



RESILIENT NORTHEASTERN NJ

SCENARIO DEVELOPMENT NEWARK - EAST IRONBOUND, DOREMUS, PORT NEWARK, NEWARK AIRPORT, DAYTON



WAVE 3 MEETING IN A BOX
SPRING 2022

PLEASE NOTE:

All content is working DRAFT for planning and discussion purposes only
This document can be used either for individual review or to help guide a meeting

NOTES TO THE FACILITATOR

HIDE THIS SLIDE WHEN PRESENTING BY RIGHT CLICKING ON THE SLIDE IN THE PANEL AND SELECTING “HIDE SLIDE” (or delete it)

- First, thank you so much for helping to ensure there is widespread public involvement in this important project!
- We recommend that one person presents this slide deck, while another takes notes either directly in the form accessible through the QR code to the right or separately such that it can be later logged as feedback via the QR code to the right.
- This deck is intended to help support and guide conversations to obtain the input needed at this phase of the project, but it is not intended to be prescriptive. All content is working DRAFT for planning and discussion purposes only.
- It can be helpful at the beginning of meetings with people new to you to set ground rules to help guide the meeting. Example possible ground rules include: Participate fully, give everyone the chance to speak, seek first to understand then be understood, respect the group’s time.
- Please share your thoughts about what worked and didn’t work about the information provided herein, and how our next rounds of materials can be even better in the feedback form.



**PLEASE
LOG
FEEDBACK
FROM THE
MEETING
[HERE](#)**



Community Meeting Guidelines

TO ENSURE THAT WE ARE ABLE TO MAXIMIZE OUR TIME TOGETHER AS A GROUP

- **Please remain on mute unless speaking**
- **During the main presentation:**
 - Please submit questions in the chat
 - Please turn off video to allow for ASL accessibility
- **During the breakouts:**
 - If you are able and willing to, please consider turning on your camera
 - Use one mic and stack
 - Acknowledge everyone's voice and time. If you find yourself speaking frequently, consider opening the floor to your group members. We look forward to hearing what everyone has to say!
 - Please speak from your own experience
 - If there are several group members with things to share, please use the 'raise hand' function, the chat, or gesticulating in Zoom and a facilitator will call on you
- **Please save discussion for the breakouts and report out**



Join the conversation!

Please use the chat function to ask questions as we go!

If the meeting abruptly ends, please be patient and re-join using the same Zoom link. You will also receive an email with the meeting link.

TOPICS

- **What's important and at risk in this area?**
- **For each solution scenario:**
 - **Possible actions**
 - **How the area might change**
 - **Key considerations**
 - **What do you think?**
- **Discussion**
 - **Of everything we discuss, what is most important to advance?**
 - **What do you want to not happen?**



“We have tools and ideas, like a carpenter, but this is your house”

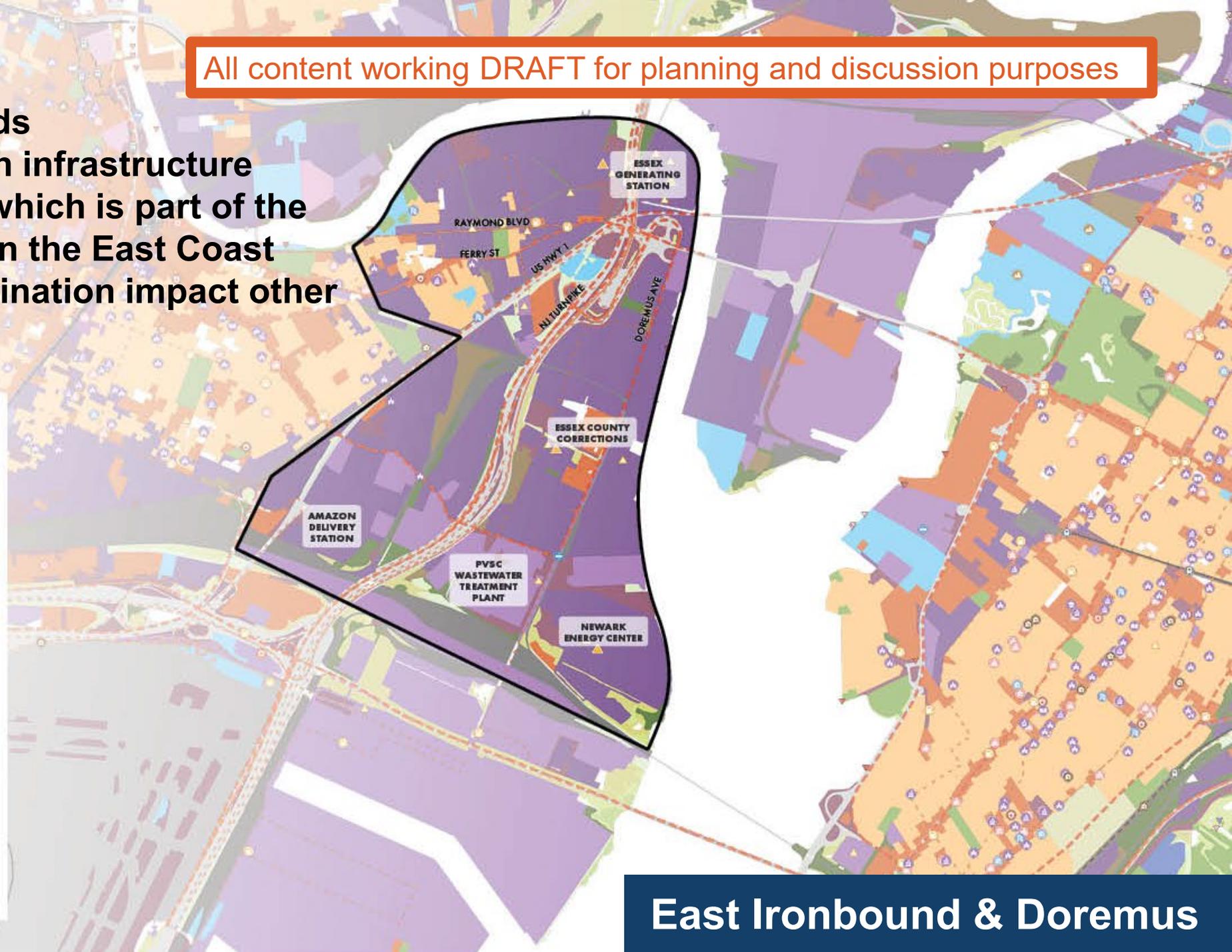
For this regional level plan, we have broken the community down into geographic areas. This means that there is nuance and community boundaries that might not always be honored. Let us know when we don't get it right.

AREA CONTEXT

All content working DRAFT for planning and discussion purposes

- Area formerly wetlands
- Heavily industrial with infrastructure supporting the port, which is part of the largest port system on the East Coast
- Pollution and contamination impact other areas of Newark

Land Use	Asset_Type
Residential	--- Hurricane Evacuation Route
High Density	--- Bus Routes
Medium to Low Density (Single Unit)	— Light Rail/Commuter Rail
Commercial & Industry	⊗ Child Care Centers
Commercial/Services	⊗ Colleges
Cultural Attractions	⊗ Combined Sewer Outfall
Industrial & Commercial Complexes	⊗ EMS
Industrial	⊗ Ferry Terminal
Transportation, Services & Utilities	⊗ Fire Stations
Other Urban/Built-Up Land	⊗ Gas Stations
Natural & Open Space	⊗ Hospitals/Medical Centers
Mixed Forests	⊗ Landfill
Coniferous Forests	⊗ Library
Deciduous Forests	⊗ Major Sports Venue
Wetlands/Marshes	⊗ Municipal Building
Agriculture	⊗ Nursing Homes
Recreational Land	⊗ Other Surface Discharge
Open Field (< 25% Covered)	⊗ Places of Worship
Cemetery	⊗ Police Stations
Phragmites Dominate Areas	⊗ Power Generation
Beaches	⊗ Public Housing
Other	⊗ Rail Stations
Barren Lands	⊗ Schools
Altered Lands	⊗ Senior Housing
Military Installations	⊗ Shelters
Transitional Areas	⊗ Stormwater Discharge
	⊗ Substations
	⊗ Wastewater Treatment



East Ironbound & Doremus

AREA CONTEXT

- Contribution to regional and state economy
- Need for coordination with PANYNJ



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Airport, Port & Dayton

RISK CONTEXT

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Both rainfall flooding and coastal flooding can impact large swaths of this area. Tidal flooding shown here impacts fewer areas but would be at a nearly constant frequency. Key critical infrastructure and industrial centers are at risk.

