



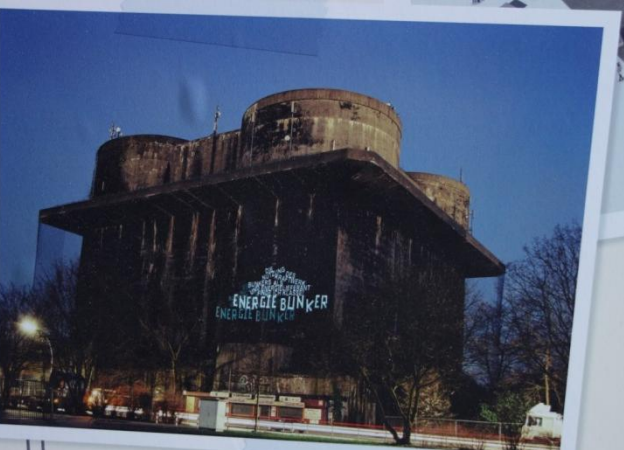
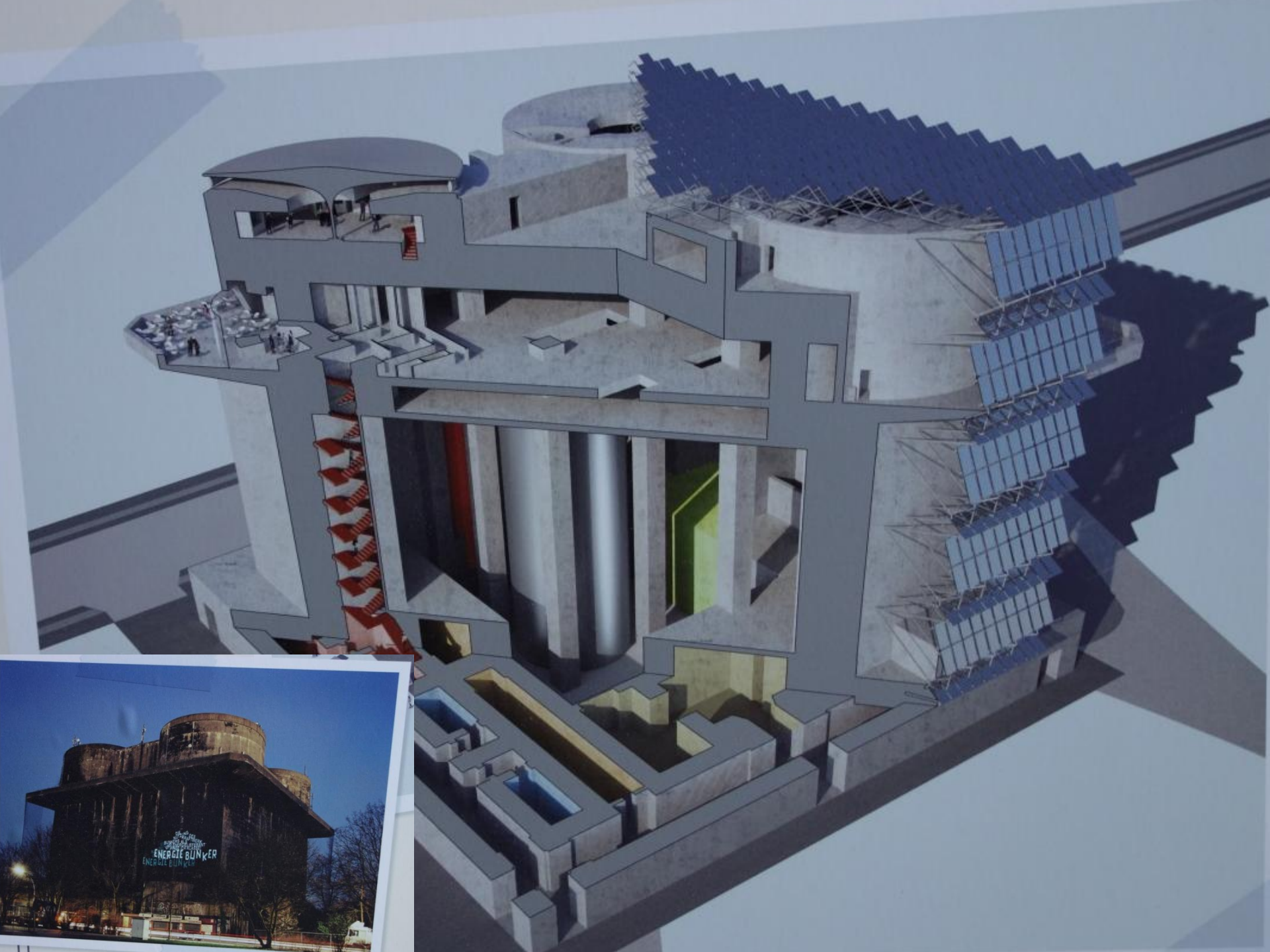
# Why Not ?

