REBUILD BY DESIGN

MEADOWLANDS

RIVERFRONT PARK DESIGN WORKSHOP

JANUARY 23, 2020
Welcome / Introductions

Project Team Manager, Bureau of Climate Resilience Design & Engineering

Linda Fisher, NJDEP
Welcome / Introductions

Chris Benosky, AECOM

- Welcome + Introduction
- Project History and Build Plan
- Design + Construction Schedule
- Design Phase Project Overview
- Riverfront Park Workshop Breakout Session
<table>
<thead>
<tr>
<th>Presenter</th>
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<tr>
<td>CHRISTOPHER BENOSKY, Project Executive, AECOM</td>
<td>DAVE BLAIR, Project Manager, AECOM</td>
<td>ANNA HOCHHALTER, Landscape Architect, AECOM</td>
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<td>STEVE BIUSO, Design Manager, AECOM</td>
<td>SUSAN BEMIS, Associate Principal, Landscape Architecture and Urban Design, AECOM</td>
<td>HOGAN EDELBERG, Landscape Architect, AECOM</td>
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<td>SARAH BOLIVAR, Landscape Designer, AECOM</td>
<td>LAUREN SHOATS, Landscape Designer, AECOM</td>
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TONIGHT’S DESIGN WORKSHOP
AN IMPORTANT PART IN THE DESIGN PROCESS

PRESENTATION
30 MINUTES
RBDM PROJECT INFORMATION

WORKSHOP
1 HOUR
INPUT ON RIVERFRONT PARK DESIGN PRIORITIES + CHARACTER

CONCEPTUAL DESIGN
TECHNICAL + SITE ANALYSIS
COMMUNITY INPUT
DETAILED DESIGN
FINAL DESIGN
FALL 2019
TODAY
JULY 2020
PROJECT HISTORY + BUILD PLAN
CHRIS BENOSKY, AECOM
REBUILD BY DESIGN COMPETITION & AWARD

- HUD awarded State of New Jersey $150M for Phase 1 Pilot Area only

- Project must be functional and completed by September 2022
Address flood risk

Increase resiliency of the communities and ecosystems

Reduce impacts to critical infrastructure, residences, businesses, and ecological resources
Protect life, public health, and property

Increase community resiliency

Enhance water quality and protect ecological resources

Address systemic inland flooding & coastal flooding from storm surges

Integrate flood hazard risk reduction strategies with civic, cultural, & recreational benefits
The *Build Plan* represents a feasible project that can be *constructed by 2022*. Components include flood reduction strategies to address frequent rain flooding.

Components that were not selected for the *Build Plan* became elements of a *Future Plan*. These elements could be implemented by others over time as new funding sources become available.
THE FEASIBILITY + NEPA PROCESS
EXTENSIVE ALTERNATIVE ANALYSIS FOR IMPROVED RESILIENCE


HURRICANE SANDY
REBUILD BY DESIGN COMPETITION & AWARD
HUD awarded State of New Jersey $150 M for Phase 1 Pilot Area. Project must be functional and completed by September 2022

3 ALTERNATIVES: STORM SURGE, RAIN FLOODING, HYBRID
FEASIBILITY STUDY OF DESIGN
ENVIRONMENTAL IMPACT ASSESSMENT + REVIEW
COMMUNITY ENGAGEMENT

The Build Plan is the selected alternative with the greatest benefits within budget and environmentally preferred

TODAY

DESIGN PHASE
COMMUNITY ENGAGEMENT
DESIGN + CONSTRUCTION SCHEDULE

DAVE BLAIR, AECOM
Key Dates
- 100% Design in July 2020
- Construction begins Winter 2020
- Project Complete by Sept. 2022

*RBDM Construction begins in multiple locations in the project area*
COMMUNITY ENGAGEMENT SCHEDULE
ENCOURAGE THE COMMUNITY TO PARTICIPATE

Key Dates
• Many upcoming engagement opportunities
• More information is on-line: www.rbd-meadowlands.nj.gov
DESIGNING FOR FREQUENT RAIN FLOODING
FLOOD RISK + EXISTING CONDITIONS CHALLENGES