24 HOUR, 100 YEAR STORM

2070 MODEL (HIGH TIDE + SLR + 10% RAINFALL INCREASE)

STORM SURGE

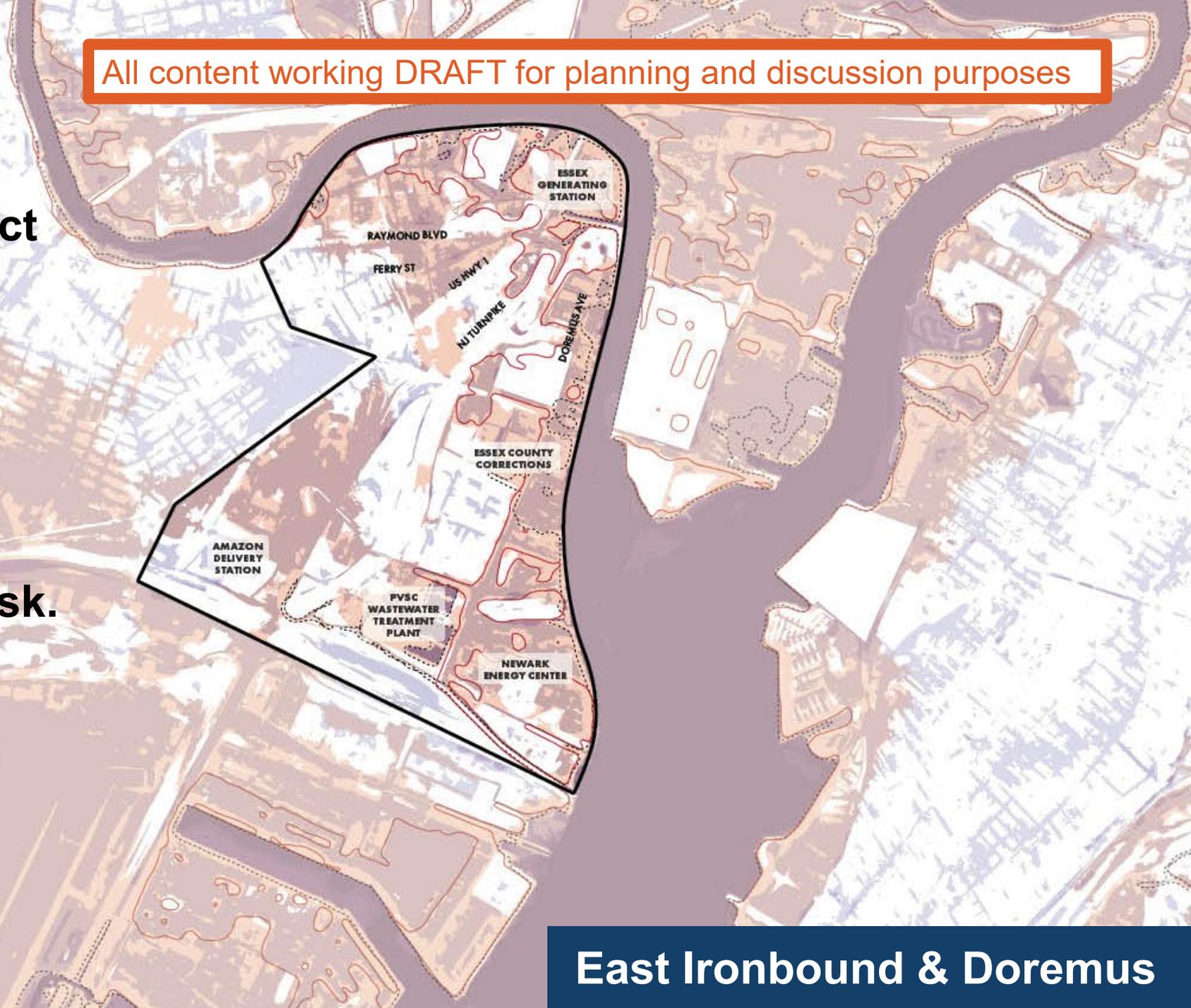
2070 EXTENT (HURRICANE SANDY + SEA LEVEL RISE)

AREAS OF OVERLAP

SEA LEVEL RISE

..... 2070 MHHW + 2.4' SLR

— 2070 MHHW + 5.0' SLR



East Ironbound & Doremus



RISK CONTEXT

Both rainfall flooding and coastal flooding can impact large swaths of this area. Tidal flooding shown here impacts fewer areas but would be at a nearly constant frequency. The airport port, and Weequahic Park are all at risk.

24 HOUR, 100 YEAR STORM

2070 MODEL (HIGH TIDE + SLR + 10% RAINFALL INCREASE)

STORM SURGE

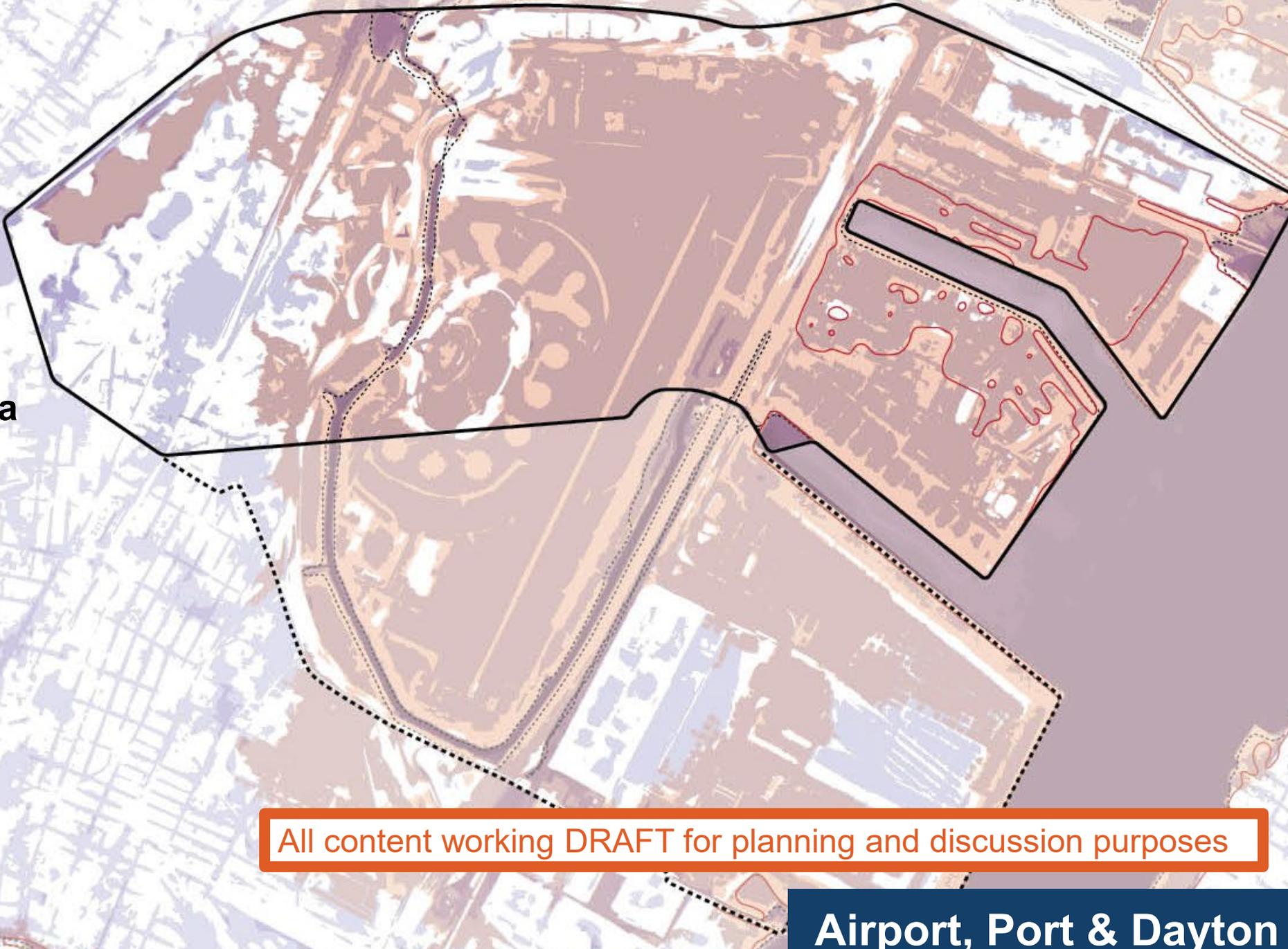
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Airport, Port & Dayton

