### "Infrastructure as Adaptation"

Caleb D. Stratton AICP, CFM

**Chief Resilience Officer** 





NJDOT Bureau of Research, Technology Transfer Program: Tech Talks

Wednesday June 5, 2019

#### Hurricane Irene August 2011

H HE HL

1

#### Superstorm Sandy October 2012

İΤ.

F

F

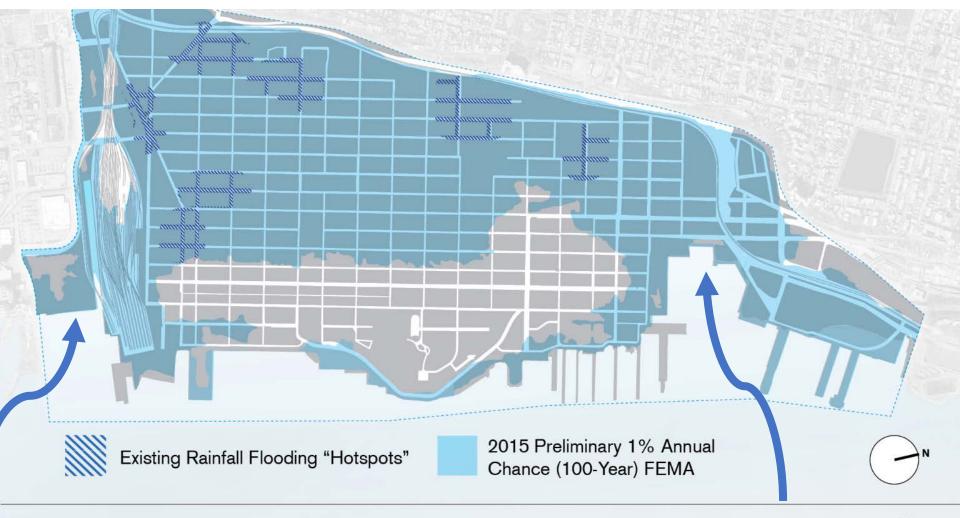
F

T

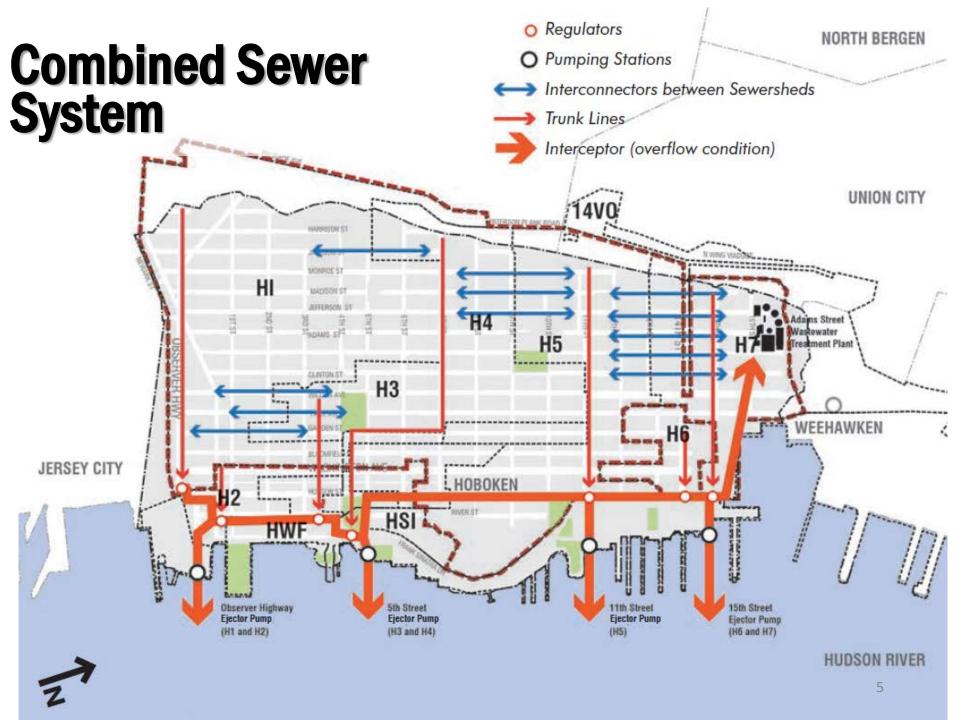
OR OTHER DR. 1

# **Flood Risk**

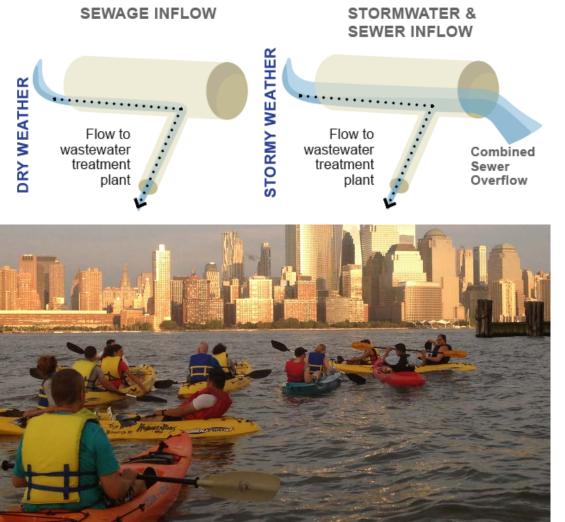
Landmass within Flood Zone (A): 63.85% Landmass within Flood Zone (V): 7.41% Landmass within Flood Zone (X): 7.66% Hoboken NFIP Total Liability: \$1,922,187,500 Hoboken NFIP Annual Premiums: \$5,984,720

