Agenda

1. Program update  7:00 – 7:05
2. Project prioritization  7:05 – 8:25
3. Next steps  8:25 – 8:30
Committee Meeting 7: Project refinement

Objectives:

• Finalize categorization of priority/featured/other projects for NY Rising
# NY Rising Community Reconstruction Program Schedule

<table>
<thead>
<tr>
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<tbody>
<tr>
<td>Preliminary Project Reporting</td>
<td></td>
<td></td>
<td>Dec. 31</td>
<td></td>
<td></td>
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<tr>
<td>Confirm Priority Projects</td>
<td></td>
<td>6</td>
<td>7</td>
<td>Jan. 31</td>
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<tr>
<td>Project Analysis &amp; Final Priority Project Selection</td>
<td></td>
<td>8</td>
<td>3</td>
<td>9</td>
<td>Mid-March</td>
<td></td>
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<tr>
<td>Final Community Reconstruction Plan</td>
<td></td>
<td></td>
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<td>10</td>
<td>Mar. 31</td>
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<tr>
<td>Final Conference &amp; Public Meeting</td>
<td></td>
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<td>4 By May 12</td>
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By end of January
Finalize “Priority CDBG-DR Projects” and “Featured Projects” for Breezy Point

Total list of projects add up to more than $19.5 million
- In February consultants will analyze and cost projects, NYRCR program determines CDBG-DR eligibility of projects
- Committee will continue to coordinate mid-March which project(s) to submit for NY Rising funding

Initiatives not on the CDBG-DR Priority Project or Featured Project list can still be included in the Final Community Reconstruction Plan
- Additional projects, recommendations, or actions
- Suggested regulatory reforms
Public Meeting #3 Approach

Goal of Public Meeting #3:
  - Solicit community feedback on proposed priority and featured projects

Need to Confirm:
  - Approach
  - Location options
  - Date options
Regional Update

Jamaica Bay Working Group Update

- First meeting occurred on Jan 14th
- Agreed on shared regional chapter in the final Reconstruction plans, with common positions on:
  - Bay protection measures
  - Gray and green infrastructure
  - Advocate for a surge barrier
  - Coordinate evacuation routes
Tonight’s Exercise: Project Categorization

<table>
<thead>
<tr>
<th>Project Type</th>
<th>Types of Projects</th>
</tr>
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</table>
| **Priority** | • Projects that can be implemented in the near-term with funding from CDBG-DR and other identified sources  
• Strong preference for capital projects |
| **Featured** | • Can include CDBG-DR funding or funding from other sources  
• Planning studies or design work for specific resiliency capital projects (e.g., planning and design of flood gate) |
| **Other**    | • All other projects and recommendations |
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Coastal Protection

Priority/Feature
1) Comprehensive Coastal Protection
   - Roxbury Wall & Dune Bayside Protection
   - Roxbury Groin Repair
   - Breezy Point Bay Wall (3 key areas/potential projects)
   - Elevated Beach Walkways
   - Double Dune
   - Eastern Edge flood wall and deployable gates
   - Western edge flood wall and deployable gates
2) Raise Rockaway Pt. Blvd

Other Projects and Recommendations
1) Construct bay surge barrier that does not endanger Breezy Point
2) NPS Edge protection solutions

Precedent: Ocean City, NJ
Precedent: Atlantic City, NJ
Precedent: Bradley Beach, NJ
Priority Projects and Protection: Breezy Point
Priority Projects and Protection: Roxbury

Roxbury
Proposed Priority Projects
- Baywall
- Dune
- Groins

# Elevation of intervention (NAVD88)
# Height of intervention above existing grade (ft)

Protected up to 6’-7’ of surge
## Coastal Protection Comparison

<table>
<thead>
<tr>
<th>Strategy</th>
<th>Measures</th>
<th>Wall Height</th>
<th>Protects against</th>
</tr>
</thead>
<tbody>
<tr>
<td>Comprehensive solution</td>
<td>Combination of baywalls, dunes, berms, floodwalls around entire coop</td>
<td>8.5’ – 9.5’</td>
<td>11’ surge Light wave action</td>
</tr>
<tr>
<td>Priority projects: Breezy Point baywall</td>
<td>Baywall + armored dune on bay side only</td>
<td>4’</td>
<td>5’-6’ surge Light wave action</td>
</tr>
<tr>
<td>Priority projects: Roxbury</td>
<td>Baywall + dune on bay side only</td>
<td>4’</td>
<td>6’-7’ surge</td>
</tr>
</tbody>
</table>
Coastal Protection

- What are your “priority” priority projects?
- Confirm **height** of lower walls that do not protect against 100 year flood (8.5 ft vs. 4 ft)
- Should a lower wall be designed with future needs in mind?
- Number and location of bay and ocean access points –
  - What are critical locations?
  - Are there any that can be consolidated/eliminated?
Water Management