Major Challenges
- Over-burdened infrastructure
- Lack of drainage capacity
- Low-lying elevations with minimal grade changes
- Densely developed area
- Stormwater runoff carries pollutants into waterways

WATERWAYS LACK SUFFICIENT CONVEYANCE
STORMWATER FLOWS UNTREATED INTO WATERWAYS
STORMWATER RUNS OFF QUICKLY
LANDSCAPE WITH LOW ECOLOGICAL BENEFIT
DRAINAGE INFRASTRUCTURE LACKS CAPACITY

DIAGRAMS NOT TO SCALE
PROJECT DESIGN APPROACH + GOALS
FLOOD RISK REDUCTION + CO-BENEFITS

+ INFRASTRUCTURE
Primary flood risk reduction achieved through grey infrastructure

+ LANDSCAPE + PUBLIC REALM IMPROVEMENTS
Landscape improvements to provide additional water quality + parks + open space improvements

DIAGRAMS NOT TO SCALE
**PROJECT FEATURES**

**INFRASTRUCTURE + LANDSCAPE / PUBLIC REALM**

+ **INFRASTRUCTURE**
  1. East Riser Channel Improvements + Pump Station
  2. Losen Slote Force Main + Pump Station

+ **LANDSCAPE / PUBLIC REALM**
  3. Joseph St. Park
  4. Memorial Middle School
  5. Little Ferry Library + Municipal Bldg
  6. New Riverfront Park
  7. Streetside Green Infrastructure

*DIAGRAMS NOT TO SCALE*
PROPOSED PROJECT FEATURES
PUMP STATIONS + STORMWATER FORCE MAIN + CHANNEL IMPROVEMENTS

Pump Stations
Provide additional force to stormwater conveyance

Stormwater Force Main
Increases capacity for conveyance

Channel Improvements
Dredging + widening to improve conveyance
PROPOSED PROJECT FEATURES
LANDSCAPE INFRASTRUCTURE + OPEN SPACE DESIGN

Native Planting
Planting native species improves ecological biodiversity and improves rain water uptake

Green Infrastructure
Methods of filtering and slowing stormwater to improve water quality + reduce burden on drainage system

Improved or New Parks
Designing ecological, community + recreational benefits
PROJECT IMPROVEMENTS
SHOWN WITHIN DRAINAGE AREAS

East Riser Ditch
① Channel Improvements + Pump Station

Losen Slote
② Force Main + Pump Station
③ Joseph St. Park
④ Memorial Middle School
⑤ Little Ferry Library + Municipal Building

Hackensack River
⑥ Riverfront Park
⑦ Streetside Green Infrastructure
LOSEN SLOTE COMMUNITY + ECOLOGICAL BENEFITS
MEMORIAL MIDDLE SCHOOL CONCEPT

Existing Conditions
• School yard
• Memorial
• Existing trees
• Lawn

Proposed Project Improvements
• Existing trees and memorial to remain
• Native planting
• Learning gardens
• Green infrastructure
LOSEN SLOTE COMMUNITY + ECOLOGICAL BENEFITS
LITTLE FERRY LIBRARY
LOSEN SLOTE COMMUNITY + ECOLOGICAL BENEFITS
LITTLE FERRY LIBRARY CONCEPT

Existing Site
- Public Library
- Asphalt parking
- Ornamental shrubs

Proposed Project Improvements
- Native planting
- Green infrastructure
- Permeable paving
LOSEN SLOTE COMMUNITY + ECOLOGICAL BENEFITS
LITTLE FERRY MUNICIPAL BUILDING
LOSEN SLOTE COMMUNITY + ECOLOGICAL BENEFITS
LITTLE FERRY MUNICIPAL BUILDING

Existing Site
- Borough Hall and Police Department
- Asphalt parking
- Parking landscape islands

Proposed Project Improvements
- Native planting
- Green infrastructure
- Permeable paving
LOSEN SLOTE COMMUNITY + ECOLOGICAL BENEFITS
JOSEPH ST. PARK
LOSEN SLOTE COMMUNITY + ECOLOGICAL BENEFITS
JOSEPH ST. PARK CONCEPT