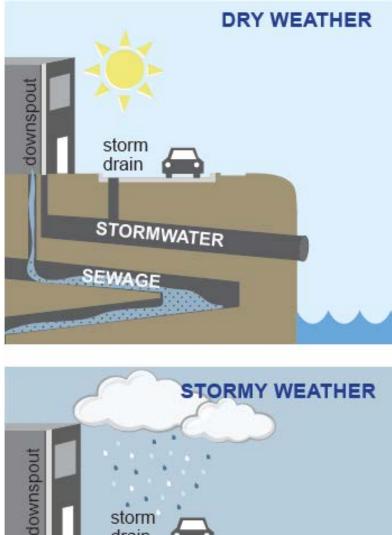






#### **Combined Sewer Overflows**





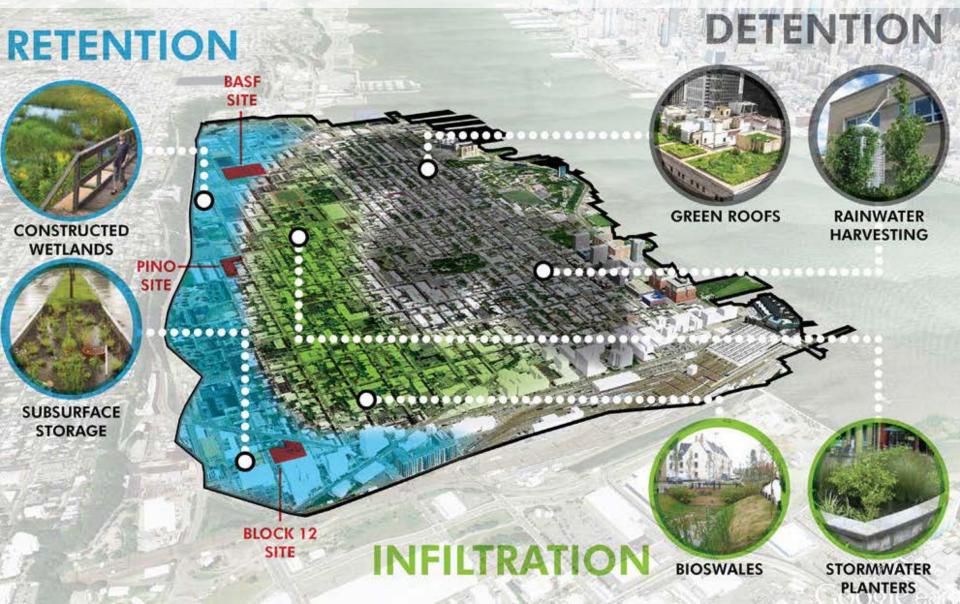
storm drain

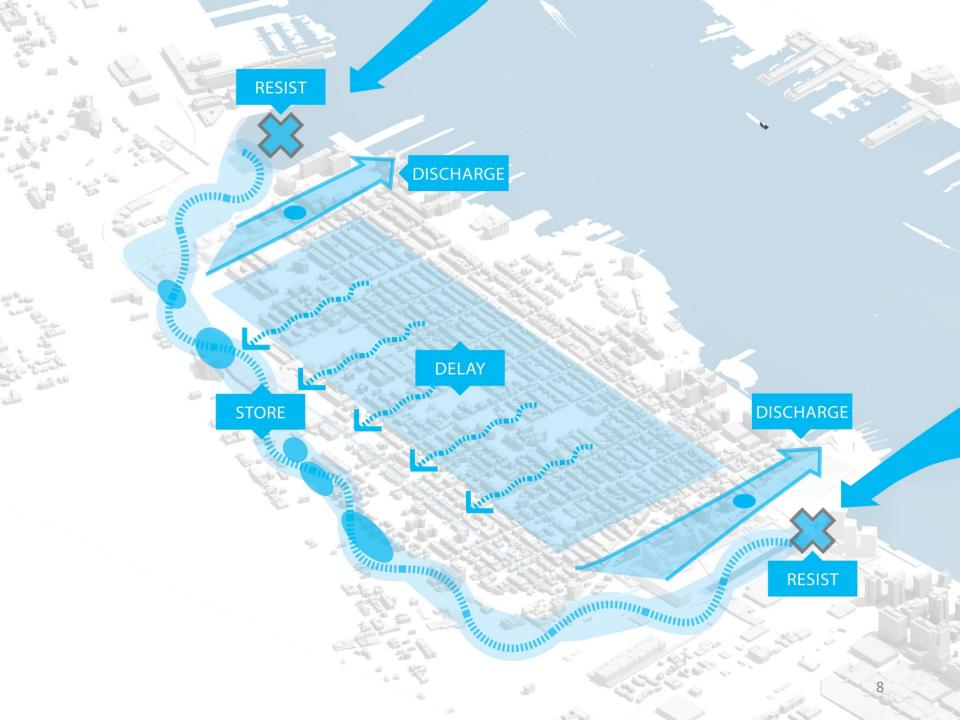
SEWAGE

STORMWATER

Outfall pipe to nearby waterbody

### **City-wide Green Infrastructure Strategy**

























### Southwest Park

DOG RUN