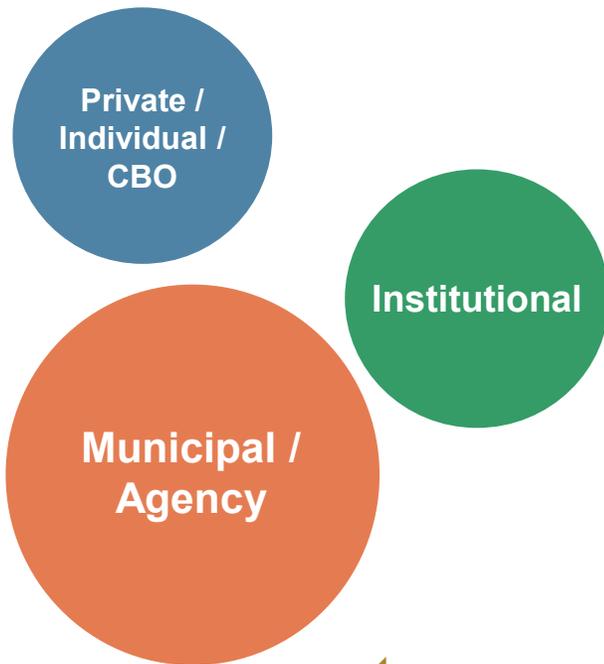


SCENARIOS

*The scenarios are not alternatives.
The action plan could be a combination
of actions from the different scenarios.*