*BE14 Resilient Cities Inspirations from Hamburg: Ideas for Action*

**Ellen Watts**, Principal, Architerra

# Why Not ... Ruins into Energy Icons?







# Why Not... Resilience Planning?

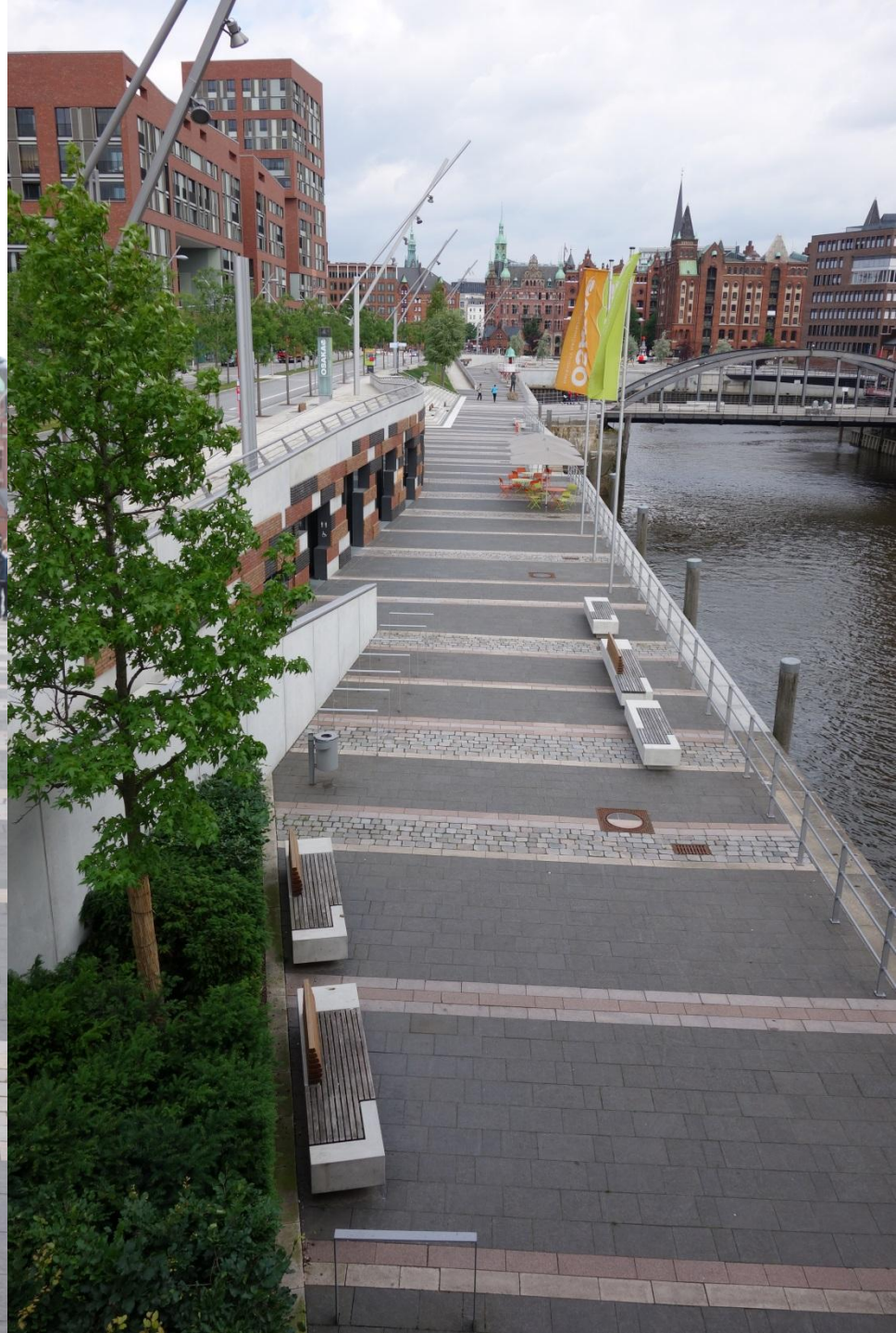














*Why Not ... Derring Do?*



Color and Curves?