Existing Site
- Civic Center + Senior Center
- Sports courts
- Playground equipment
- Pavilion

Proposed Project Improvements
- Native planting
- Green infrastructure
- Permeable paving

EXISTING PLAYGROUNDS TO REMAIN

EXISTING COURTS TO REMAIN

NATIVE PLANTING

GREEN INFRASTRUCTURE

PERMEABLE PAVING
HACKENSACK RIVER COMMUNITY BENEFITS
COMMUNITY + ECOLOGICAL BENEFITS

RIVERFRONT PARK
HACKENSACK RIVER COMMUNITY BENEFITS
RIVERFRONT PARK CONCEPT

Existing Site
- Private waterfront
- Private boat access + storage
- Church development in-progress

Proposed Project Improvements
- New Park (park boundary currently under consideration)
- Ecological enhancement
- Public waterfront access
PROJECT-WIDE COMMUNITY + ECOLOGICAL BENEFITS

STREETSIDE GREEN INFRASTRUCTURE

STREETSIDE GREEN FEATURES
PROJECT-WIDE COMMUNITY + ECOLOGICAL BENEFITS
STREETSIDE GREEN INFRASTRUCTURE AREA OF IMPROVEMENTS

Improvements being considered
• 32 systems being assessed
• Filtering 4.7 acres of roadway runoff
• Designed to capture stormwater and then slowly release into grey infrastructure, reducing peak flow in the storm sewer mains
• Located within public right-of-way
• Native soils have poor infiltration capacity and high groundwater limits application in some areas
PROJECT-WIDE COMMUNITY + ECOLOGICAL BENEFITS
STREETSIDES GREEN INFRASTRUCTURE TYPICAL SECTIONS

Improvements being considered
• Treats smaller, more frequent storms
• 5 primary types:
  • Bioretention basins*
  • Bioretention planters*
  • Grass swales
  • Storage Trenches
  • Tree Trenches
• Some types include vegetation or trees, while others are below the surface.

*Non-standard designs being considered where shallow groundwater is present. Final designs are not yet confirmed.
NEXT STEPS

Critical Information

Project Website
www.rbd-meadowlands.nj.gov

Project Email
rbd-meadowlands@dep.nj.gov

Question & Answer During Workshop
WORKSHOP BREAKOUT SESSION

ANNA HOCHHALTER, AECOM
DESIGN DRIVERS FOR RIVERFRONT PARK
DESIGNING WITH MAINTENANCE IN MIND

CONCEPTUAL DESIGN

TECHNICAL
- Soil + Groundwater data
- Geotechnical data
- Existing topography
- Existing Utilities
- Stormwater Regulations
- Existing + Future O&M
- Budget
- Timeline

INPUT FROM YOU TODAY
- Community Priorities
- Desired Look + Feel of the Park

COMMUNITY

FINAL DESIGN

Riverfront Park Design Workshop // January 23, 2020
**RIVERFRONT DESIGN WORKSHOP**

**4 STATIONS**

- **PARK INTRODUCTION**
- **RBDM PROJECT INFORMATION**
- **PARK LOOK + FEEL**
- **PARK EXPERIENCE PRIORITIES**

**Goals**
- To provide design input on Riverfront Park
- To discuss with the Design Team
- To learn about the RBDM project

**Format**
- Open Workshop Session (1 hour)
Riverfront Park

- Located on the Hackensack River
- Located near Little Ferry and Moonachie Schools, Library, and community facilities
RIVERFRONT PARK: EXISTING CONDITIONS

Mudflats and Tidal Wetland

Timber Bulkhead + Sheet Pile Shoreline

HSA Maritime Education + Boat Launch

Site Impervious Surface
RIVERFRONT PARK: EXISTING CONDITIONS

Key Conditions

- Timber and sheet pile bulkheads
- Existing Tidal Marsh and mudflats
- Holy Spirit Association (HSA) Maritime Education
- Future Dongsan Alliance Church Building and Parking
RIVERFRONT PARK: DESIGN PRINCIPLES
A NEW PUBLIC WATERFRONT PARK

