

Success Stories: How Redeveloped Brownfields Can Make Your Community More Resilient



New Jersey Brownfield Summit

AKRF, Inc.

June 12, 2024



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Presenter Profile
NJ Brownfield Summit

June 12, 2024

Case Study Highlights

Impacts of Flooding on Hoboken

Resiliency Planning - Parks as Defense

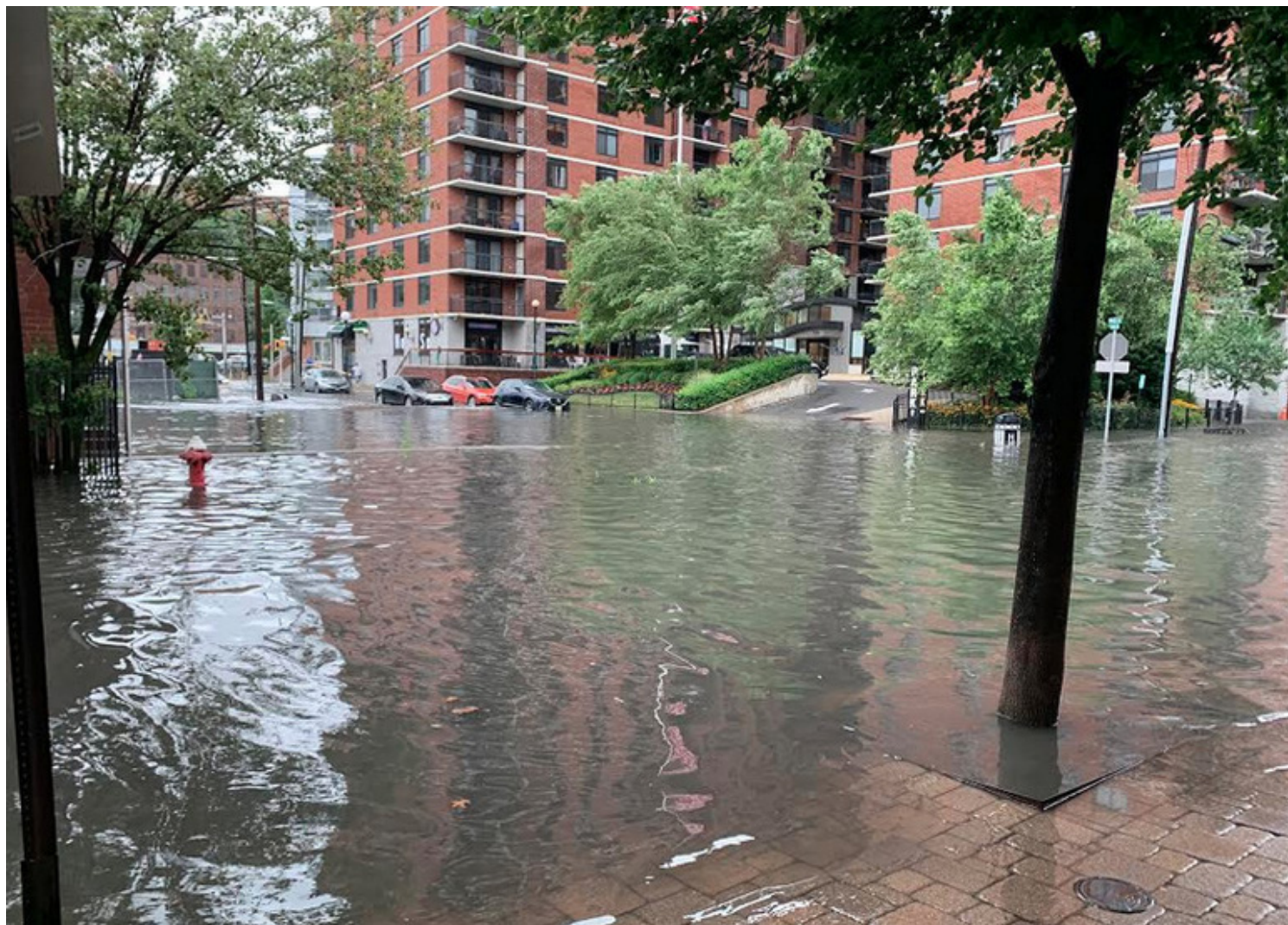
Community Benefits from resilient strategic planning

Designing a Resiliency Park



Learning Objectives
Case Study - Hoboken Parks as Defense

June 12, 2024



RETENTION

DETENTION



CONSTRUCTED WETLANDS



SUBSURFACE STORAGE



BASF SITE

PINO SITE

BLOCK 12 SITE

INFILTRATION



GREEN ROOFS



RAINWATER HARVESTING



BIOSWALES



STORMWATER PLANTERS

Parks as Defense

Northwest Resiliency Park

1 Million Gallons of Storage

8th & Monroe

Concept Phase

7th & Jackson

470,000 Gallons of Storage

Southwest Resiliency Park

**200,000 Gallons of Storage
600,000 gallon expansion**



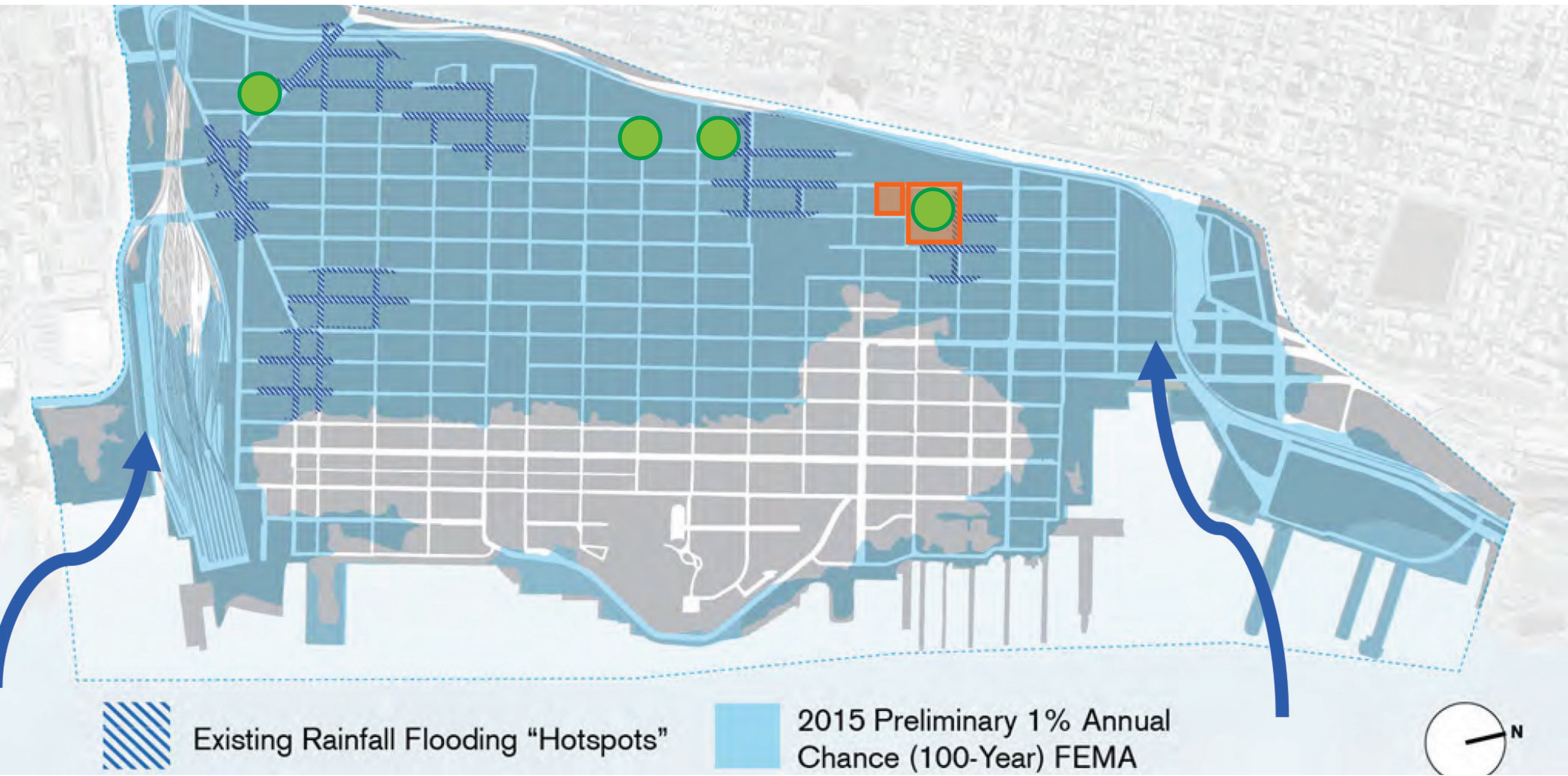
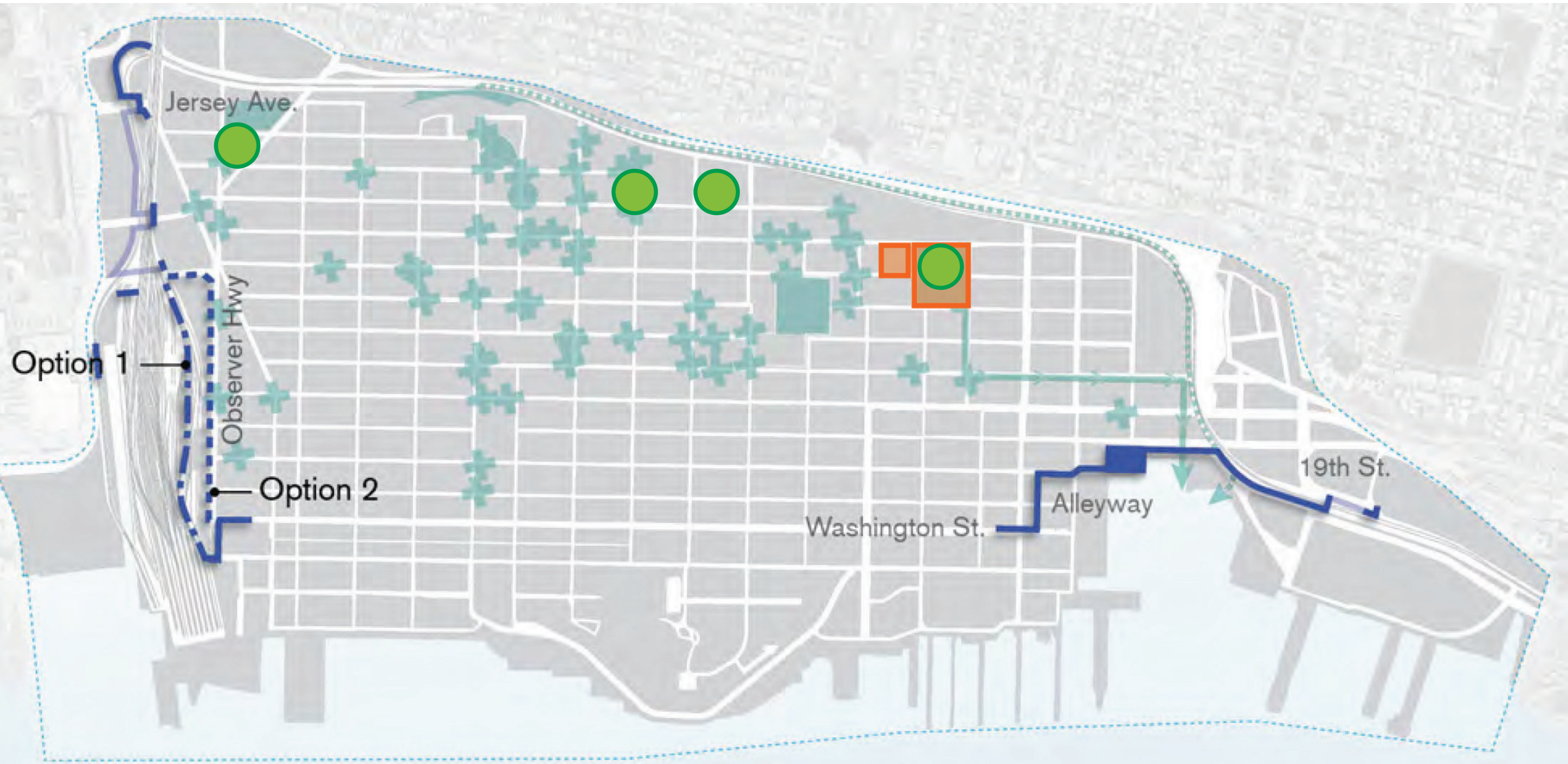


Image Credit: Rebuild By Design Hudson River Final Environmental Impact Statement



Resist - Alternative 3
 Existing Structures
 Delay, Store, Discharge

*For more information on Alternative 3, please see the project boards



Hoboken Northwest Resiliency Park



Image Credit: AKRF, Inc.