EVENT SPACE

POP-UP MARKET ZONE

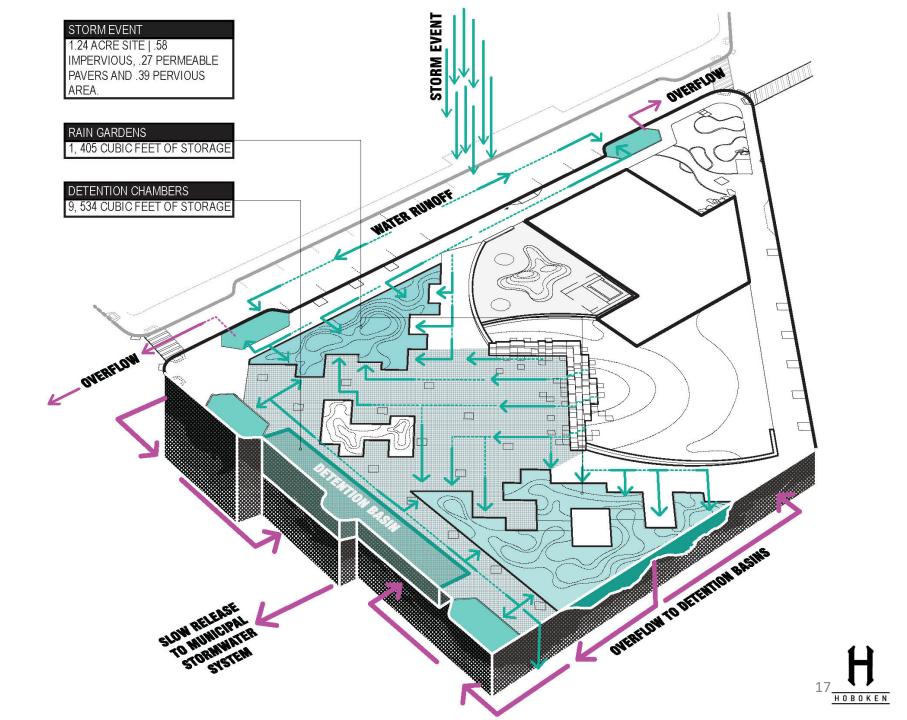
TEMPORARY CLOSING ON MARKET/EVENT DAY BIOSWALE BUMP-OUTS

INTERACTIVE SCULPTURE IN LAWN

SHADED

GARDEN

16<u>+0BOKEN</u>





# **7<sup>th</sup> & Jackson Park**



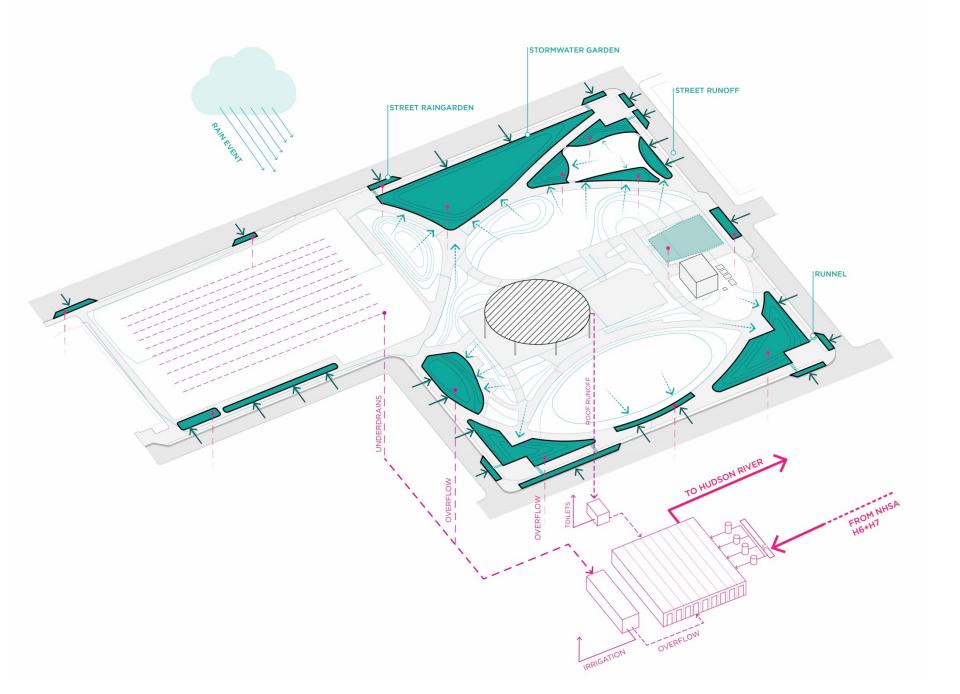