Houses That Move?



Houses in Nature?



Nature in Houses?



Powerful Facades?



Exquisite Simplicity?





Ingenious Multi-Use?



Ingenious Forms?





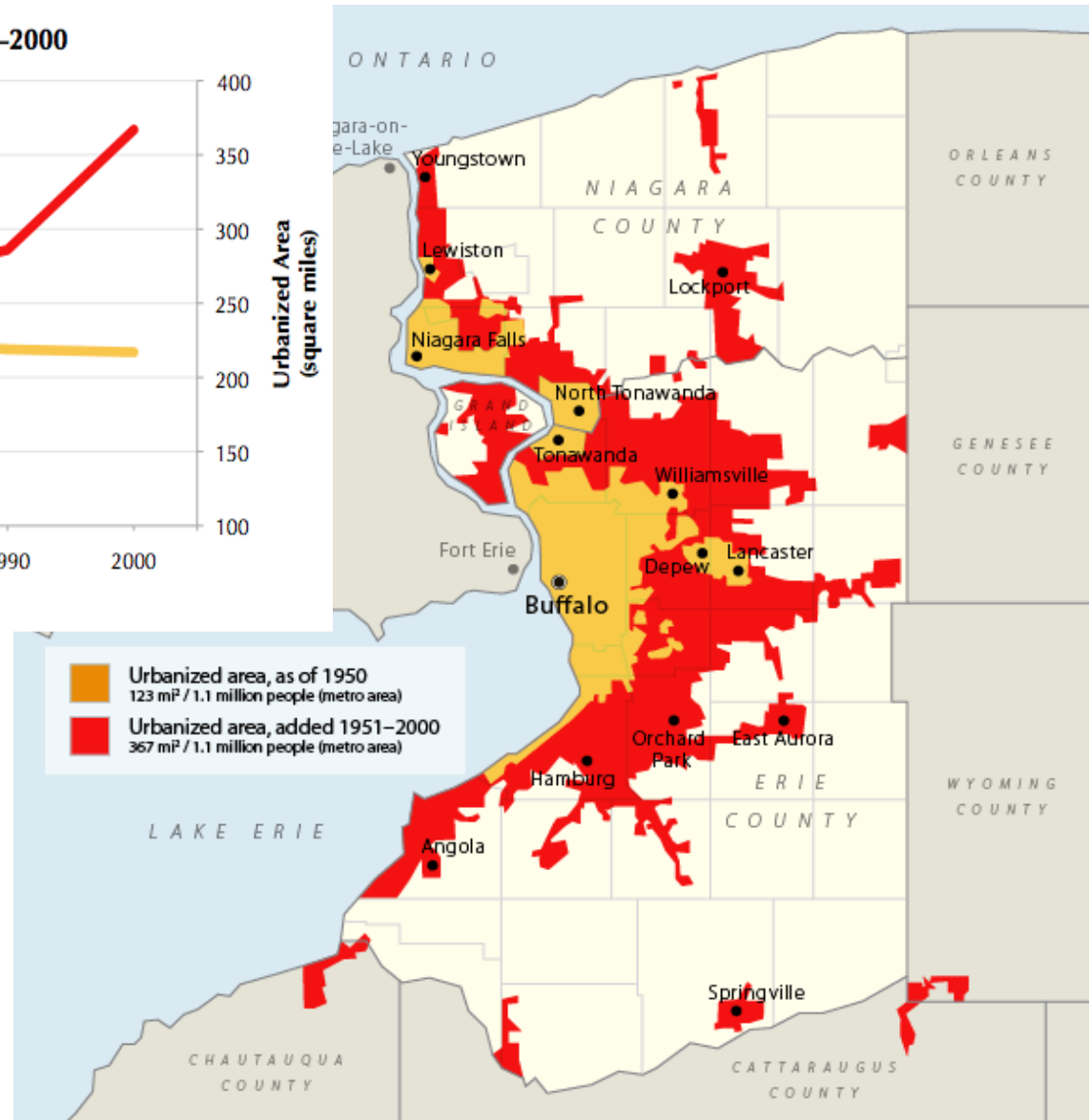
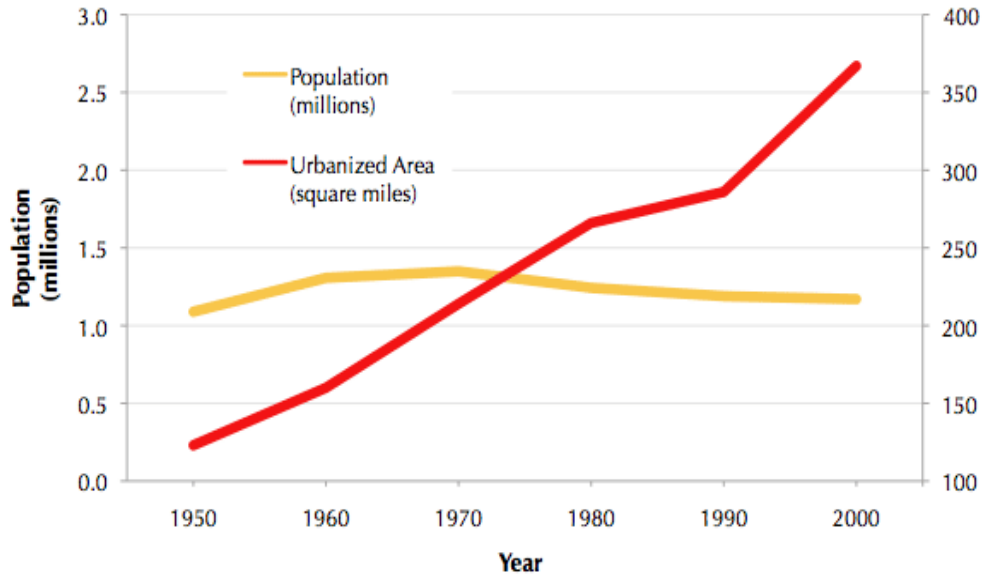
Vital Public Places?