Image Credit: OLIN

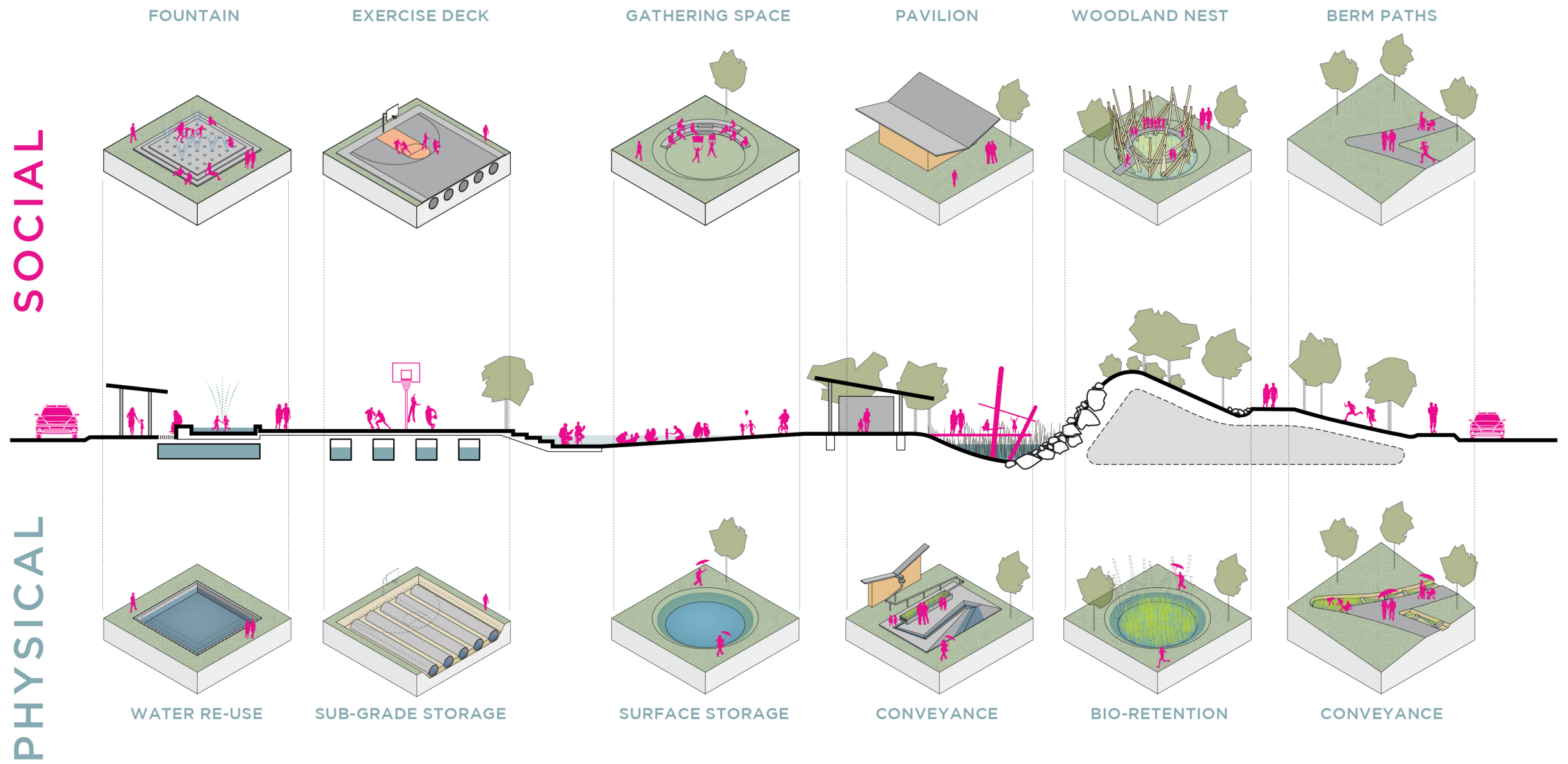
Define design and performance criteria for both physical infrastructure systems as well as community based social interdependencies



**SOCIAL
RESILIENCE**



**PHYSICAL
RESILIENCE**



FOUNTAIN

EXERCISE DECK

GATHERING SPACE

PAVILION

WOODLAND NEST

BERM PATHS

SOCIAL

PHYSICAL

WATER RE-USE

SUB-GRADE STORAGE

SURFACE STORAGE

CONVEYANCE

BIO-RETENTION

CONVEYANCE

Physical Infrastructure Planning

Hoboken Master Plan identifies former BASF site as future parkland

2004

Green Infrastructure Strategic Plan identifies former BASF site as future resiliency park

2014

Rebuild by Design advances former BASF site as part of Delay, Store, Discharge strategy










2016

City of Hoboken acquires former BASF property and opens Northwest Pop-Up Park

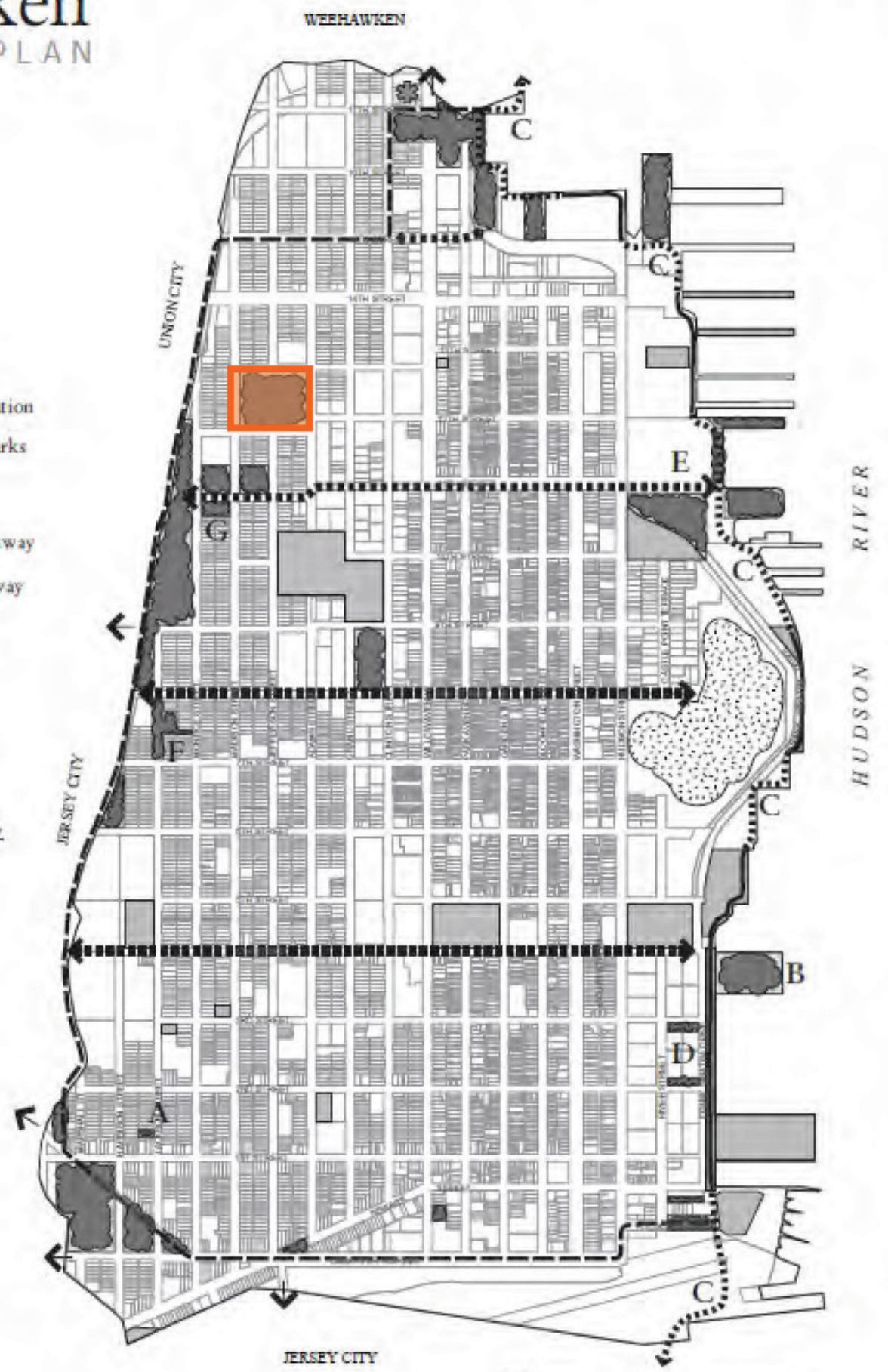
2017

NHSA incorporates Northwest Resiliency Park in CSO Reduction Long Term Control Plan

2019

-  Existing Parks and Recreation
-  Planned/Possible New Parks and Recreation
-  Private Open Space
-  Existing Waterfront Walkway
-  Future Waterfront Walkway
-  Connection to Adjacent Municipalities
-  "Green Circuit"
-  "Urban Trail" Street
-  Pedestrian Crossing of Light Rail

Note: Letters are keyed to Table III-2.



Map 4: Open Space Concept

Foot
0 500 1,000 2,000

Map prepared by Phillips Priss Shapiro Associates, Inc.
March 2004
Base map source: Wilbur Smith Associates

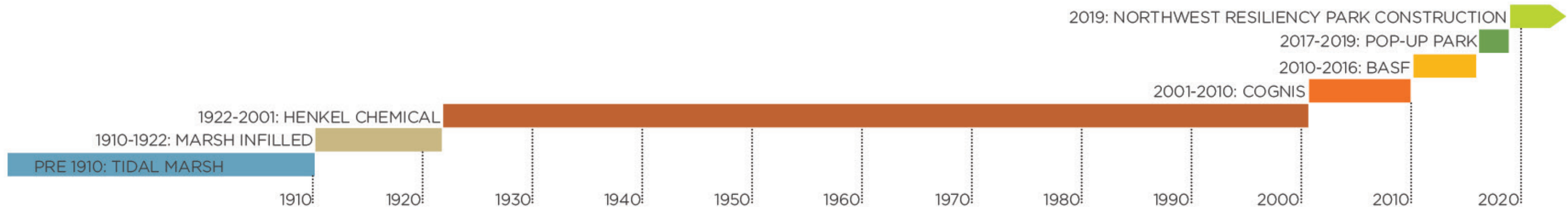


Figure 1.2.1 (Timeline of Development and Ownership)

Source: The New York Public Library Digital Collections

1897



Figure 1.2.2 (1897 photograph of Hoboken meadows)
Source: Rutgers University Community Repository