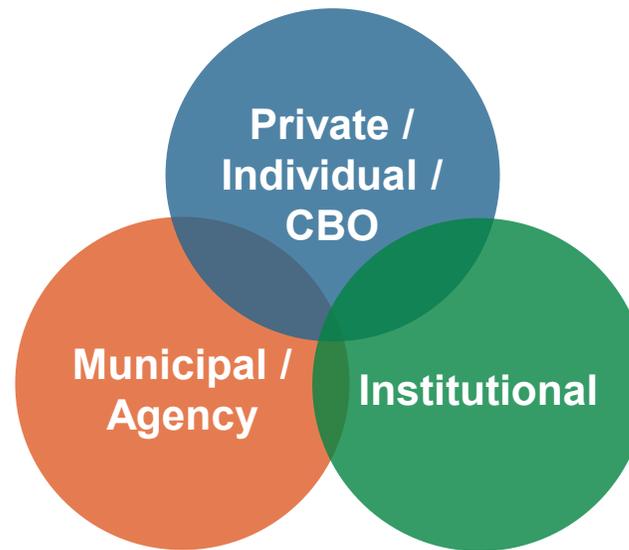
Scenario 1

Individual Initiative



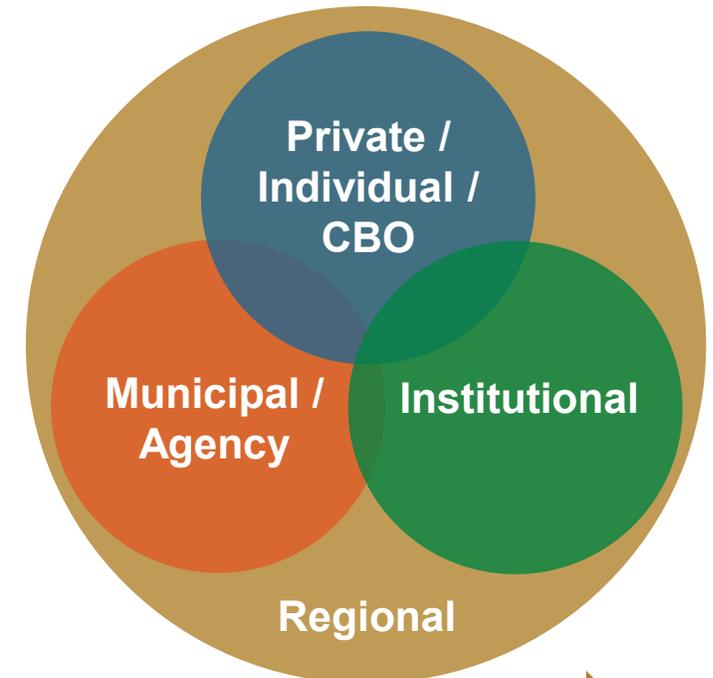
Scenario 2

Shared Responsibility



Scenario 3

Regional Coordination



CBO's are community-based organizations

← **ENGAGEMENT WITH RESIDENTS AND OTHER STAKEHOLDERS ACROSS ALL** →

KEY CHANGES, SCENARIO 1 – INDIVIDUAL INITIATIVE



COASTAL PROTECTIONS



1. INDIVIDUAL BUILDING PROTECTIONS

Reading, United Kingdom



2. SMALL SCALE DEPLOYABLE FLOOD BARRIERS

Grand Forks, North Dakota



DRAINAGE IMPROVEMENTS



3. IMPROVED STORMWATER SURFACE CONVEYANCE

Waterplein Bentheplein
Rotterdam, Netherlands



4. CREEK RESTORATION

Lick Run Greenway
South Fairmont, Cincinnati



GREEN INFRASTRUCTURE



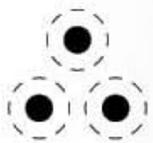
5. PERMEABLE PARKING SURFACES

TU Delft
Netherlands



6. R.O.W. GREEN INFRASTRUCTURE

Queens, New York City



SCENARIO 1 INDIVIDUAL INITIATIVE

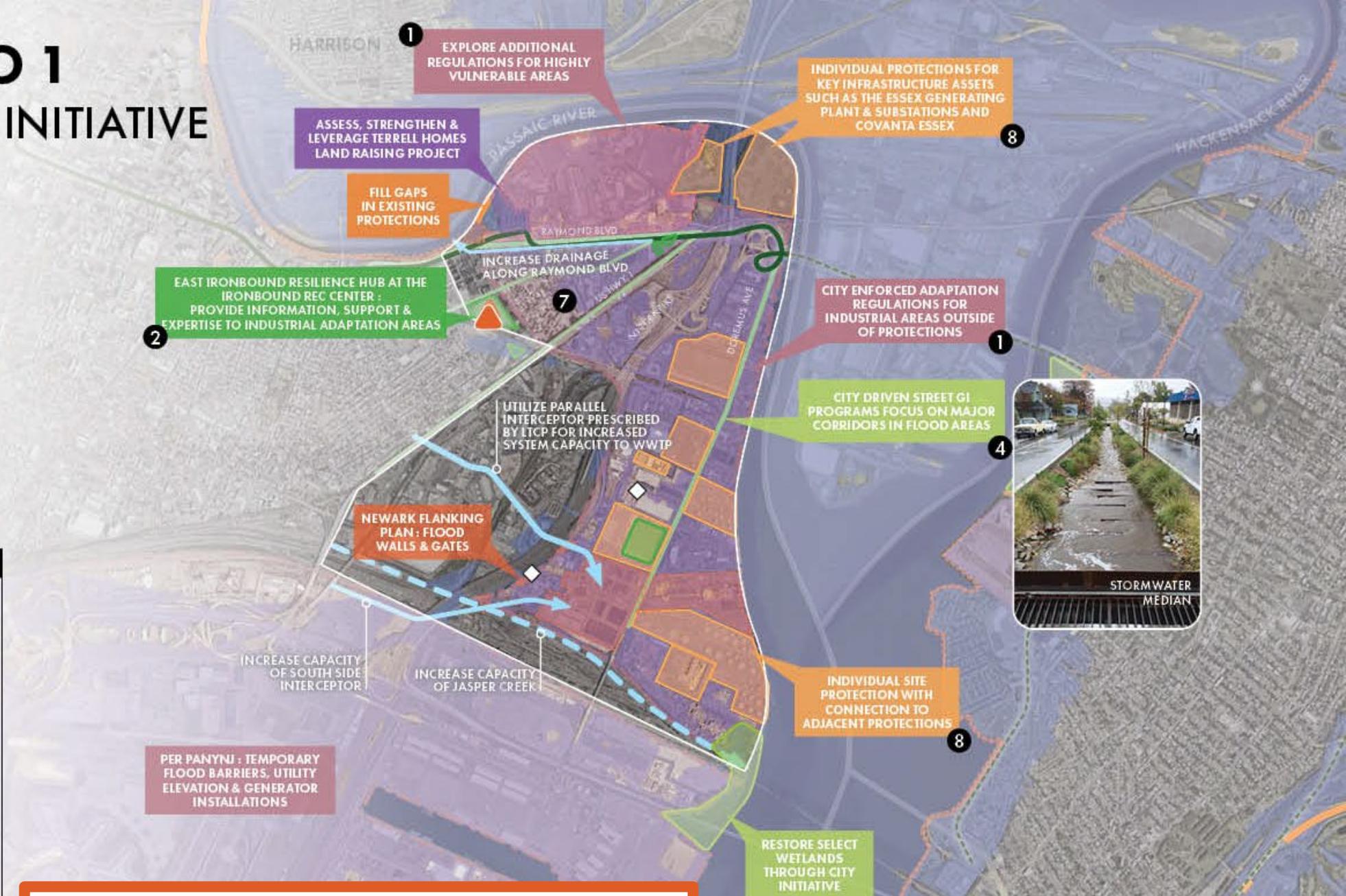
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- COASTAL PROTECTIONS
- GREEN INFRASTRUCTURE
- GREEN ROOFS
- SUGGESTED FLOW PATHS
- RESILIENCE HUB
- AREAS OUTSIDE PROTECTIONS
- REDEVELOPMENT AREAS

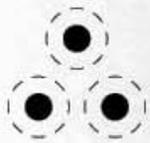
NON-PHYSICAL SOLUTIONS

- 1 ADOPT ORDINANCES TO STATE MODELS & GUIDANCE
- 2 GI PROGRAM FOR CITY PROPERTIES
- 3 GUIDELINES FOR GI ON OPEN SPACE
- 4 TREE CANOPY PROGRAMS
- 5 RESILIENCE HUBS AT CITY PROPERTIES
- 6 MUNICIPAL TRASH CLEANUP & CATCH BASIN PROGRAMS
- 7 PROMOTE & INCORPORATE RESIDENT FLOOD REPORTING
- 8 INTER-DEPARTMENT & MUNICIPAL COORDINATION

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East Ironbound & Doremus





SCENARIO 1 INDIVIDUAL INITIATIVE

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- SUGGESTED PIPED FLOW PATHS TO LTCP INTERCEPTOR
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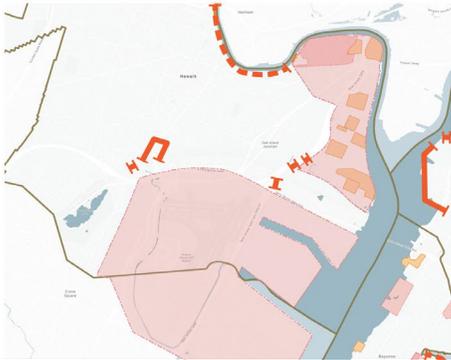
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Airport, Port & Dayton



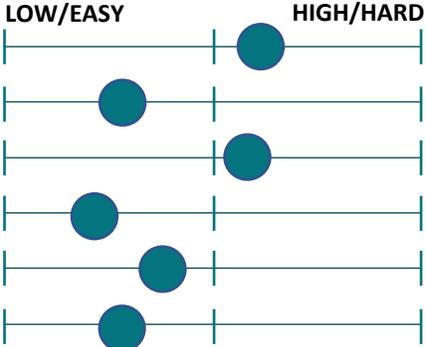
COASTAL PROTECTIONS

OBJECTIVES, SCENARIO 1

Integrate site level retrofits with robust individual protections for key assets, connecting across sites where opportunities exist.

KEY CONSIDERATIONS, SCENARIO 1

- CONSTRUCTION TIME
- IMPACT TO PUBLIC ACCESS & USE
- COSTS
- PERMITTING
- CONSTRUCTABILITY
- LEVEL OF PROTECTION



ISSUES TO CONSIDER

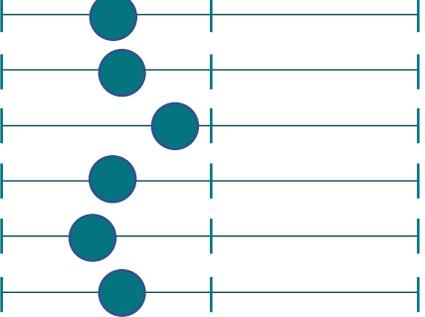
Site protection of key assets can be completed fairly quickly **BUT** would leave large areas exposed to risk and affect access to critical services.



DRAINAGE IMPROVEMENTS

Improve drainage to leverage parallel interceptor from LTCP, while expanding the capacity of existing drainage infrastructure through channel improvements and increased pumping.

- CONSTRUCTION TIME
- IMPACT TO PUBLIC ACCESS & USE
- COSTS
- PERMITTING
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- LEVEL OF PROTECTION



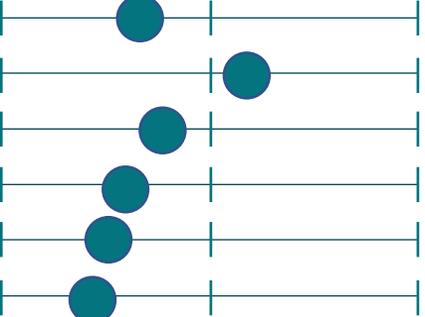
Upgrades to the current system can be phased to facilitate construction and provide immediate benefit **BUT** upgrades to the existing system could be limited based on downstream capacity.



GREEN INFRASTRUCTURE

Expand green infrastructure targeting key primary corridors and restoring the functionality of historic wetland areas.

- CONSTRUCTION TIME
- IMPACT TO PUBLIC ACCESS & USE
- COSTS
- PERMITTING
- CONSTRUCTABILITY
- LEVEL OF PROTECTION



Green infrastructure projects can treat stormwater at the source and add other benefits to the city **BUT** will compete with other needs in the public right of way and is limited in treating large storm events.

NON-PHYSICAL SOLUTIONS, SCENARIO 1



COASTAL PROTECTIONS

Policy based coastal measures are needed for areas outside of protections & for areas integrated with inland alignments.