# The Little Developers That Could.

Reusing, Rehabbing and  
Reloving Vacant Buildings in  
the Rust Belt.

By: Bernice Radle

**Buffalo-Niagara Metro Area  
Urbanized Area & Population, 1950–2000**



Buffalo,  
NY.

**Urbanized area within Metropolitan Buffalo, 1950–2000**

# Vacancy in the Rust Belt



Vacancy = Demolition





# We know that Preservation is Progress



# So...What Do We Do?

(We put our back into



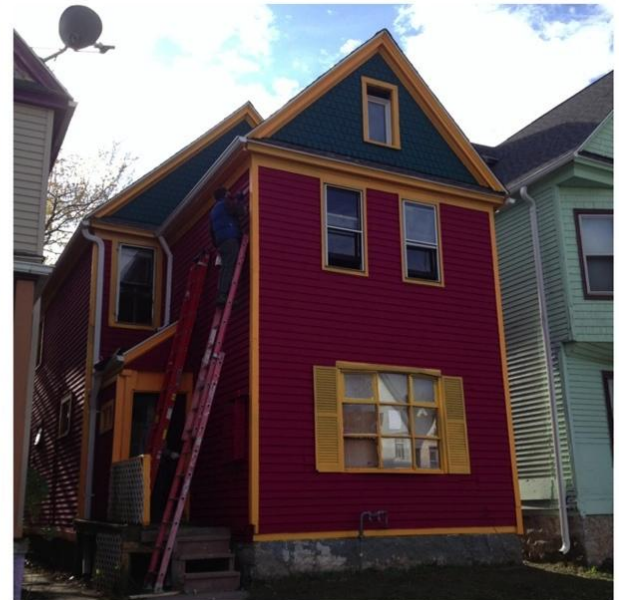
# Buffalove Development



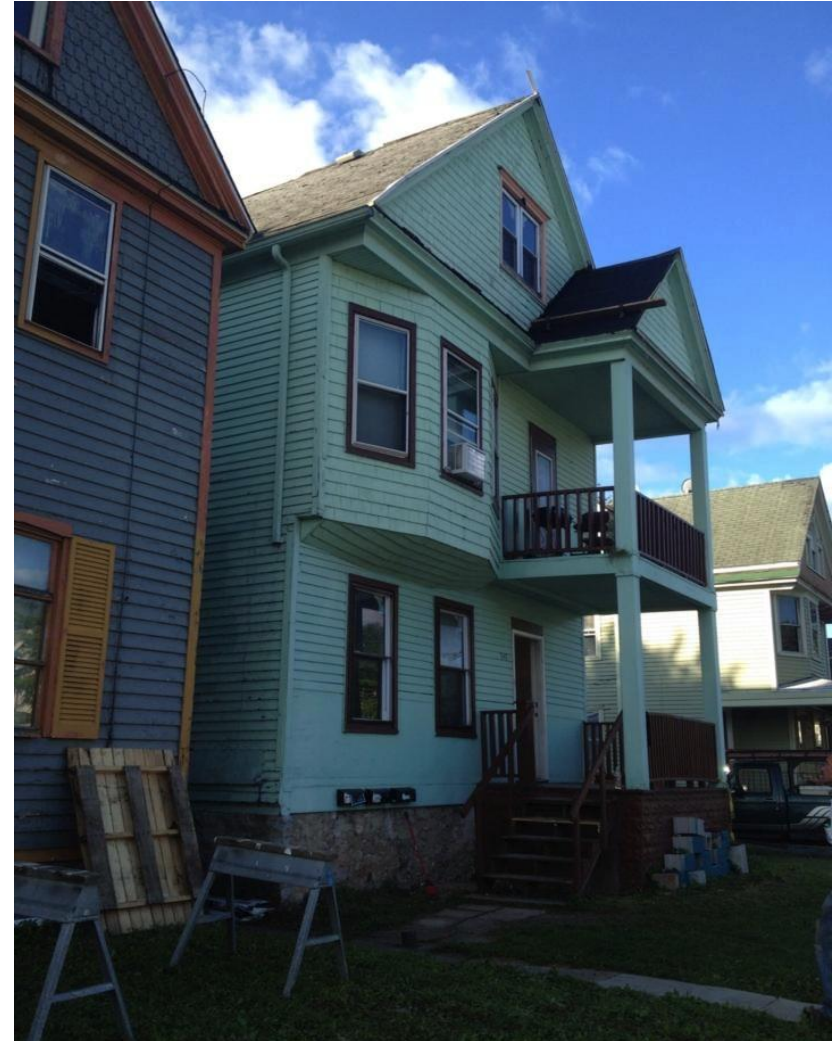
# What Determines A Successful Project?

- Quality Products – Choosing the right materials and products.