1890

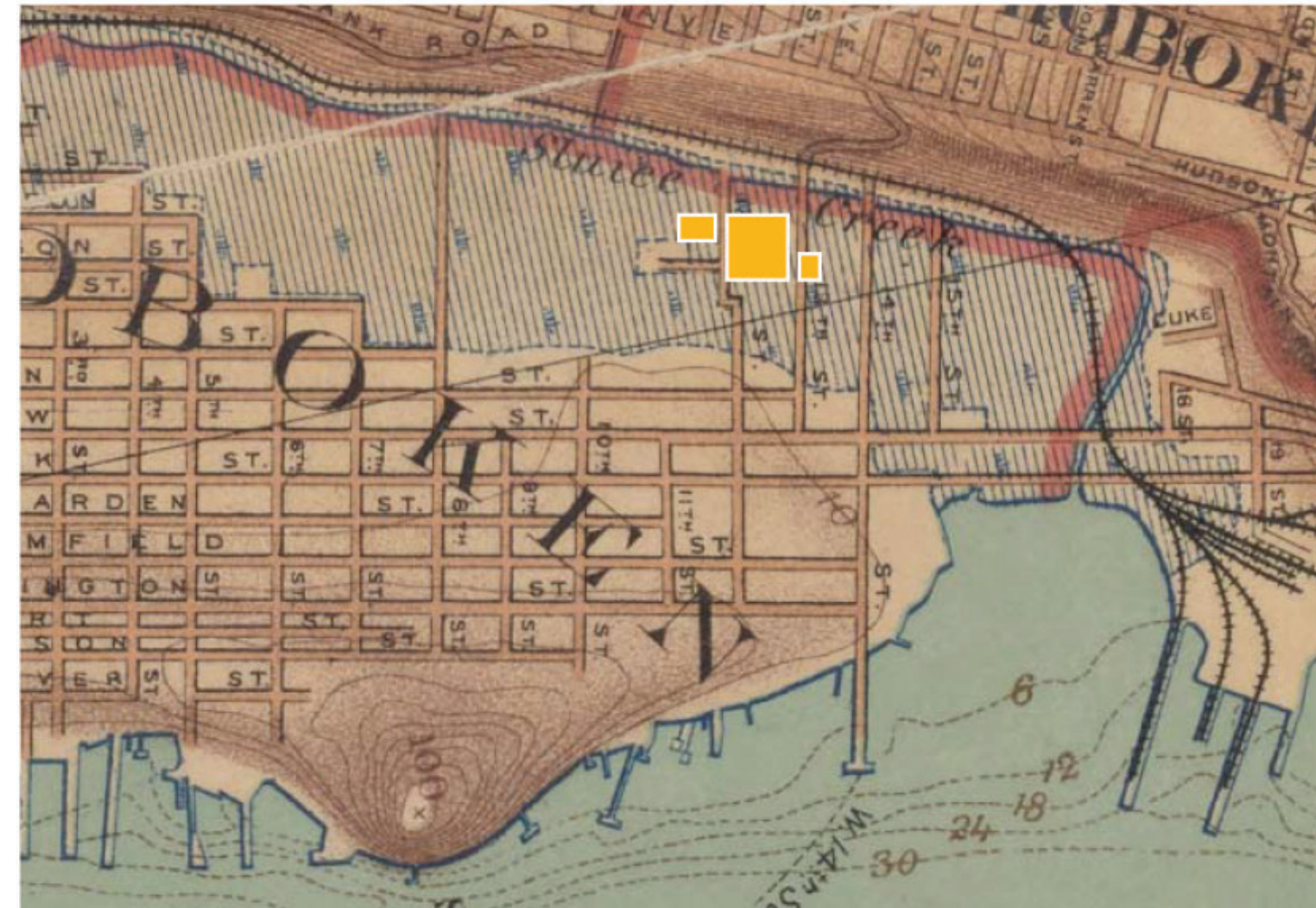


Figure 1.2.3 (1890 topographic map showing marsh extent)
Source: New York Public Library Digital Collections

1967



Figure 1.2.4 (1967 photograph of northwest Hoboken)
Source: Rutgers University Community Repository

1930



Figure 1.2.5 (1930 aerial image)
Source: New Jersey Geographical Information Network

2017



Figure 1.2.6 (2017 photograph of Pop-Up Park)

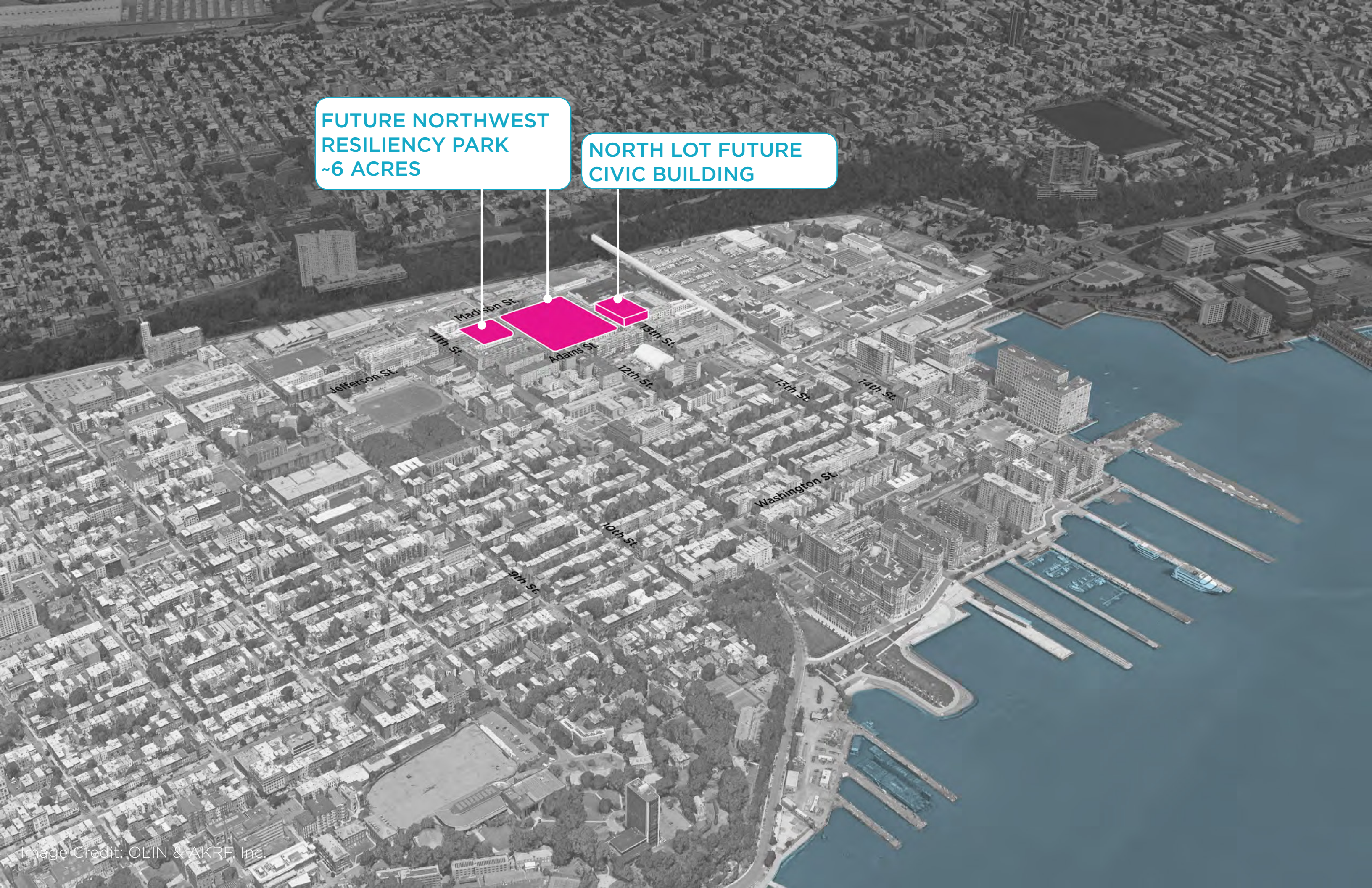
2015



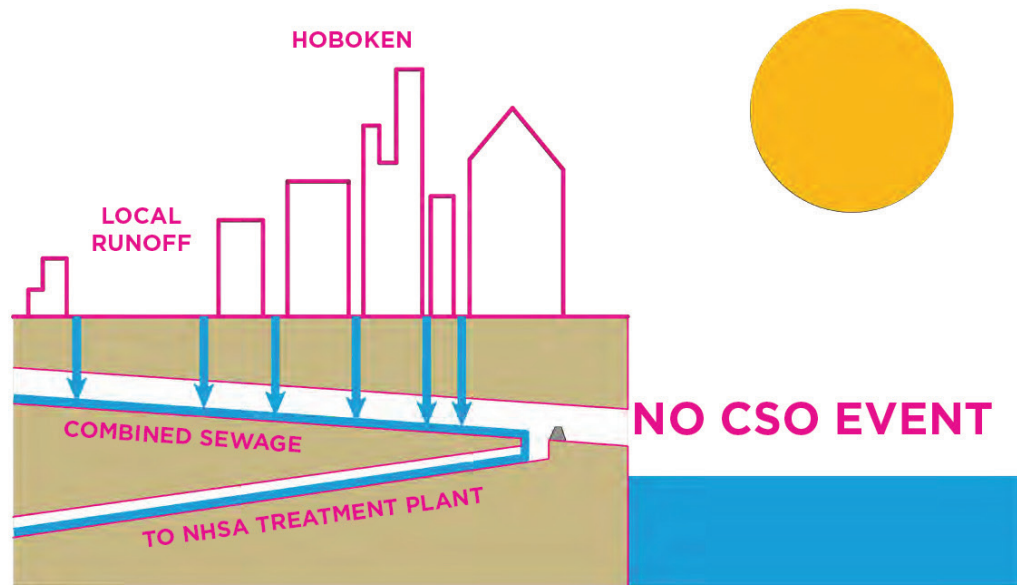
Figure 1.2.7 (2015 aerial image)
Source: New Jersey Geographical Information Network

**FUTURE NORTHWEST
RESILIENCY PARK
~6 ACRES**

**NORTH LOT FUTURE
CIVIC BUILDING**

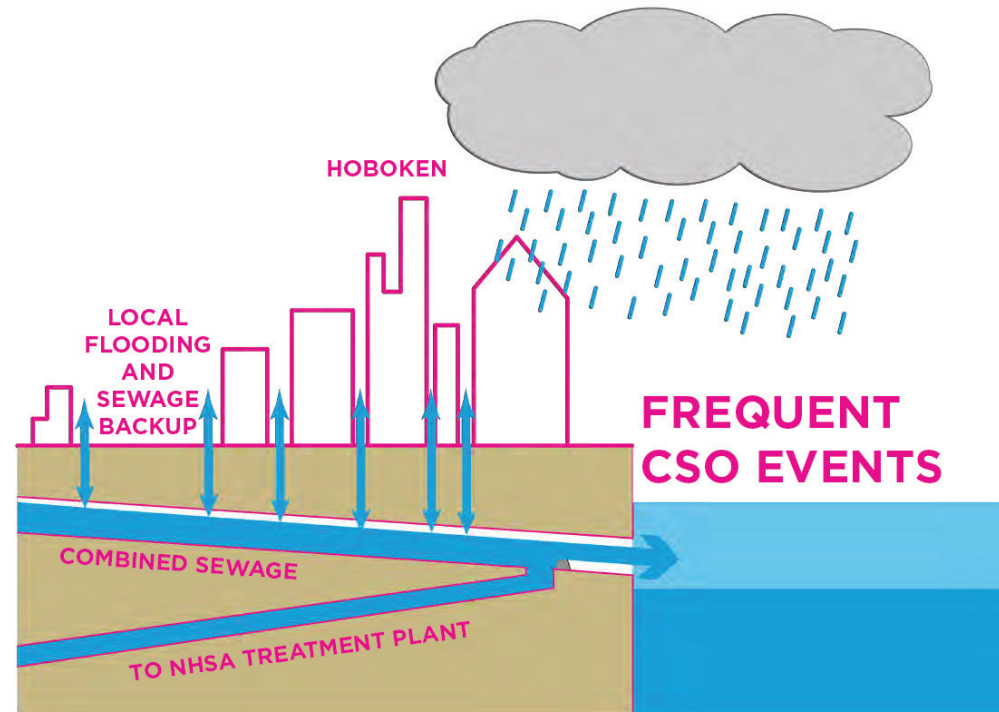


DRY WEATHER CONDITIONS

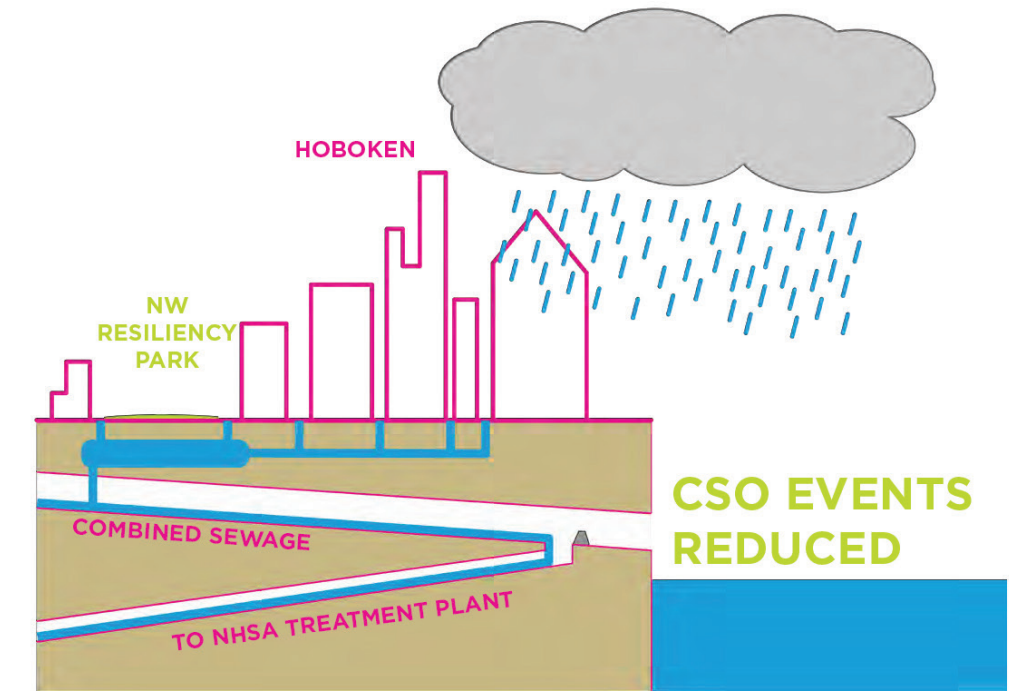


IN DRY WEATHER COMBINED SEWAGE IS CONVEYED TO THE NNSA TREATMENT PLANT BEFORE DISCHARGE.