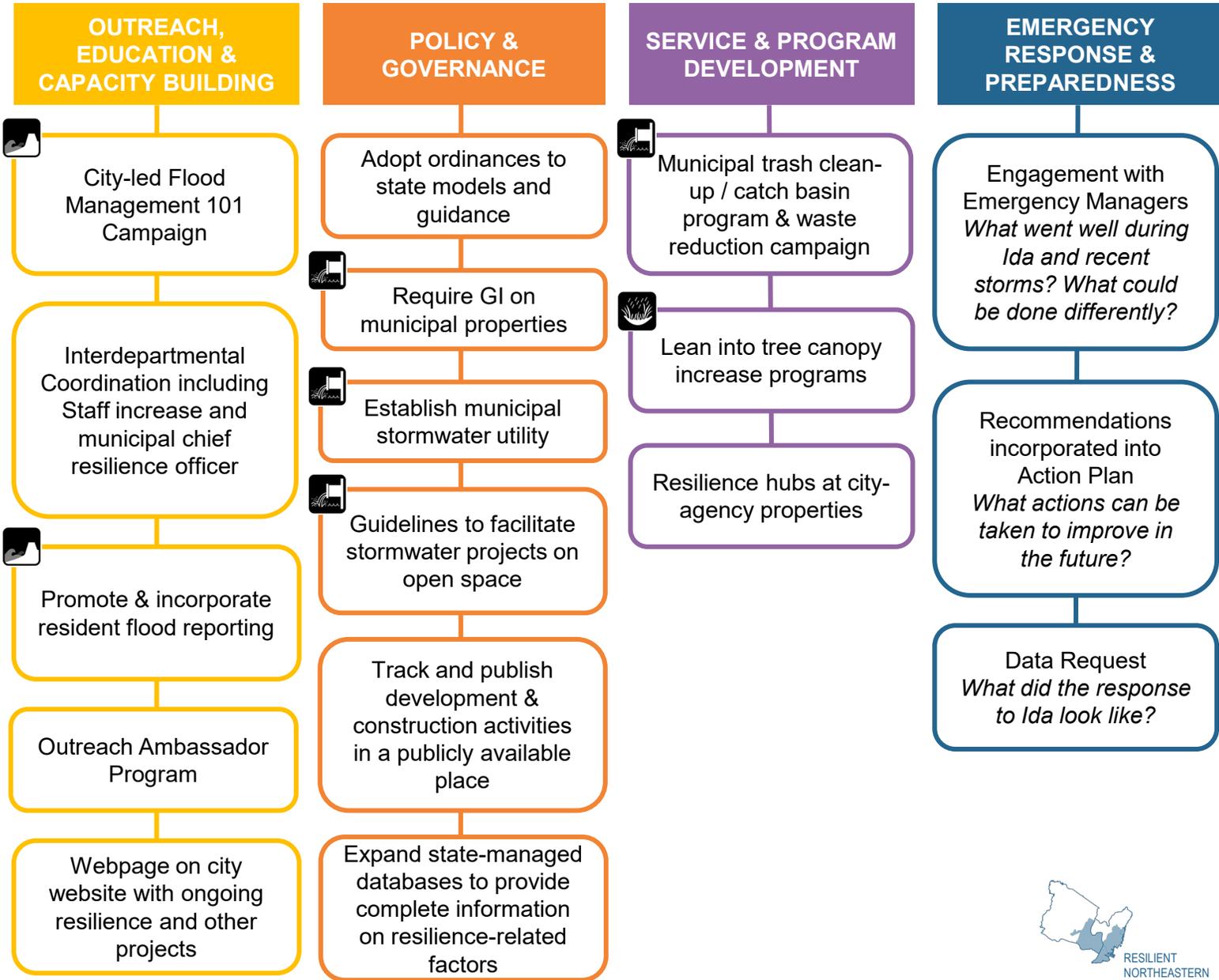
DRAINAGE IMPROVEMENTS

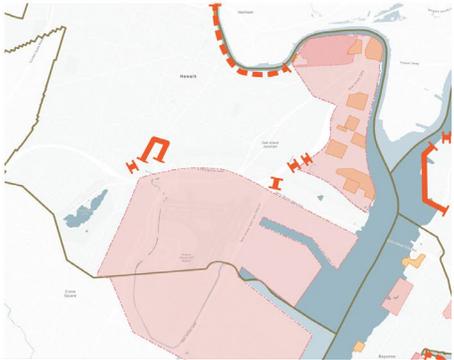
Policy based measures like trash clean-up & catch basin programs help with drainage efficiency while larger measures like a Municipal Stormwater utility increase resilience equity.



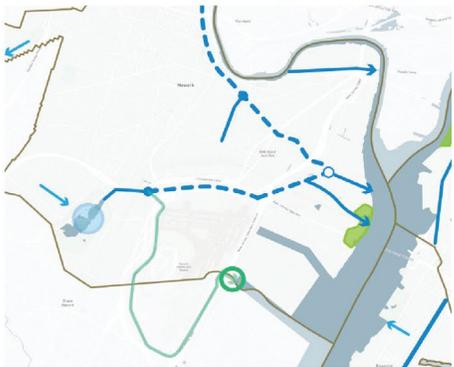
GREEN INFRASTRUCTURE

Measures like tree programs and Green Infrastructure requirements on public open-space are essential to meeting resilience goals in Scenario 1.





COASTAL PROTECTIONS



DRAINAGE IMPROVEMENTS



GREEN INFRASTRUCTURE

QUESTIONS TO CONSIDER

- Which streets or city properties do you want to see transformed?
- What Greening projects would appeal to you most?
- Where would you like to see Resilience Hubs?



PLEASE LOG FEEDBACK FROM THE MEETING [HERE](#)

WHAT DO YOU LIKE ABOUT SCENARIO 1?

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WHAT DO YOU DISLIKE ABOUT SCENARIO 1?