Design Principles

- Waterfront Access
- Ecological Enhancement
- Water Management
RIVERFRONT PARK: DESIGN CONCEPT

WATERFRONT ACCESS

Park Performance Being Considered

- Access from Washington Ave, Riverside Ave, Bergen Turnpike
- Waterfront Pathway
- Public kayak access
- Private boat launch and operations maintained
- Gathering Areas
- Picnic Areas
ECOLOGICAL ENHANCEMENT

Park Performance Being Considered

- Shoreline Restoration
- Living Shoreline
- Mudflats
- Intertidal Marsh
- Transitional Vegetation
- Upland Native Planting
Park Performance Being Considered

- Designing for fluctuating tides
- Designing for 2075 Mean High-High Water (MHHW)
RIVERFRONT PARK: LOOK + FEEL
LET THE DESIGN TEAM KNOW YOUR VISUAL PREFERENCES

PLANTING

PAVING

SCREENING

FURNISHINGS
RIVERFRONT PARK: EXPERIENCES
LET THE DESIGN TEAM KNOW YOUR PRIORITIES

TYPE OF PARK CHARACTER
SIZE OF TIDAL MARSH
FUNCTION OF GATHERING SPACE
SIZE + TYPE OF KAYAK LAUNCH
PROXIMITY OF KAYAK LAUNCH TO PARKING
RIVERFRONT PARK: EXPERIENCES
LET THE DESIGN TEAM KNOW YOUR PRIORITIES

A. NATURALISTIC EXPERIENCE
   - Natural park character
     - Largest tidal marsh
     - Small intimate gathering
     - Floating pier kayak launch
     - Kayak next to parking

B. SOCIAL EXPERIENCE
   - Urban park character
     - Smallest tidal marsh
     - Large event gathering
     - Wide ramp kayak launch
     - Kayak next to parking

C. HYBRID EXPERIENCE
   - Natural/Urban park character
     - Medium size tidal marsh
     - Small open gathering
     - Narrow ramp kayak launch
     - Kayak 2 mins to parking
RIVERFRONT PARK: EXPERIENCES
LET THE DESIGN TEAM KNOW YOUR PRIORITIES

Naturalistic Experience with:

- **NATURAL** PARK CHARACTER
- **LARGEST** TIDAL MARSH
- **SMALL INTIMATE** GATHERING
- **FLOATING PIER** KAYAK LAUNCH
- **KAYAK NEXT TO** PARKING
RIVERFRONT PARK: EXPERIENCES
LET THE DESIGN TEAM KNOW YOUR PRIORITIES

Social Experience with:

- URBAN PARK CHARACTER
- SMALLEST TIDAL MARSH
- LARGE EVENT GATHERING
- WIDE RAMP KAYAK LAUNCH
- KAYAK NEXT TO PARKING
RIVERFRONT PARK: EXPERIENCES
LET THE DESIGN TEAM KNOW YOUR PRIORITIES

Social/Naturalistic Experience with:

- NATURAL/URBAN PARK CHARACTER
- MEDIUM SIZE TIDAL MARSH
- SMALL OPEN GATHERING
- NARROW RAMP KAYAK LAUNCH
- KAYAK 2 MINS TO PARKING
RIVERFRONT PARK: EXPERIENCE

HOW TO SELECT YOUR PRIORITIES

A
NATURALISTIC EXPERIENCE

B
SOCIAL EXPERIENCE

C
HYBRID EXPERIENCE

*Example selections are shown. Participants will select their own priorities during the workshop.
WORKSHOP SESSION OVERVIEW

RIVERFRONT PARK

STATION 1
EXISTING CONDITIONS + DESIGN PRINCIPLES

STATION 2
PRIORITIES: NATURALISTIC EXPERIENCE

STATION 3
PRIORITIES: SOCIAL EXPERIENCE

STATION 4
PRIORITIES: HYBRID EXPERIENCE

STATION 5
PARK MATERIALS CHARACTER

STATION 6
PROJECT GREY + GREEN INFRASTRUCTURE

RBDM PROJECT

Riverfront Park Design Workshop// January 23, 2020
WORKSHOP SESSION