WET WEATHER CONDITIONS



IN WET WEATHER COMBINED SEWAGE OVERFLOWS DIRECTLY TO THE HUDSON RIVER AND FLOODS LOCAL NEIGHBORHOODS.

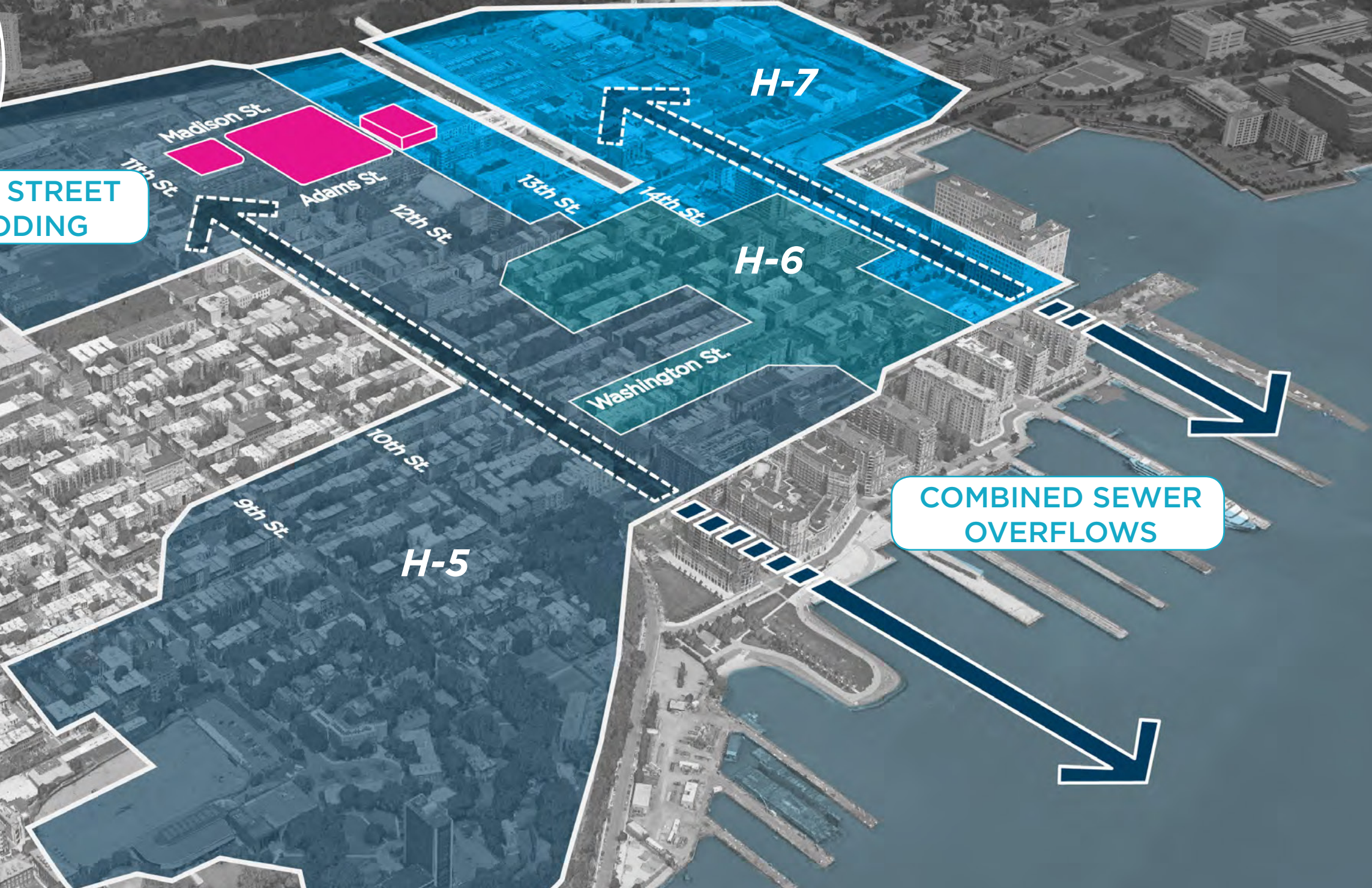


ONE MILLION GALLONS OF STORAGE AT NORTHWEST RESILIENCY PARK WILL HELP REDUCE COMBINED SEWAGE OVERFLOWS AND LOCAL FLOODING.

COMBINED SEWER SYSTEM AND FLOODING



LOCAL STREET FLOODING



COMBINED SEWER OVERFLOWS

STORMWATER MANAGEMENT STRATEGIES



LOCAL STREET FLOODING

SUBSURFACE STORAGE FOR AT LEAST 1 MILLION GALLONS TO RELIEVE SEWER SYSTEM

GREEN INFRASTRUCTURE TO MANAGE ON-SITE STORMWATER

GREEN INFRASTRUCTURE TO ABSORB RUNOFF FROM SURROUNDING STREETS

COMBINED SEWER OVERFLOWS



Social Infrastructure Planning



LEGEND

- Parks
- Project Site
- Municipal Boundary

Source: U.S. Census Bureau, 2010 Census

0 75 150 300 450 Feet

N
W

Image Credit: OLIN

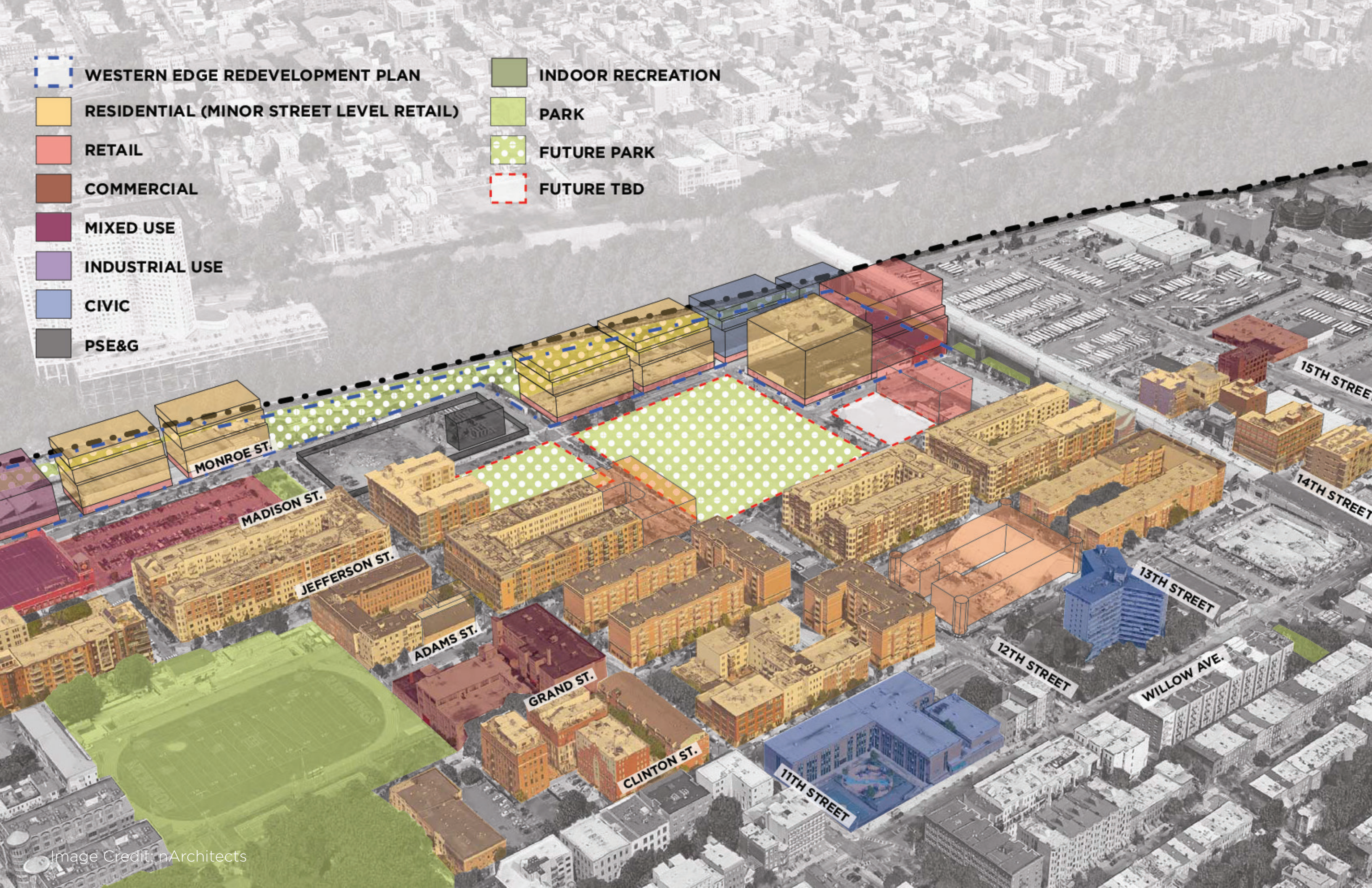


Image Credit: OLIN

- RESIDENTIAL (MINOR STREET LEVEL RETAIL)
- RETAIL
- COMMERCIAL
- INDUSTRIAL USE
- CIVIC
- INDOOR RECREATION
- PARK
- PSE&G



-  WESTERN EDGE REDEVELOPMENT PLAN
-  RESIDENTIAL (MINOR STREET LEVEL RETAIL)
-  RETAIL
-  COMMERCIAL
-  MIXED USE
-  INDUSTRIAL USE
-  CIVIC
-  PSE&G
-  INDOOR RECREATION
-  PARK
-  FUTURE PARK
-  FUTURE TBD







IMAGINE YOUR... NORTHWEST RESILIENCY PARK

DRAW YOUR PARK

Image Credit: OLIN



ONLINE SURVEY

WHAT FEATURES WOULD YOU LIKE TO SEE IN YOUR PARK?