1.0

----

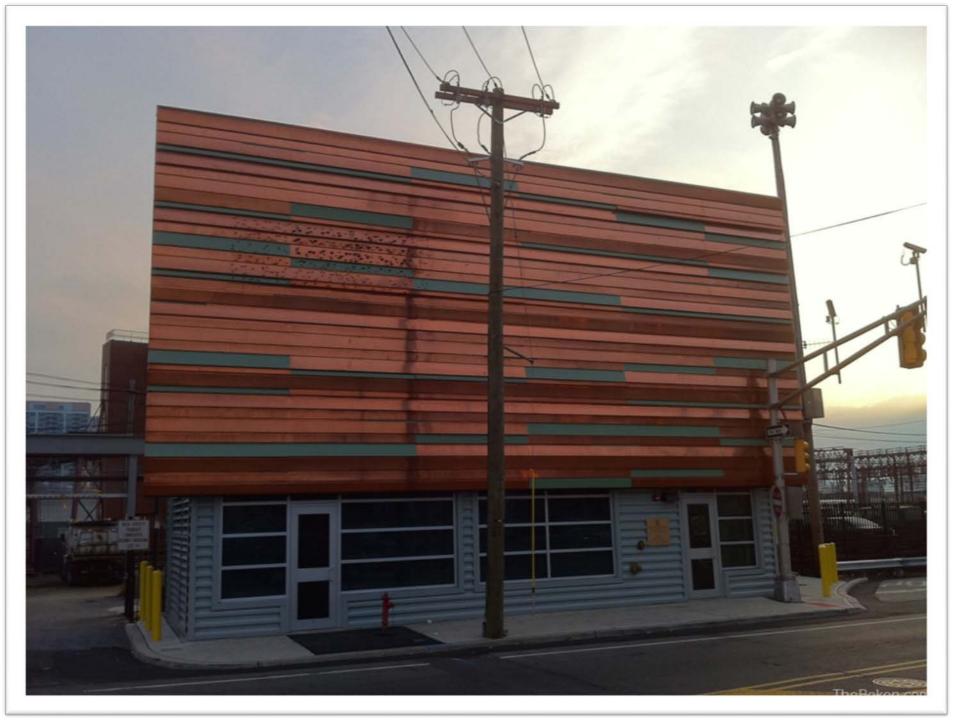
-,8

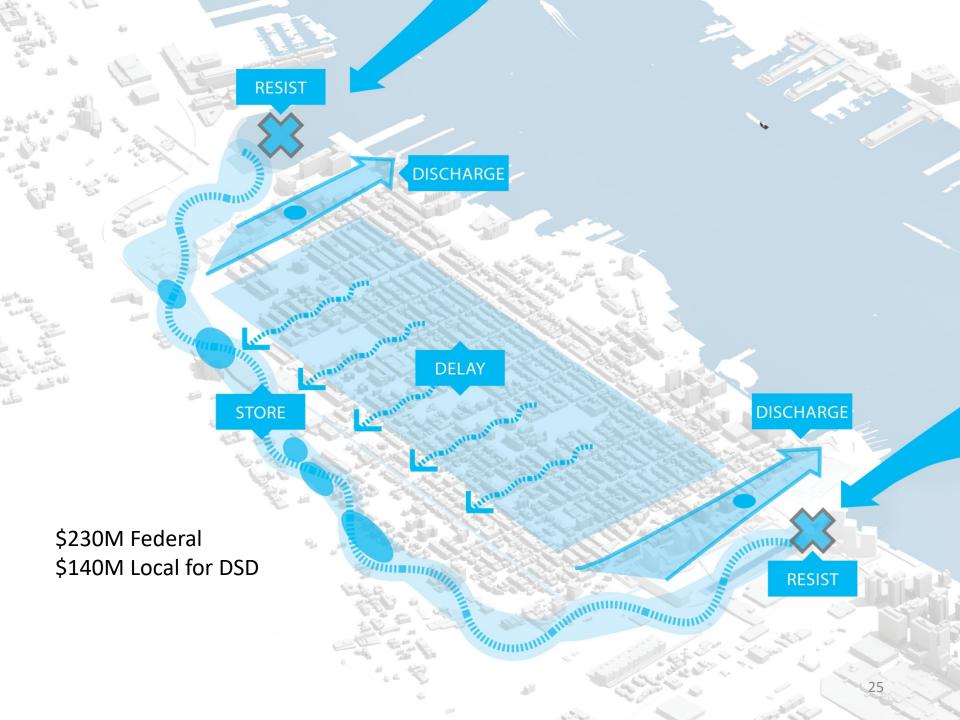
2

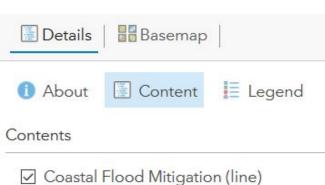




## H1 and H5 Pump Stations

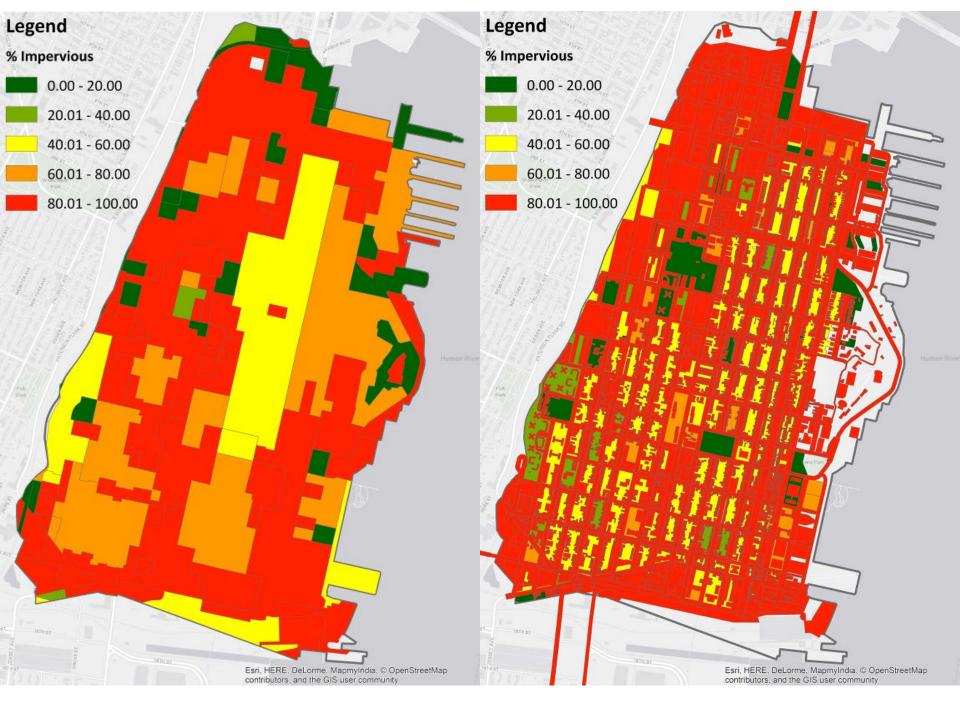


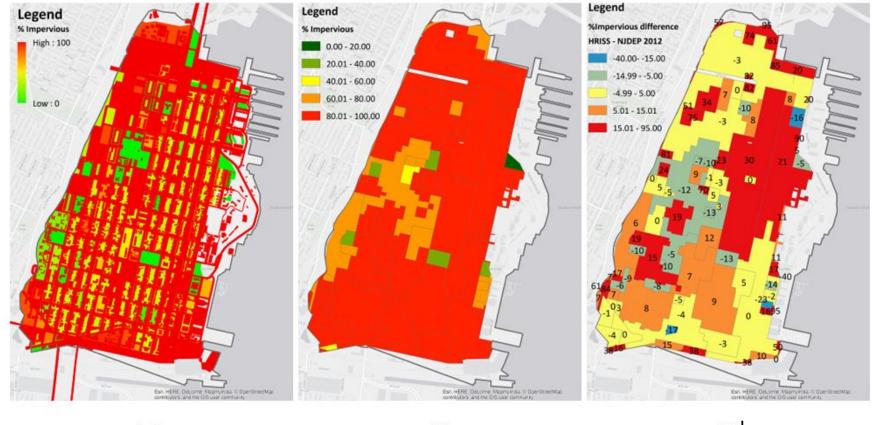




- Coastal Flood Mitigation (poly)
- Rainfall Flood Mitigation (point)
  Image: Image
- Rainfall Flood Mitigation (poly)
- Drinking Water (line)
- ☑ Energy and Communications (line)
- Energy and Communications (poly)
- Community and Government Facilities (poly)
- ☑ Transportation (line)
- ✓ Natural Resources (poly)







(a)

(b)

(c)

Figure 12: (a) the raster format of HRISS, (b) the map with HRISS values assigned to the NJDEP 2012 impervious layer, and (c) the imperviousness difference between the HRISS value and NJDEP 2012 impervious value.



#### HOBOKEN STREET DESIGN GUIDE

Complete Streets Design and Implementation Plan

June 2019