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KEY CHANGES, SCENARIO 2 – SHARED RESPONSIBILITY



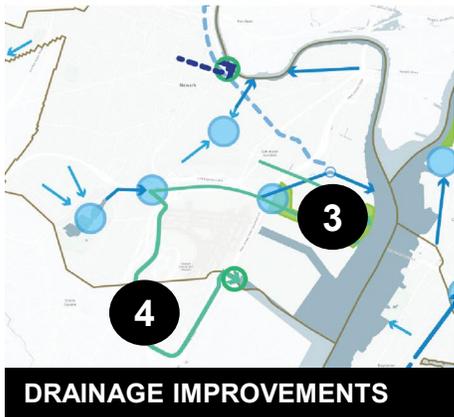
1. COASTAL FLOODWALLS

East Side Coastal Resiliency,
New York City



2. RAISED AND REINFORCED ROADWAY

Mount Cotton Road
Queensland, Australia



3. CREEK RESTORATION & REINFORCEMENT

Lick Run Greenway
South Fairmont, Cincinnati



4. LARGE SCALE FLOW CAPACITY INCREASES

Buffalo Bayou Park
Houston, Texas

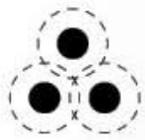


5. GREEN INFRASTRUCTURE ON PRIVATELY OWNED SPACES

First Avenue Water Plaza
Manhattan, New York City



6. BLUE & GREEN ROOFS

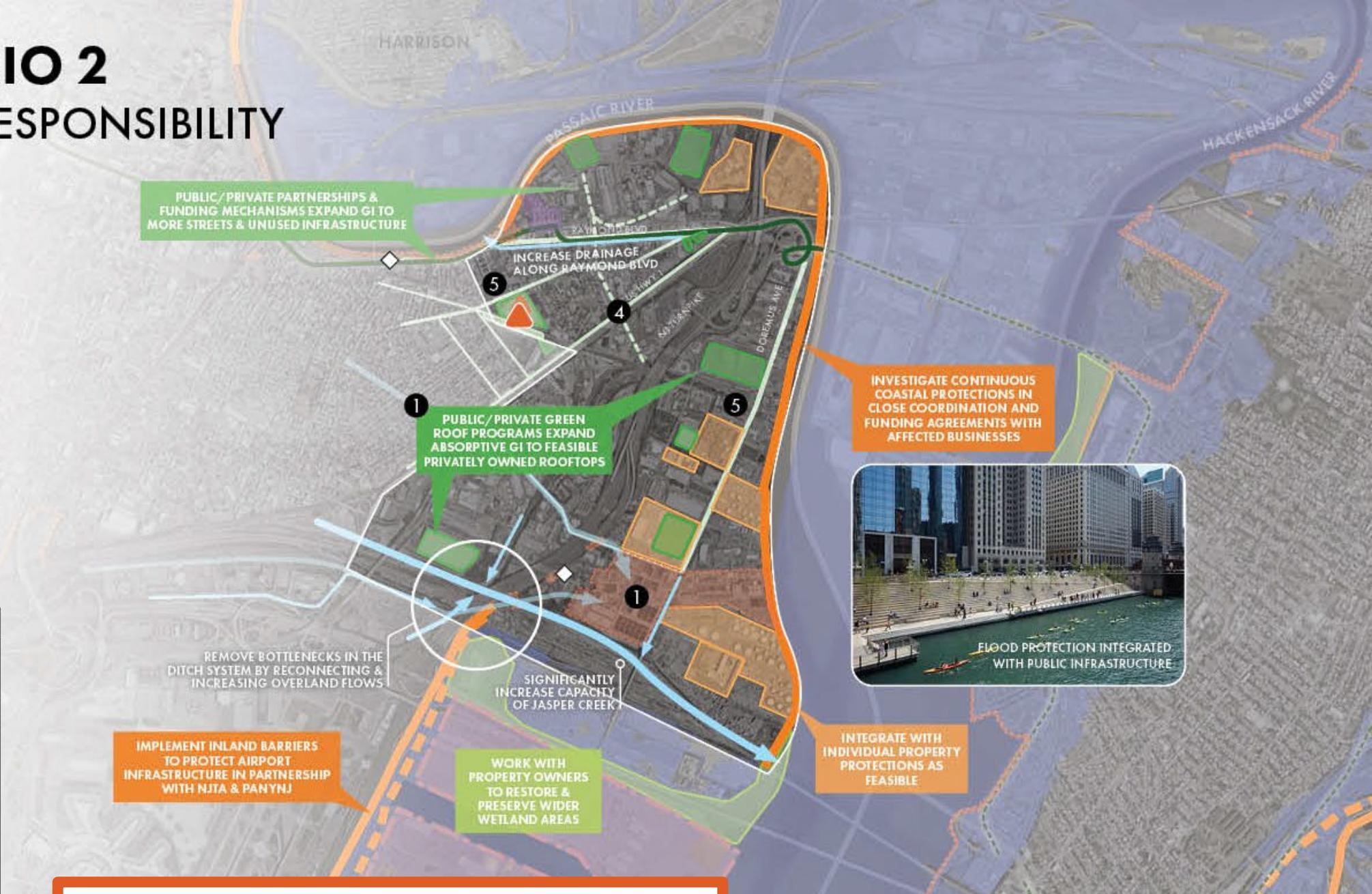


SCENARIO 2

SHARED RESPONSIBILITY

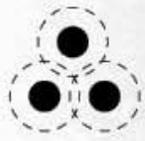
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-  SUGGESTED FLOW PATHS
-  RESILIENCE HUB
-  AREAS OUTSIDE PROTECTIONS
-  REDEVELOPMENT AREAS

- NON-PHYSICAL SOLUTIONS**
- 1** INCORPORATE RESILIENCE INTO REDEVELOPMENT PLANS
 - 2** INCENTIVIZE GI ON PRIVATE PROPERTIES
 - 3** RESILIENCE LEADER OUTREACH AND TRAINING PROGRAM
 - 4** TRASH CLEAN-UP DAYS AND COMMUNITY GARDENS THROUGH PARTNERSHIPS
 - 5** RAIN BARREL DISTRIBUTION & GUIDE FOR INSTALLATION



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East Ironbound & Doremus



SCENARIO 2

SHARED RESPONSIBILITY

- PROJECTS ALREADY PLANNED OR IN PROGRESS
- COASTAL PROTECTIONS
- GREEN INFRASTRUCTURE
- SUGGESTED PIPED FLOW PATHS
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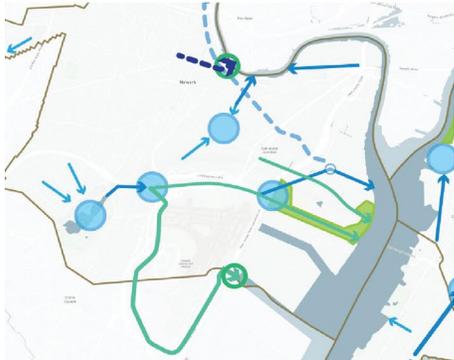
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COASTAL PROTECTIONS



DRAINAGE IMPROVEMENTS



GREEN INFRASTRUCTURE

OBJECTIVES, SCENARIO 2

Develop partnerships to create a continuous coastal barrier connecting Riverfront Park to the Newark Flanking Plan and integrating an inland barrier into highway or railway ROW.

Separate stormwater and direct to expanded Newark drainage channels and peripheral ditch around Newark Airport.

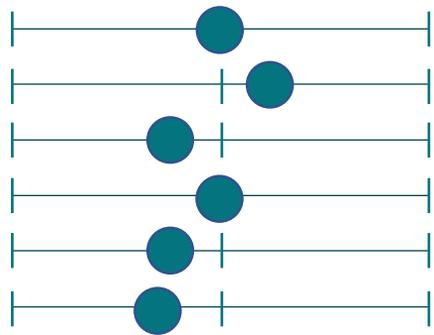
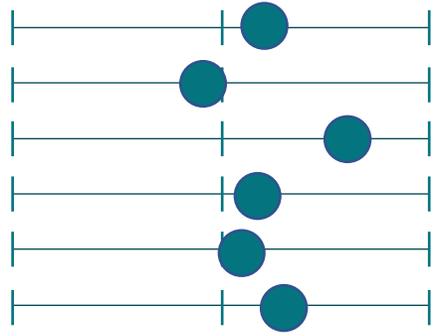
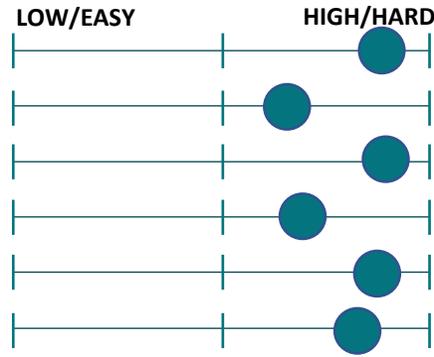
Expand green infrastructure to secondary corridors and beyond public sites to incentivize additional GI on private properties. Target large properties to incorporate regional GI projects.

KEY CONSIDERATIONS, SCENARIO 2

- CONSTRUCTION TIME
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ISSUES TO CONSIDER

Expanding protection using existing corridors results in more comprehensive and cohesive protection **BUT** extending protection will require additional coordination with agencies and other property owners.

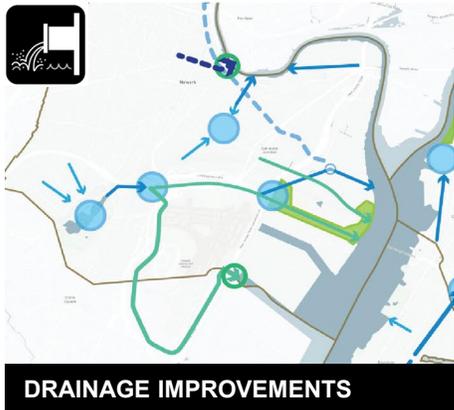
Separating stormwater and directing to open channels with expanded capacity gets water out of the sewer system **BUT** requires significant improvements and ongoing maintenance of several open channels.