BASIC AMENITIES



TREES
727



BATHROOMS
712



SHADE STRUCTURES
659



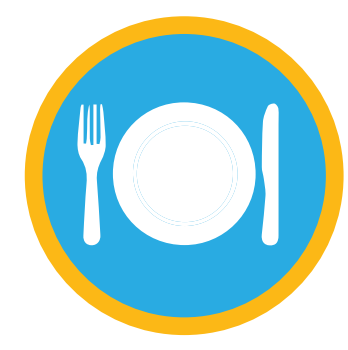
DRINKING
FOUNTAINS
545



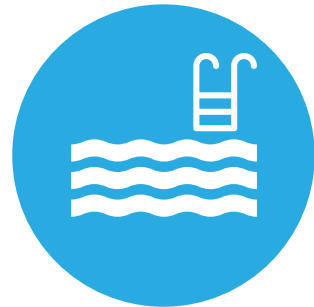
SEATING
533



BIKE PARKING
475



FOOD/CAFE
510



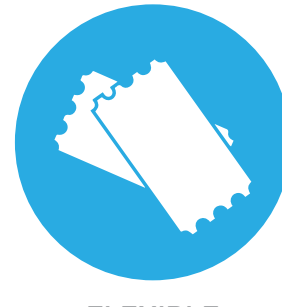
SWIMMING
POOL
501



LIGHTING
477



NATIVE
PLANTS
424



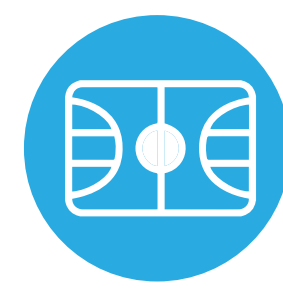
FLEXIBLE
EVENT SPACE
415



SPRAY/
FOUNTAIN
WATER
FEATURE
409



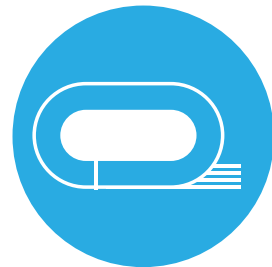
COMMUNITY
GARDENS
400



ATHLETIC
FIELDS
389



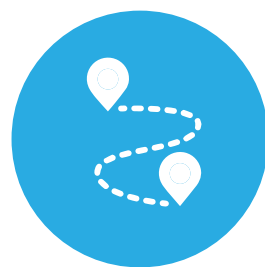
PLAY
AREAS
382



MULTI USE
TRACK
370



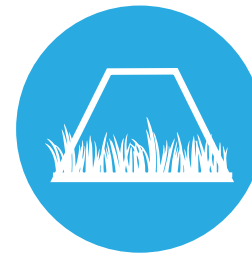
PICNIC/GRILL
AREAS
367



TRAILS
362



FITNESS STATIONS
358



PASSIVE SPACE
332



DOG PARK
293



MINI GOLF
295



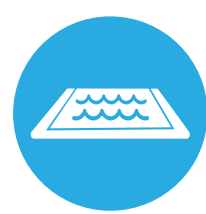
COMMUNITY
CENTER
260



GAMES
237



ROCK/NET
CLIMBING
224



SURFACE/
WADING WATER
FEATURE
207



BIKE
RENTAL
194



ENVIRONMENTAL
EDUCATION
157



CAR
PARKING
132



BLEACHERS
77

LOW DEMAND

EVALUATING FEATURES


IN HIGH DEMAND


MULTI-GENERATIONAL


**NOT PRESENT/
NEARBY
IN HOBOKEN**


**ENGAGES MANY
PEOPLE PER
SQUARE FOOT**


**MULTI-USE/
MULTI-SEASON**



**ENVIRONMENTAL
BENEFIT**





ATHLETICS


CULTURE


NATURE


 **IN HIGH DEMAND**

 **ENGAGES MANY
PEOPLE PER
SQUARE FOOT**

 **MULTI-
GENERATIONAL**

 **MULTI-USE/
MULTI-SEASON**

 **NOT PRESENT/
NEARBY
IN HOBOKEN**

 **ENVIRONMENTAL
BENEFIT**

	IN HIGH DEMAND	ENGAGES MANY PEOPLE PER SQUARE FOOT	MULTI-GENERATIONAL	MULTI-USE/MULTI-SEASON	NOT PRESENT/NEARBY IN HOBOKEN	ENVIRONMENTAL BENEFIT
TENNIS	+++	++	+++	+	+++	
SOCCER	+++	+	+	+	+	
BASKETBALL	++	++	+	+	+	
BASEBALL	++	+	++	+	++	
PICKLEBALL	+	+++	+++	+	+	
LACROSSE	+	+	+	+	+++	
VOLLEYBALL	+	+++	++	+	+++	
FOOTBALL	+	+	++	++	++	
MULTI-USE	+	+	+++	+++	++	
FITNESS STATIONS	++	+++	+++	++	+	
ROLLER/ICE HOCKEY	+	+	+++	++	+++	
SWIMMING POOL	+++	++	++	+	+++	
CAFE	+++	+++	+++	+++	++	
FLEXIBLE EVENT SPACE	+++	+++	+++	++	+	
WATER FEATURE	++	++	++	+	++	
PICNIC AREA	+++	+++	+++	+	+	
COMMUNITY GARDENS	++	+	+++	+	+++	++
DOG PARK	++	+	++	++	+	
ENVIRON. EDUCATION	+	+++	+++	+++	+	+++
URBAN NATURE AREAS	+++	++	+++	+	+++	+++
GARDENS	++	++	+++	+	++	+++
PLAY AREAS	++	++	+	++	+	
TRAILS	++	+++	+++	+++	+	++

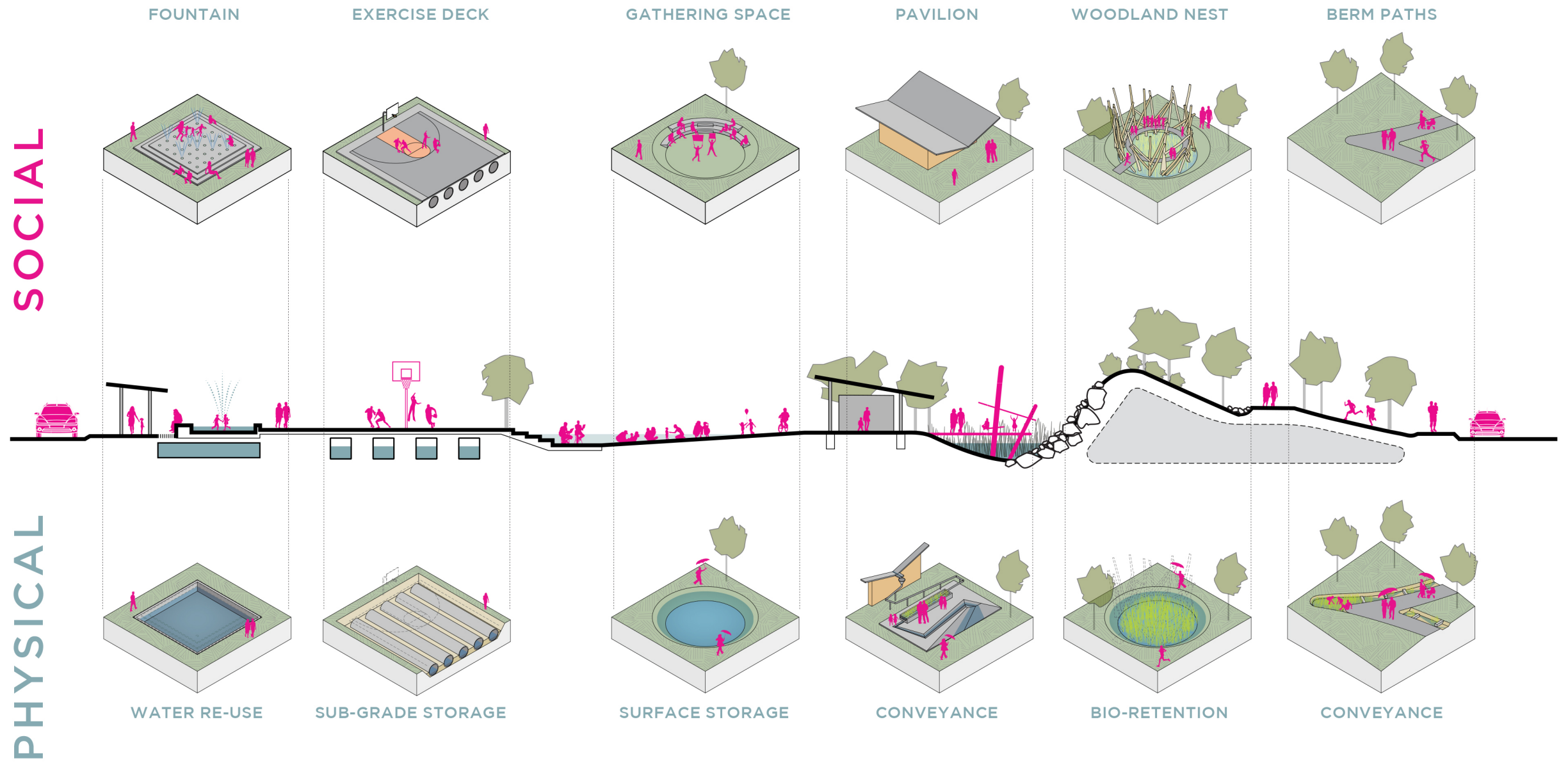
Final Design & Flood Mitigation Strategies



