address                 |
| E ALMEDA PLAYGROUND              | Parks and Recreation | BEACH 66 STREET         |
| E ARVERNE BY THE SEA             | Parks and Recreation | 144 BEACH 66 STREET     |
| E BAYSWATER PARK                 | Parks and Recreation | BEACH 38 STREET         |
| E BAYSWATER POINT STATE PARK     | Parks and Recreation | EDGEWATER ROAD          |
| E BEACH 30TH STREET PLAYGROUND   | Parks and Recreation | 102 BEACH 32 STREET     |
| E BRANT POINT WILDLIFE SANCTUARY | Parks and Recreation | DE COSTA AVENUE         |
| E CARDOZO PLAYGROUND             | Parks and Recreation | 56-02 ARVERNE BOULEVARD |
| E CORNELL BURIAL GROUND          | Parks and Recreation | CAFFREY AVENUE          |
| E DUBOS POINT WILDLIFE SANCTUARY | Parks and Recreation | BEACH 63 STREET         |
| E EDGEMERE URBAN RENEWAL PARK    | Parks and Recreation | BEACH 45 STREET         |
| E GREENPORT LAND ACQUISITION     | Parks and Recreation | GATEWAY BOULEVARD       |
| E JAMAICA BAY PARK               | Parks and Recreation | NORTON AVENUE           |
| E LANNET PLAYGROUND              | Parks and Recreation | 8-15 LANETT AVENUE      |
| E O'DONOHUE PARK                 | Parks and Recreation | 9-01 SEAGIRT BOULEVARD  |
| E REDFERN HOUSES PLAYGROUND      | Parks and Recreation | 15-01 REDFERN AVENUE    |
| E ROCKAWAY BEACH AND BOARDWALK   | Parks and Recreation | SEAGIRT BOULEVARD       |
| E ROCKAWAY COMMUNITY PARK        | Parks and Recreation | ELIZABETH AVENUE        |
| E ROCKAWAY FREEWAY               | Parks and Recreation | BEACH 68 STREET         |
| E SEAGIRT AVENUE WETLANDS        | Parks and Recreation | SEAGIRT AVENUE          |
| E SKATEPARK                      | Parks and Recreation |                         |
| E THURSBY BASIN PARK             | Parks and Recreation | 62-02 BEACH 63 STREET   |
| E UNAMED PARK                    | Parks and Recreation | BEACH 27 STREET         |

| Infrastructure Systems Assets:       |                    |                           |
|--------------------------------------|--------------------|---------------------------|
| Asset Name                           | Asset Subcategory  | Address                   |
| D A TRAIN SUBWAY                     | Transportation     | ROCKAWAY BEACH BLVD       |
| D BEACH 25 STREET MTA SUBWAY STATION | Transportation     |                           |
| D BEACH 36 STREET MTA SUBWAY STATION | Transportation     |                           |
| D BEACH 44 STREET MTA SUBWAY STATION | Transportation     |                           |
| D BEACH 60 STREET MTA SUBWAY STATION | Transportation     |                           |
| D BEACH 67 STREET MTA SUBWAY STATION | Transportation     |                           |
| D BULKHEAD                           | Stormwater         | BAYFIELD AVENUE           |
| D GAS STATION                        | Liquid Fuels       | 13-46 BEACH CHANNEL DRIVE |
| D GAS STATION                        | Liquid Fuels       | 38-01 BEACH CHANNEL DRIVE |
| D GAS STATION                        | Liquid Fuels       | 59-14 BEACH CHANNEL DRIVE |
| D LIPA                               | Power Supply       | MOTT AVENUE               |
| D LIPA                               | Power Supply       | ROCKAWAY BEACH BLVD       |
| D LIRR SUBSTATION                    | Transportation     | BEACH 12 STREET           |
| D LONG ISLAND LIGHT CO               | Power Supply       | FAR ROCKAWAY BLVD         |
| D MOTT AVENUE MTA SUBWAY STATION     | Transportation     |                           |
| D MTA NYC TRANSIT                    | Transportation     | FAR ROCKAWAY BLVD         |
| D MTA NYC TRANSIT                    | Transportation     | BEACH 42 STREET           |
| D MTA/LIRR                           | Transportation     | BEACH 12 STREET           |
| D VERIZON                            | Telecommunications | 15-02 FAR ROCKAWAY BLVD   |

| Economic Assets:                                     |                              |                           |
|--|------------------------------|---------------------------|
| Asset Name   | Asset Subcategory            | Address                   |
| A BEACH CHANNEL DRIVE RETAIL CORRIDOR                | Downtown Center              |                           |
| A KEY FOODS  | Small Business               | 2020 NEW HAVEN AVENUE     |
| A MOTT AVE RETAIL CORRIDOR                           | Downtown Center              |                           |
| A STOP AND SHOP / ABTS RETAIL PLAZA                  | Small Business               | 70-20 ROCKAWAY BEACH BLVD |
| A ROCKAWAY DEVELOPMENT AND REDEVELOPMENT CORPORATION | Banks and financial Services | 19-20 MOTT AVENUE         |



Housing, one of the community's most important assets