- Affordability – Rehab is much cheaper than new builds...
- Sustainability – How much does it cost to maintain a house?
- Creative Rehabs – getting creative with people, places and products.
- Community Oriented Projects – involve the neighborhood.

Old Homes  
Can Be  
Quite the  
Challenge.



# Auction Properties



# Dollar Houses



# Creative Financing

- Investors
- Incentives – Energy Efficiency
- Lots of free help.





# Worked With Community Groups (And Friends!!)



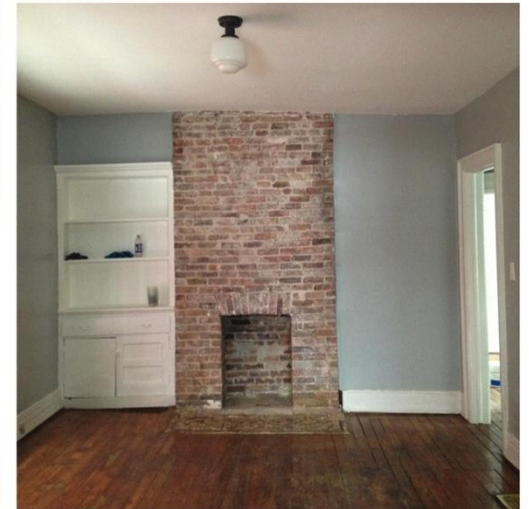
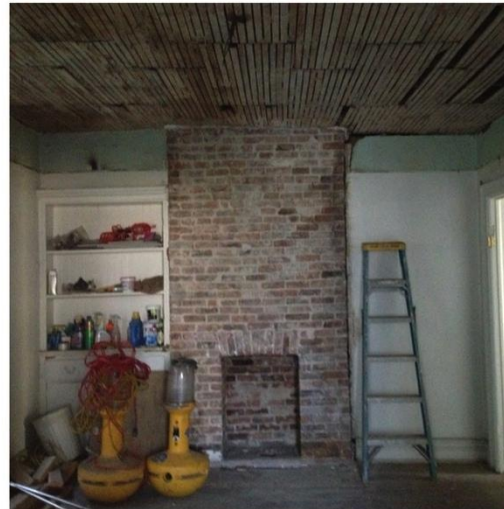
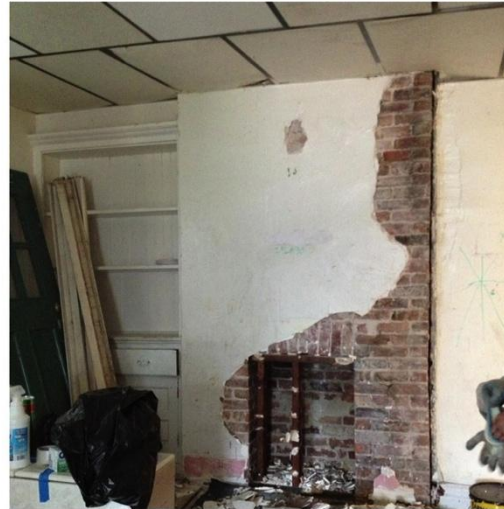
# Rehabbed Homes