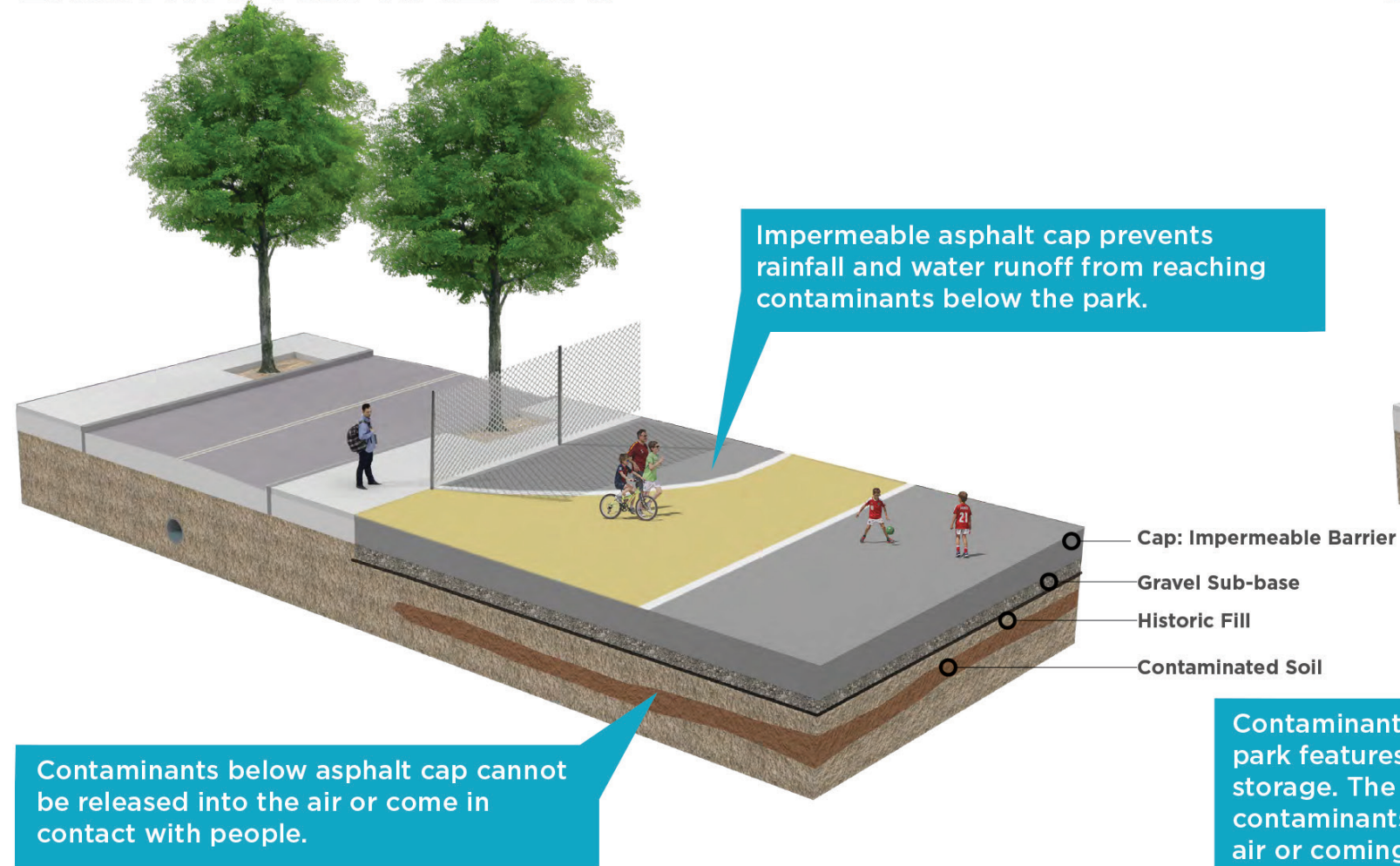
SOCIAL
RESILIENCE



PHYSICAL
RESILIENCE



EXISTING ASPHALT CAP



CONSOLIDATION & VEGETATIVE CAP

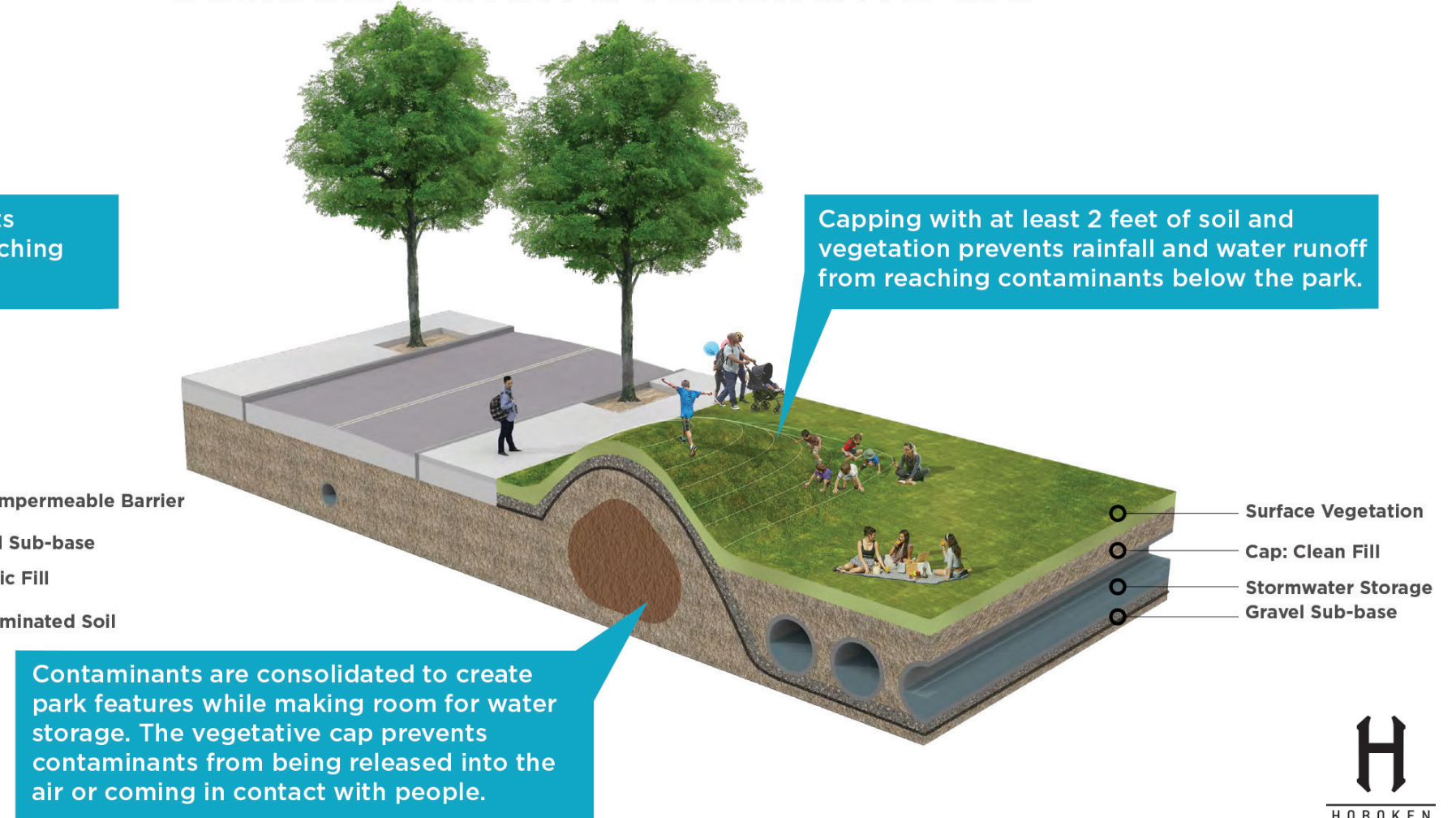




Image Credit: OLIN

Stormwater Systems

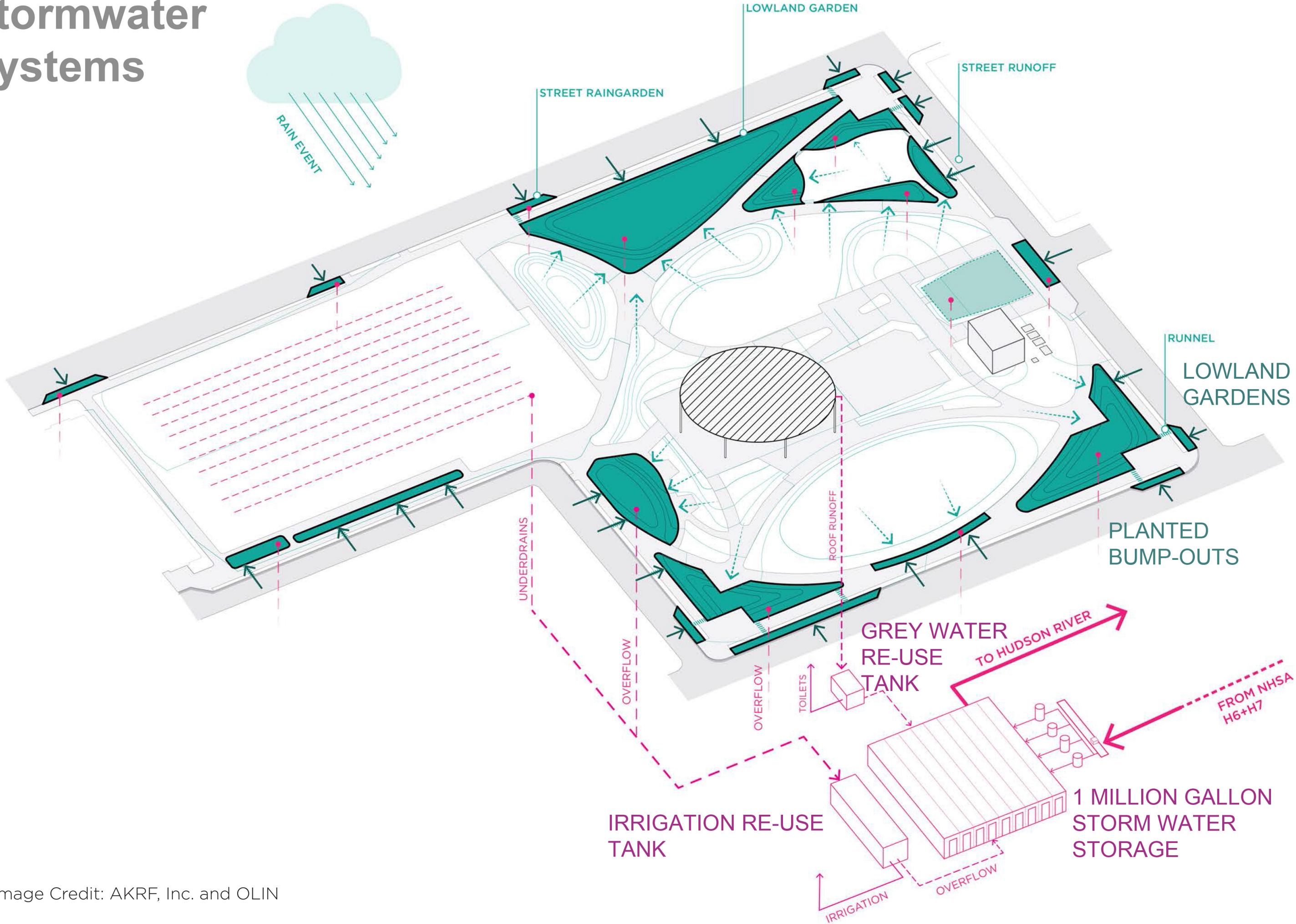


Image Credit: AKRF, Inc. and OLIN



MADISON ST

MADISON LOWLAND GARDEN

MULTI-PURPOSE ATHLETIC FIELD

LOOKOUT HILL

BASKETBALL

PLAY VALLEY

SLIDE HILL

JEFFERSON ST

GROVE

PAVILION

FOUNTAIN/
ICE RINK

PUMP GARDEN

12TH ST

STAGE

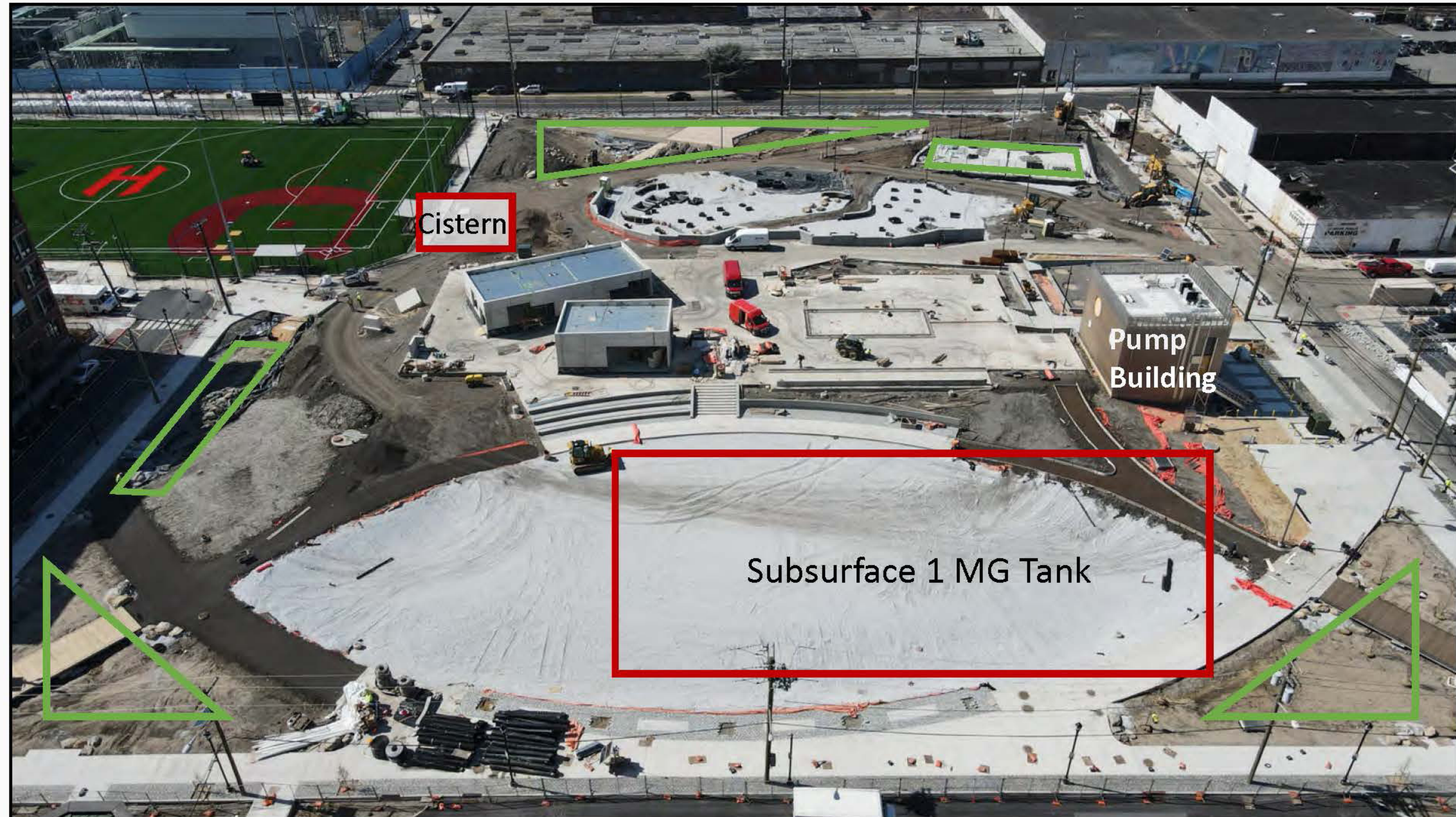
13TH ST

GREAT LAWN

ADAMS & 12TH
LOWLAND GARDEN

ADAMS & 13TH
LOWLAND GARDEN

ADAMS ST



 Denotes stormwater basins



Image Credit: Michael Baker International

Adams Street Entry Gardens



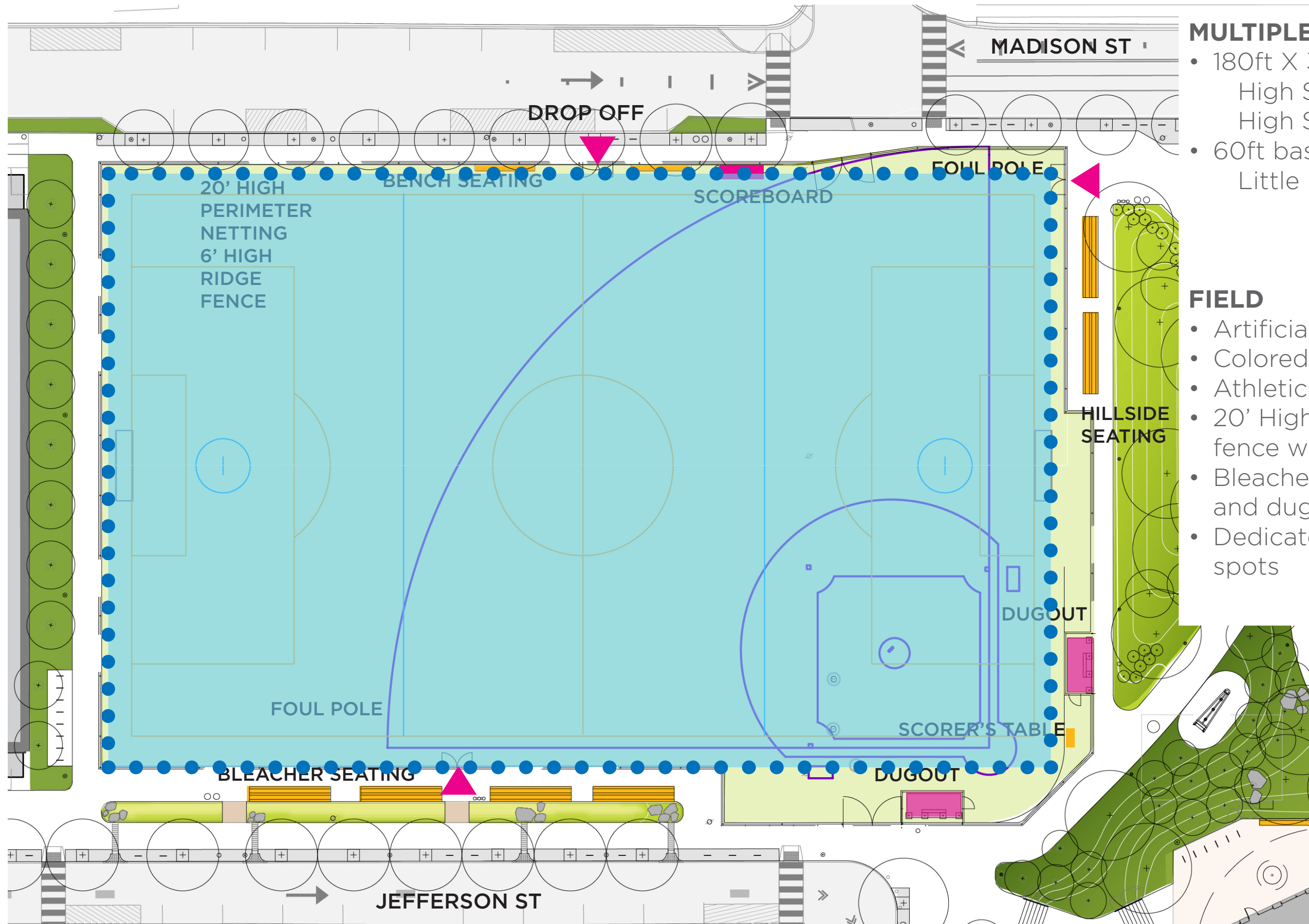
Adams Street Entry Gardens



Planting Bumpouts



Multi-Purpose Field



MULTIPLE SPORTS

- 180ft X 300ft (60yd X 100yd)