Expanding GI to private properties provides broader watershed management **BUT** results in a greater number of assets that need to be inspected and maintained to provide protection.

NON-PHYSICAL SOLUTIONS, SCENARIO 2



Resilience advancements deepened through collaboration with community members, schools, and community-based organizations



Partnerships in composting and trash clean-up help reduce drainage system clogging



Public private partnerships expand green infrastructure benefits

OUTREACH, EDUCATION & CAPACITY BUILDING

Resilience leader outreach and training program

Flood Management 101 campaign in partnership with schools and community groups

Engage deaf and non-English speaking community advocates to collaborate on needs

Crowd-source flood reports (and other input) in coordination with CBOs and academia

POLICY & GOVERNANCE

Incorporate resilience into Redevelopment Plans

Flood overlay zone

Incentivize Green Infrastructure on private properties

Support/coordinate funding for key projects (e.g., transformation of contaminated sites)

Development of municipal or regional climate risk assessment and action plan for contaminated & remediated sites

Standardize process between municipal & infrastructure entities

SERVICE & PROGRAM DEVELOPMENT

Rain barrel distribution & guide for installation

Partner with non-profits to manage resilience hubs and offer climate related programming

Municipal composting program in partnership with housing complexes

Trash clean-up days and community gardens through partnerships

EMERGENCY RESPONSE & PREPAREDNESS

Engagement with Emergency Managers
What went well during Ida and recent storms? What could be done differently?

Recommendations incorporated into Action Plan
What actions can be taken to improve in the future?

Data Request
What did the response to Ida look like?



COASTAL PROTECTIONS



DRAINAGE IMPROVEMENTS



GREEN INFRASTRUCTURE

QUESTIONS TO CONSIDER

- Which streets or city properties do you want to see transformed?
- What Greening projects would appeal to you most?
- Where would you like to see Resilience Hubs?



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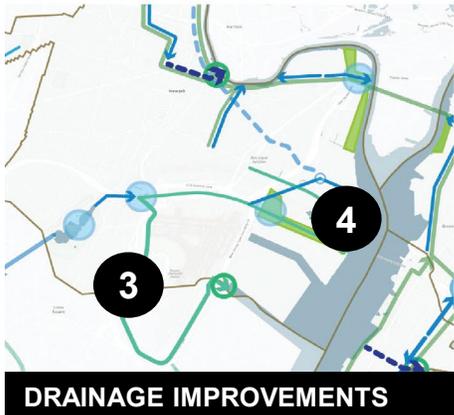
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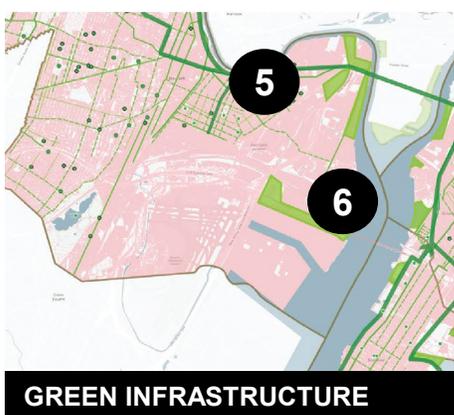
KEY CHANGES, SCENARIO 3 – REGIONAL COORDINATION



COASTAL PROTECTIONS



DRAINAGE IMPROVEMENTS



GREEN INFRASTRUCTURE



1. FLOODWALL ALONG ROADWAY

Fargo, North Dakota



2. INLAND ROAD ELEVATION

Miami Beach, Florida



3. STORMWATER RETENTION AT COASTAL WETLAND

Hunters Point
Brooklyn, New York City



4. LIVING SHORELINE

Elizabeth River
Virginia



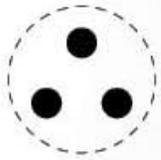
5. REGIONAL URBAN GREENWAY

The BeltLine
Atlanta, Georgia



6. FLOODABLE PUBLIC INFRASTRUCTURE

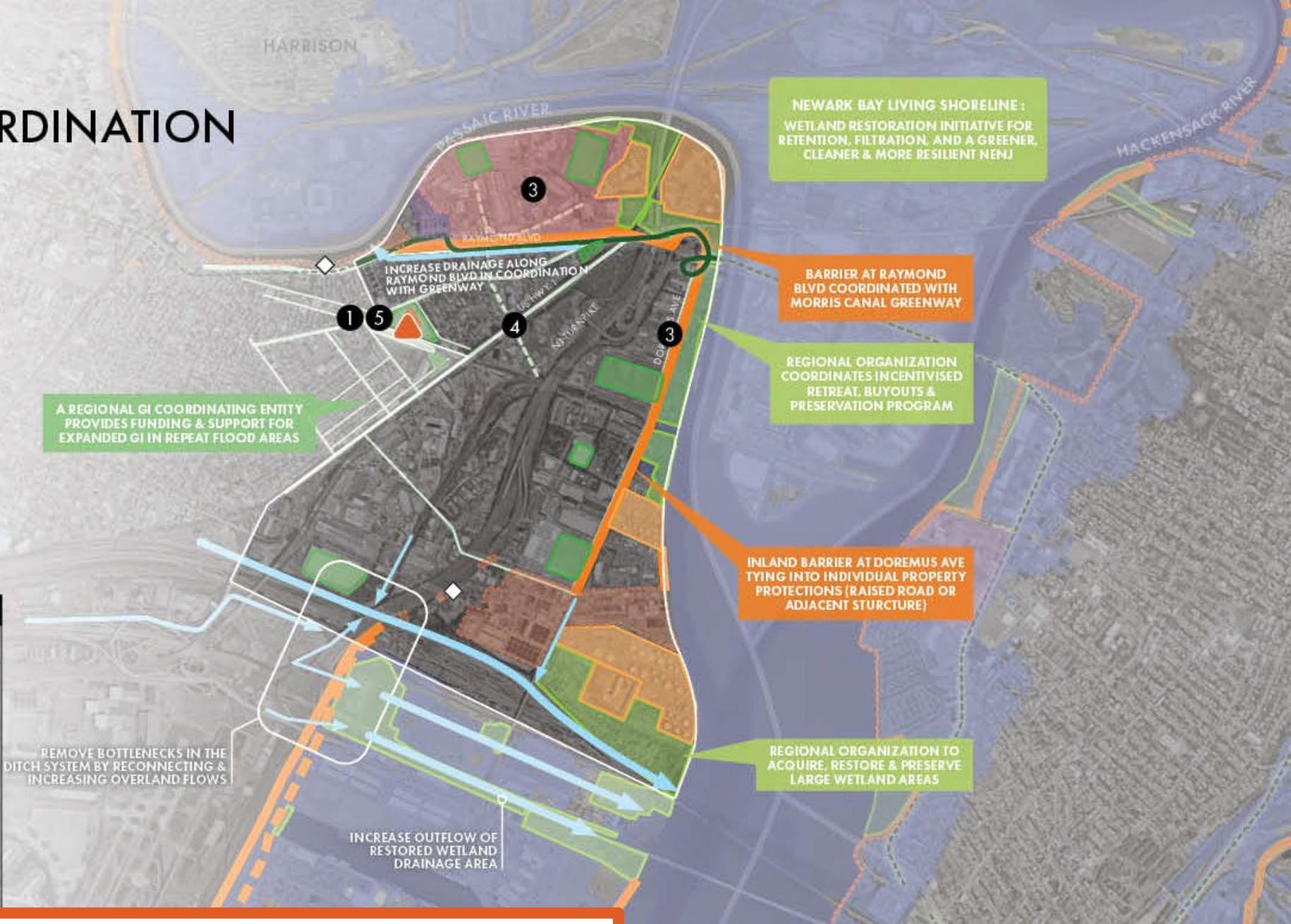
Domino Park
Brooklyn, New York City



SCENARIO 3 REGIONAL COORDINATION

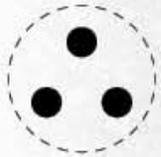
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- 1 CREATE A "SINGLE SOURCE OF TRUTH" FOR RESILIENCE-RELATED INFORMATION AND RESOURCES
 - 2 REGIONAL GI CHAMPIONS TRAINING PROGRAM
 - 3 DEVELOP PIPELINE OF SITES FOR STORMWATER MANAGEMENT / RESILIENT TRANSFORMATION OF BROWNFIELDS & CONTAMINATED SITES
 - 4 REGIONAL TREE PLANTING PROGRAM
 - 5 REGIONAL NETWORK OF RESILIENCE HUBS
 - 6 REGIONAL PROGRAM DEVELOPMENT AND SUPPORT FOR COMPOSTING AND WASTE REDUCTION CAMPAIGNING