Priority/Featured Projects

1) Storm drain w/pumping system, permeable pavers, and raised ballfields
2) Pumping system in SE Breezy residential area
3) Storm drain w/pumping system, permeable pavers in Roxbury
Water Management

Questions for Committee

- Which areas are priority?
- Would you rather complete an entire project or pieces of all?
- Would you want options for adding back-up power?
Emergency Relief and Preparedness

Priority/Featured Projects
1) Build recovery center on second floor of commercial area
2) Upgrade alarm and communication system
3) Dedicated/upgraded hydrant lines or other improved source of water for fire fighting

Other Projects and Recommendations
1) Preparedness training
2) Bolster Volunteer Fire Departments
Upgrading Alarm and Communications System

- Alarm system currently dependent on power, needs some sort of resilient element
- Alarm activation could be transferred from gate to barracks, with remote activation options
- Back-up communication potential can include bulletin boards for communication throughout community or radio system established
Dedicated/Upgraded Hydrant Lines

Options:
1) Drafting
2) Dedicated Breezy line

- Drafting mechanism which draws water from natural water source to fight fires, common upstate
  - Downsides
    - Vulnerable to being damaged by debris
    - Can cause electrical fires when salt water comes in contact with a live electrical connection

- Dedicated hydrant line through the middle of Breezy, north side and south side
Emergency Relief and Preparedness

Questions for Committee
Is this the right area? What complementary projects could be bundled with these ideas?
Transportation

Priority/Featured Projects
1) Repair and upgrade docking facilities

Other Projects and Recommendations
1) Add Rockaway ferry stop to Riis Park
2) Create secondary means of access to Breezy Point via NPS property
Transportation

- What is the purpose of the rebuilt docks? Emergency evacuation?
## Power Infrastructure

### Priority/Featured Projects
1) Integrate alternative energy sources into infrastructure projects

### Other Projects and Recommendations
1) Development of long-term alternative energy source strategy
Solar

**Components**
- Panel for generation
- Battery for storage and smoothing fluctuation
- Connection to grid
- Smart inverters
- Meter
- Fossil generator for hybrid systems

**Alternatives**
- Arrays for large roofs, parking areas, etc
- Storage mechanisms
- Hybrid systems
- Deployable / mobile charging stations

**Pros**
- Resilient: can function when grid goes out
- Retains benefit of using grid power during normal operations
- Can reduce electricity costs
- Low maintenance
- Both benefits and negatives to the grid

**Cons**
- High up-front costs
- Intermittent
- Expensive energy storage (batteries)
- Space requirements and FDNY restrictions
Solar: Opportunities & Considerations

Siting Considerations
- South-facing or flat roofs
- Little shading

Ideal Locations
- Flat or south-facing roofs
- Parking lots
- Warehouse roofs
- Telephone poles

Potential Siting Locations
- Individual Solar Opportunities
- Solar Array Opportunities
Solar: In an Emergency

4 Options
- Single outlet: Daylight emergency power
- Full output: Daylight emergency power
- Backup battery: fully off-grid emergency power
- Hybrid solar and fossil fueled generator with a battery system: fully off-grid emergency power

Emergency Hub
- Designated emergency center that can be supported by solar
Power Infrastructure

- What do you want to power with solar?
- What are your priorities?
- Are you still interested in wind power? What is your preference – wind or solar?
Housing

Priority/Featured Projects
1) New construction
2) Negotiation for bulk elevation of houses at fixed rate

Other Projects and Recommendations
1) Low/no cost loan for resiliency improvements
2) Technical/financial advising
New Construction

1) Set aside seed money for senior housing in Roxbury
2) Issue RFP for developer, including incentive for developer to make RFP more appealing
3) Other possibilities
Technical Assistance and Education for Homeowners

- Expand program being run through CNYCN that provides technical assistance program for homes not eligible for Build It Back to:
  - Identify potential retrofits to mitigate against future storm damage
  - Provide elevation certificates

- Education program would offer homeowners:
  - Useful resiliency information through introductory courses on financial and insurance literacy, recovery issues, etc.
  - Individually-tailored counseling on insurance, financial and rebuilding issues
Negotiation of bulk elevation of houses

1) Negotiation for bulk elevation of houses at fixed rate
2) Would require a percentage of participation from the community
**Economic Development**

**Other Projects and Recommendations**

1) Study relocation of existing businesses for improved resiliency

2) Expand low-cost loan programs to rebuild businesses and help make businesses more resilient
   - 2014 program through NYCEDC

3) Create business to business program to bolster commercial activity across the peninsula, connecting Breezy Point businesses to larger peninsula organizations such as the B116 Merchants Association and RDRC
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