High School Soccer
High School Lacrosse
- 60ft baselines + 200ft outfield
Little League Baseball

FIELD

- Artificial Turf
- Colored striping for each sport
- Athletic Lighting
- 20' High Netting + 6' high rigid fence with gates
- Bleachers, moveable benches, and dugout shade structures
- Dedicated drop-off parking spots



Image Credit: Michael Baker International

Multi-Purpose Field





Image Credit: City of Hoboken

Madison Gardens + Play Valley



Image Credit: OLIN

Play Valley



Play Valley



Image Credit: OLIN

Image Credit: OLIN



Image Credit: AKRF



Image Credit: AKRF



Image Credit: AKRF

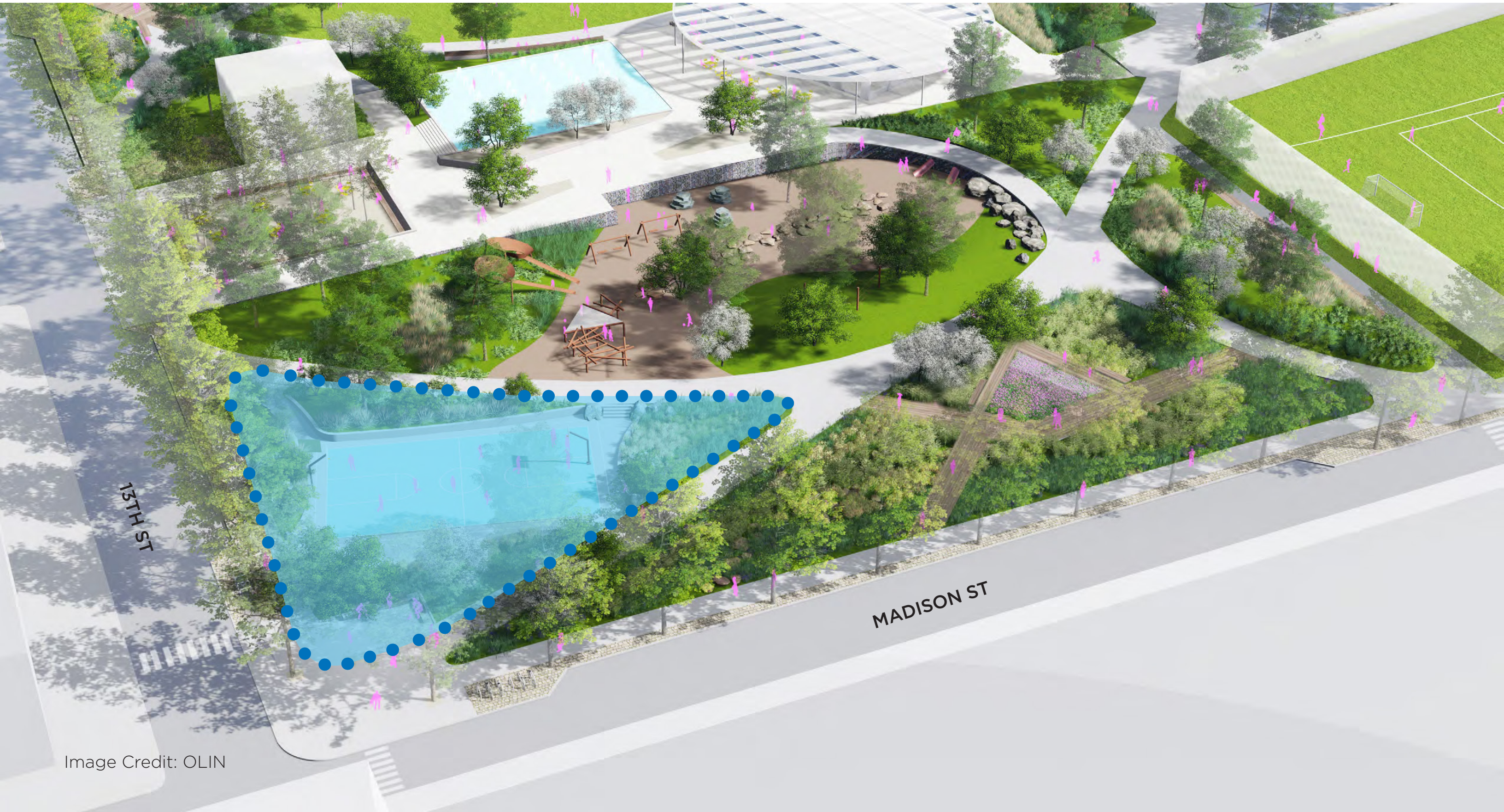


Image Credit: AKRF



Image Credit: AKRF

Madison Gardens + Play Valley



Basketball Basin

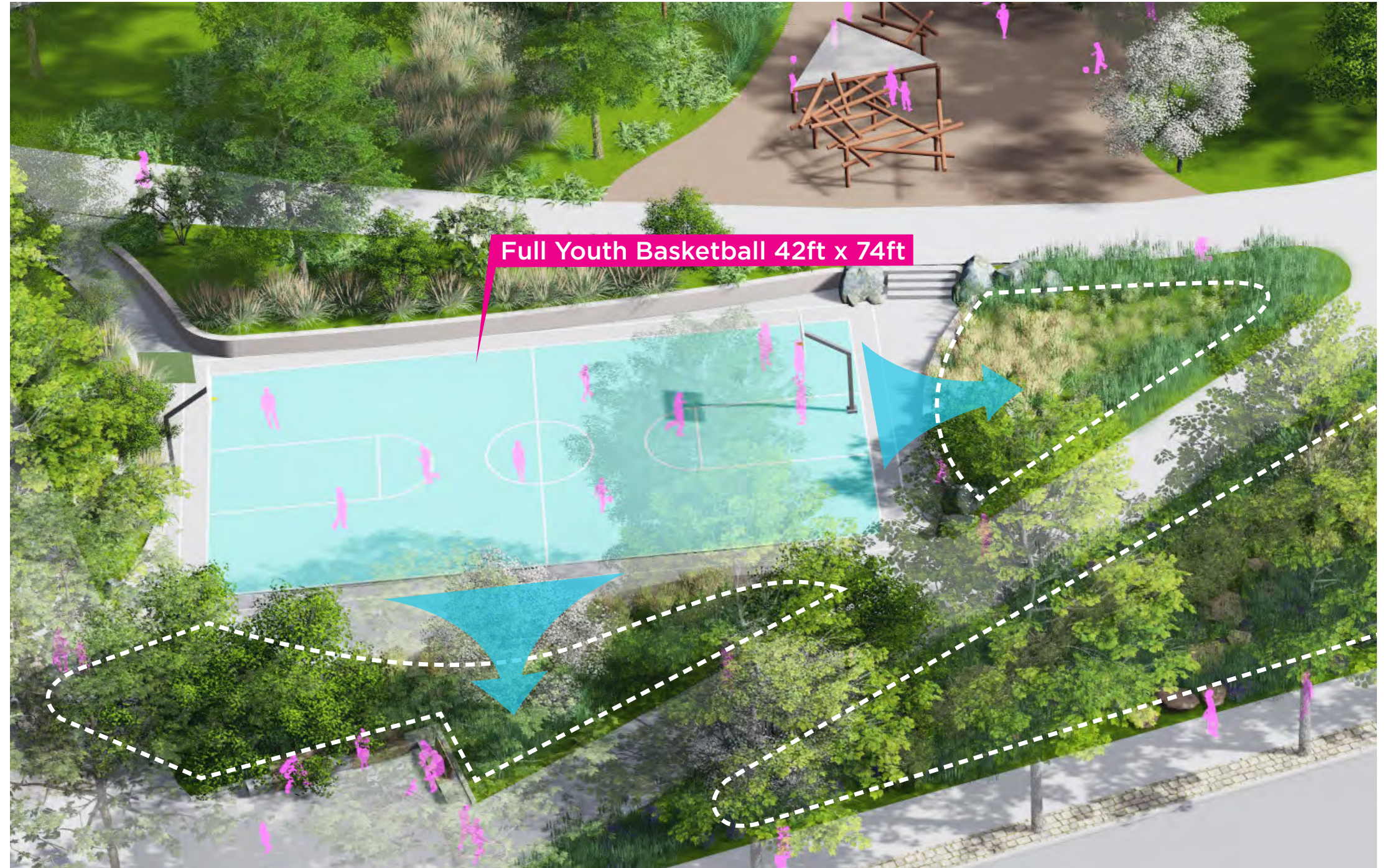
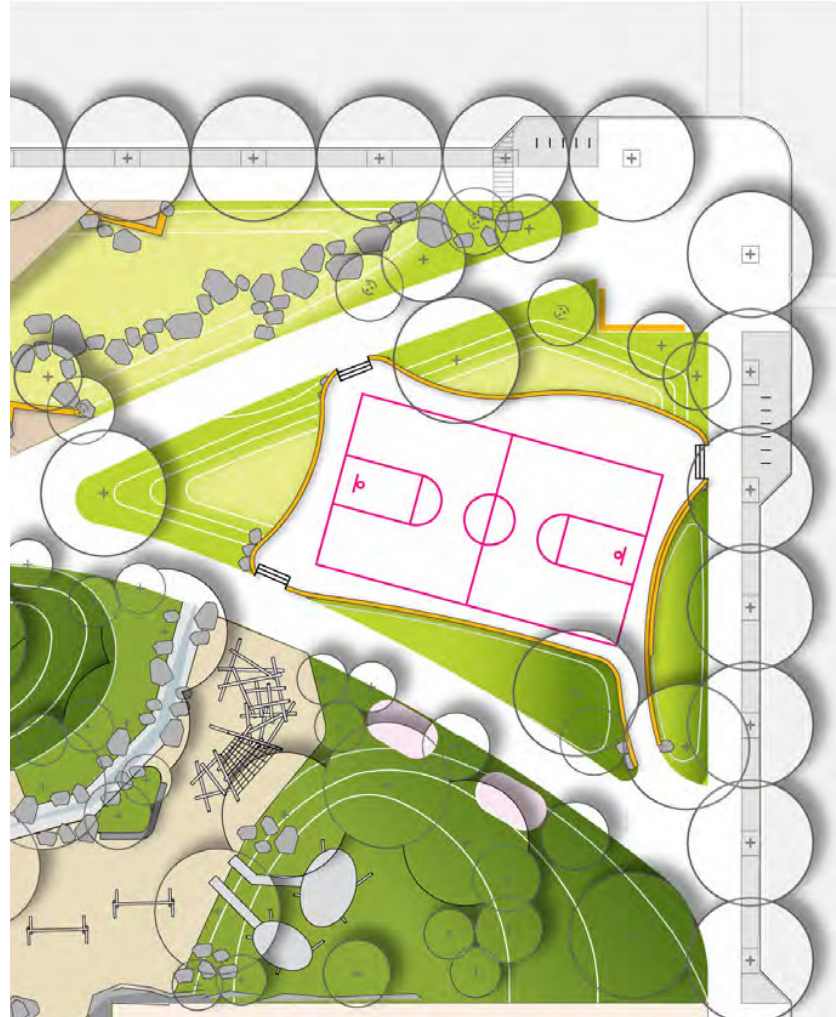
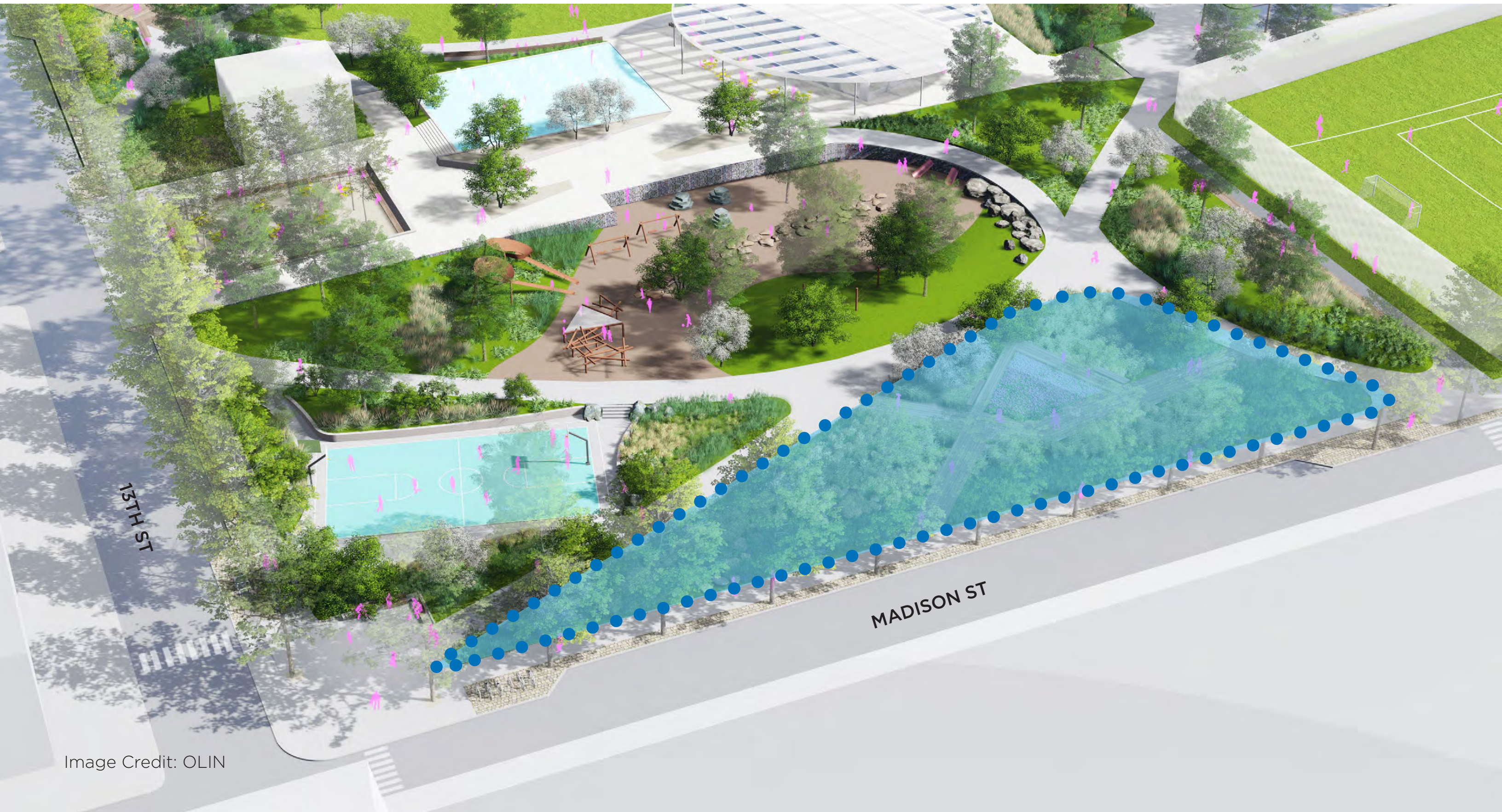