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SCENARIO 3 REGIONAL COORDINATION

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 - 3 DEVELOP PIPELINE OF SITES FOR STORMWATER MANAGEMENT / RESILIENT TRANSFORMATION OF BROWNFIELDS & CONTAMINATED SITES
 - 4 REGIONAL TREE PLANTING PROGRAM
 - 5 REGIONAL NETWORK OF RESILIENCE HUBS
 - 6 REGIONAL PROGRAM DEVELOPMENT AND SUPPORT FOR COMPOSTING AND WASTE REDUCTION CAMPAIGNING

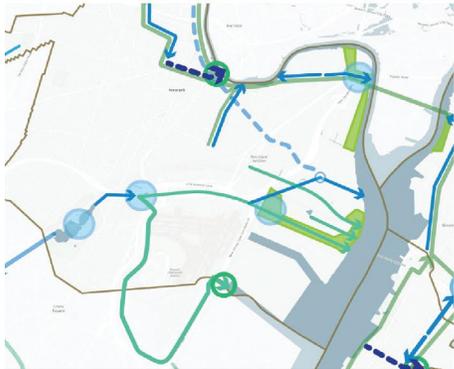


All content working DRAFT for planning and discussion purposes

Airport, Port & Dayton



COASTAL PROTECTIONS



DRAINAGE IMPROVEMENTS



GREEN INFRASTRUCTURE

OBJECTIVES, SCENARIO 3

A protective barrier is aligned with Doremus Avenue, with unprotected properties on the other side of the barrier converted to natural wetland areas and living shorelines.

Drainage corridors are expanded within coastal areas to recreate natural hydrology and eliminate flow barriers.

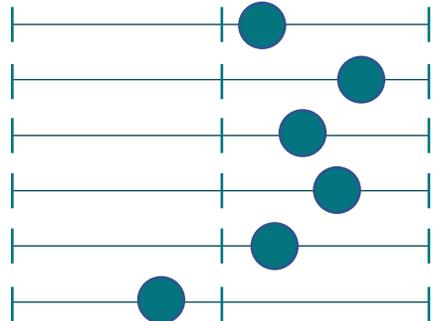
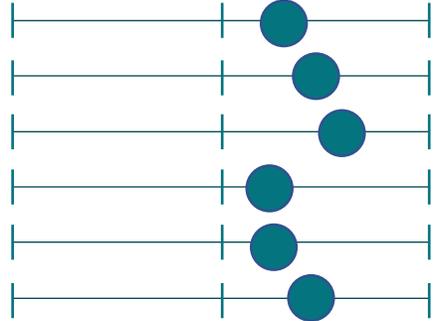
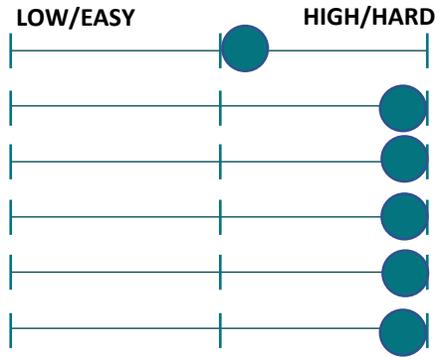
Build additional green infrastructure improvements into regional greenway corridors and expand coastal green infrastructure along Newark Bay.

KEY CONSIDERATIONS, SCENARIO 3

- CONSTRUCTION TIME
- IMPACT TO PUBLIC ACCESS & USE
- COSTS
- PERMITTING
- CONSTRUCTABILITY
- LEVEL OF PROTECTION

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ISSUES TO CONSIDER

A barrier along Doremus focuses the protection within the public ROW and creates new coastal green space and habitat **BUT** results in conversion of several properties from current uses.

Recreating natural hydrology provides multiple drainage pathways and reduces bottlenecks **BUT** requires adjustments on properties that are currently private.

Incorporating additional GI into greenways and expanding coastal GI provides regional protection and multiple co-benefits **BUT** requires conversion of existing uses to natural stormwater management.

NON-PHYSICAL SOLUTIONS, SCENARIO 3



COASTAL PROTECTIONS



DRAINAGE IMPROVEMENTS



GREEN INFRASTRUCTURE

Continuing and expanding the Resilient NENJ program could allow the region to learn from, build on, and advance work completed to date

A regional infrastructure coordination council help maximize resilience in planned infrastructure improvements and limit disruption to communities

A regional network of resilience hubs could help CBOs and municipalities coordinate and share resources and information in times of disaster

OUTREACH, EDUCATION & CAPACITY BUILDING

Continuation of Resilient NJ Program

Expansion of sustainability measures of livability

Regional-scale distribution of Flood Management 101 campaign

Leverage RNJ as a coordinated engagement platform around resilience-related issues

Create a 'single source of truth' and go-to resource/messaging for all things resilience-related

POLICY & GOVERNANCE

Ensure LTCP projects incorporate climate change

Regional coordination to increase standards beyond minimum

Regional GI champions training program

Develop pipeline of sites for stormwater management/resilient transformation process

State/regional climate risk assessment for contaminated/remediated areas

Create regional Infrastructure Coordination Council (and dig once)

Regional stormwater utility

SERVICE & PROGRAM DEVELOPMENT

Regional tree planting program

Regional network of resilience hubs

Regional program development and support for composting and waste reduction campaigning

EMERGENCY RESPONSE & PREPAREDNESS

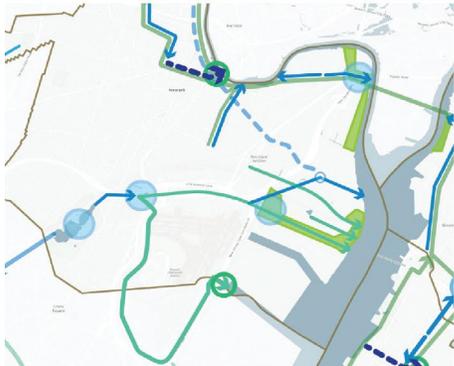
Engagement with Emergency Managers
What went well during Ida and recent storms? What could be done differently?

Recommendations incorporated into Action Plan
What actions can be taken to improve in the future?

Data Request
What did the response to Ida look like?



COASTAL PROTECTIONS



DRAINAGE IMPROVEMENTS



GREEN INFRASTRUCTURE

QUESTIONS TO CONSIDER

- Which streets or city properties do you want to see transformed?
- What Greening projects would appeal to you most?
- Where would you like to see Resilience Hubs?



**PLEASE
LOG
FEEDBACK
FROM THE
MEETING
[HERE](#)**

WHAT DO YOU LIKE ABOUT SCENARIO 3?

WHAT DO YOU DISLIKE ABOUT SCENARIO 3?

DISCUSSION & QUESTIONS

Of everything we've discussed, what is the most important thing to advance in this area?

What do you want to make sure does not happen?