Image Credit: AKRF

Madison Gardens + Play Valley

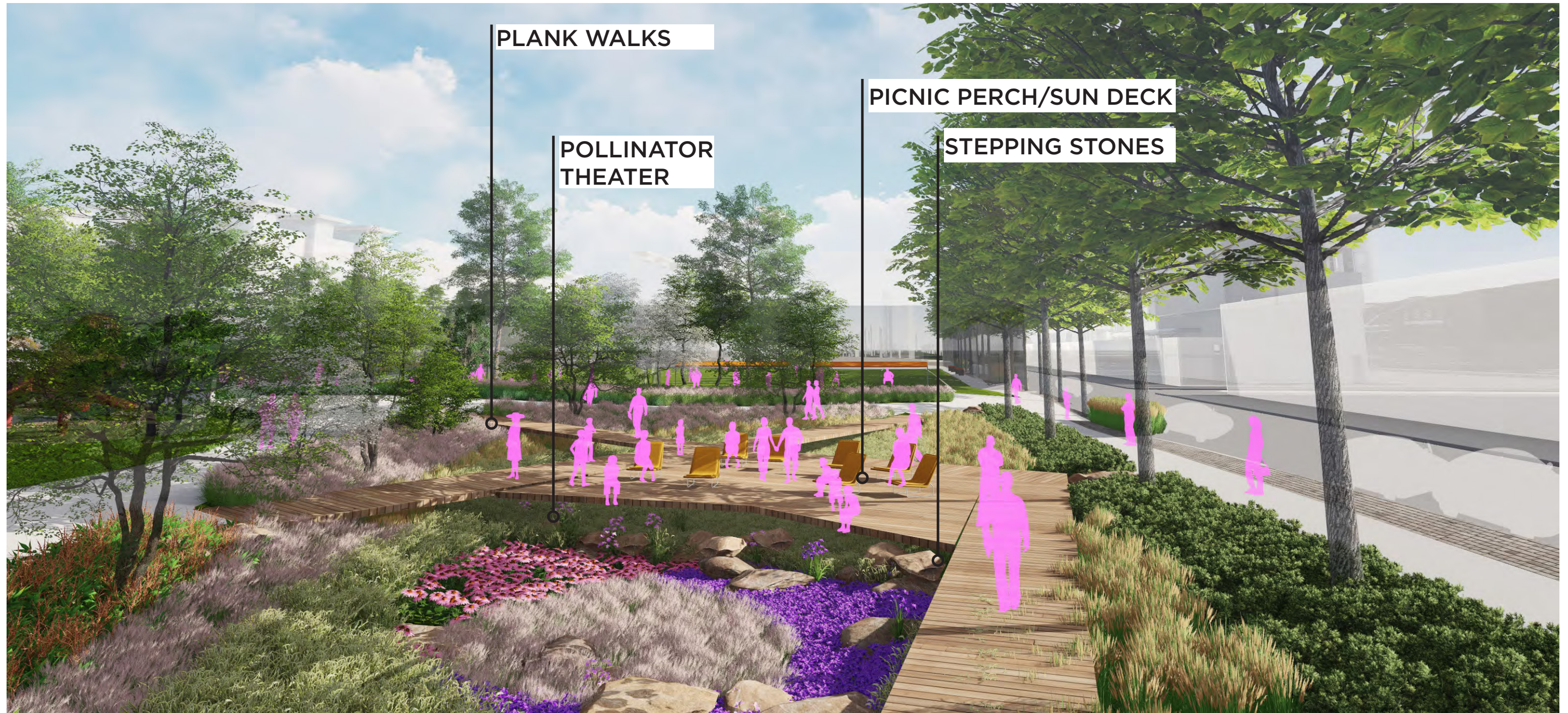


Madison Lowland Garden

Concept Design



Madison Garden + Learning Walk



Madison Garden + Learning Walk





Image Credit: AKRF



Image Credit: City of Hoboken

Terrace + Pavilion

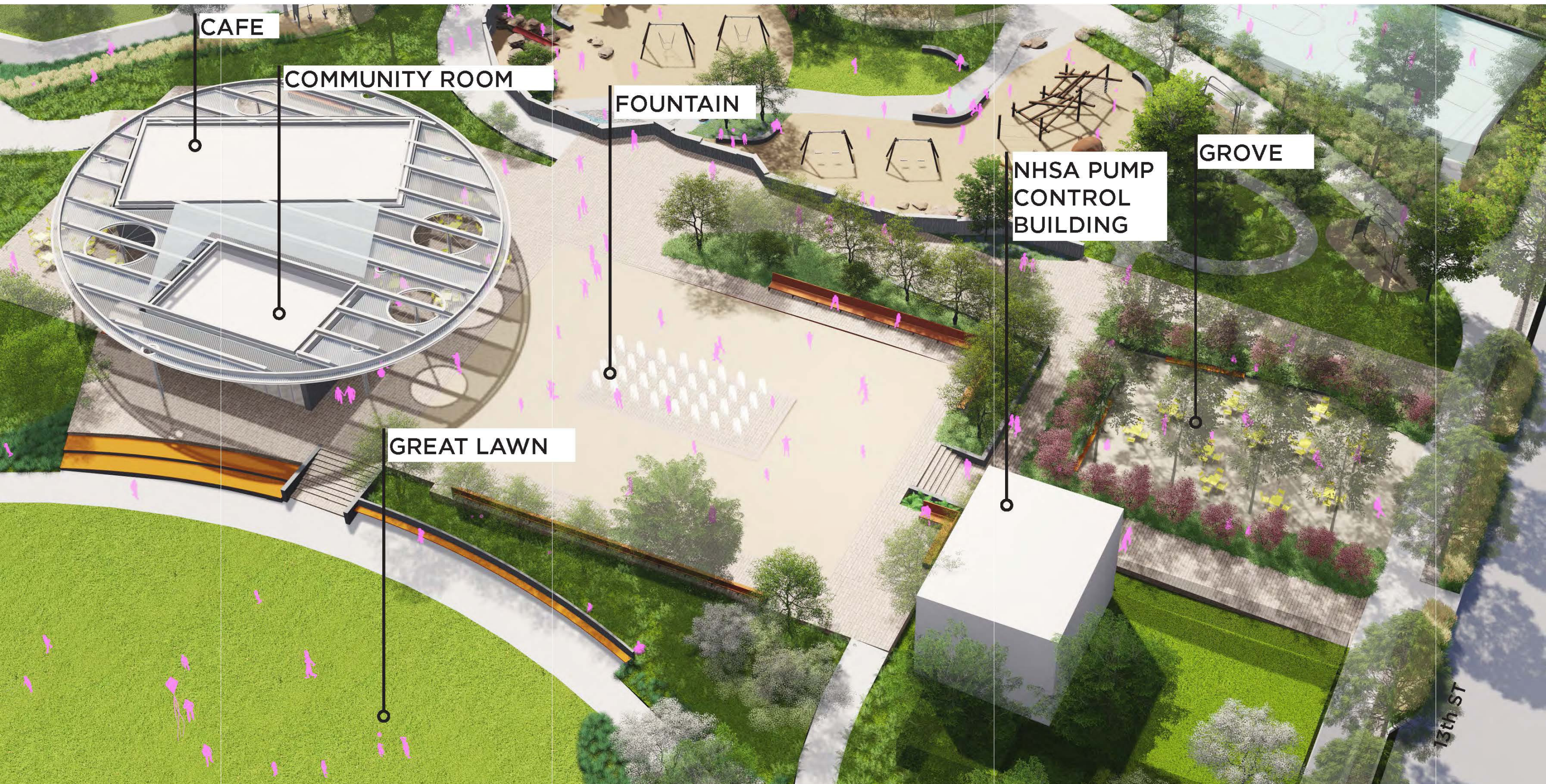




Image Credit: City of Hoboken



Image Credit: AKRF



Image Credit: AKRF



Image Credit: AKRF

Client:

City of Hoboken

Stakeholders:

New Jersey Infrastructure Bank (I-Bank)

Hudson County

New Jersey Department of Environmental Protection

North Hudson Sewerage Authority

Design Team

AKRF, Team Lead + Civil

OLIN, Landscape Architecture

nArchitects, Architecture

Silman, Structural

OLA, MEP

Tillett, Lighting Design

Studio Ludo, Playground Design

Lynch & Associates, Irrigation

Delta Fountains, Fountain Design

Excel Environmental, Environmental Remediation

Michael Baker International, Construction Management



Acknowledgements
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