# More Rehab!



Had some great successes!



# Our Work Is Inspiring Others!



NYTimes!



# Lessons Learned?







Pitchers and Catchers:  
Resilience Batting Average,  
Sandy Recovery,  
CDBG-DR,  
And Other Things  
You Never Want To Learn

Andy Padian  
VP of Energy Initiatives  
Community Preservation Corporation

1. ME

2500

NESEA CHAIR OF VICE

THANK YOU

BERNICE

BE-NYC 2014 10/16/14

2. CPC

1974

DAVID ROCKEFELLER

REDUCE DISPLACEMENT

8 BILLION + 47,000

\$45 MILLION DR

3. SANDY  
16+MONTHS  
DESTRUCTION  
11 INCHES  
DEATHS  
RESILIENCE!

4. CDBG-DR

5-15 YEARS

0%

100% FORGIVABLE

5. CPC STAFF OF 6

MAY 2013

RECIPIENT

SUB RECIPIENT AGREEMENT 1/14

DOZENS OF MF BUILDINGS

\$0 TO CPC

6. CDBG-DR  
4 INCHES  
\$0  
ZERO HOMES

7. DESTRUCTION  
FIX YOUR BUILDING  
REIMBURESEMENT NO!  
OCT 29 + 1 YEAR  
REIMBURSEMENT YES!  
PREVAILING WAGE YES/NO?



8. OWNER SURVEY+  
18 PAGES OF FORMS +/-  
CPC SURVEY

**9. DEWBERRY DAMAGE  
COMPLETE, THOROUGH  
NEW ORLEANS**

**10. RESILIENCE ENGINEERS**

**RFQ**

**11 FIRMS**

**NO FUNDED STUDIES TO DATE**

**11. WHERE'S YOUR HOME?**

**100 YEAR FLOOD PLAIN 2012, NO**

**100 YEAR FLOOD PLAIN 2014, YES**

**MAPS NOT AVAILABLE**

**LESLEY PATRICK**

12. AFTER OCTOBER 29 +1YR  
SCOPE OF WORK  
PREVAILING WAGE?  
CHANGE ORDER?  
UH, NO.

13. SBA

FIRST ONE IN

\$450,000 FOR 15 UNITS

\$13,000 SPENT

CDBG – DR?

UH, NO.

14. 100 YEAR FLOOD PLAIN +  
WIND DAMAGE TO BUILDING+  
2 FEET OF WATER IN BASEMENT =  
UH, NO.

# 15. ELECTRICITY

#1

MOVE UP A FLOOR?

REPAIR REPLACE FIRST

RESILIENCE?

MAYBE LATER



16. RESILIENCE WORK?  
\$200 MILLION MF SANDY  
30% OF THAT RESILIENCE  
ONLY IN 100 YEAR FLOOD PLAIN  
MINIMUM 5 FEET

17. STEPH

SUZANNE

LIZZIE

JACQ

4 INCHES OF CDBG-DR

COUNTLESS HOURS

UNBELIEVABLE DEDICATION

18. HUD  
DHS  
OMB  
HPD  
MAYOR'S OFFICE  
OSHA  
NYC DISASTER RECOVERY  
BUILDINGS

19.

\$0 DOLLARS

ZERO HOMES

16 MONTHS

2 ADMINISTRATIONS

15 GOVERNMENT AGENCIES



## URBAN WATER

John Tooley

Advanced Energy, Raleigh NC

919-857-9000

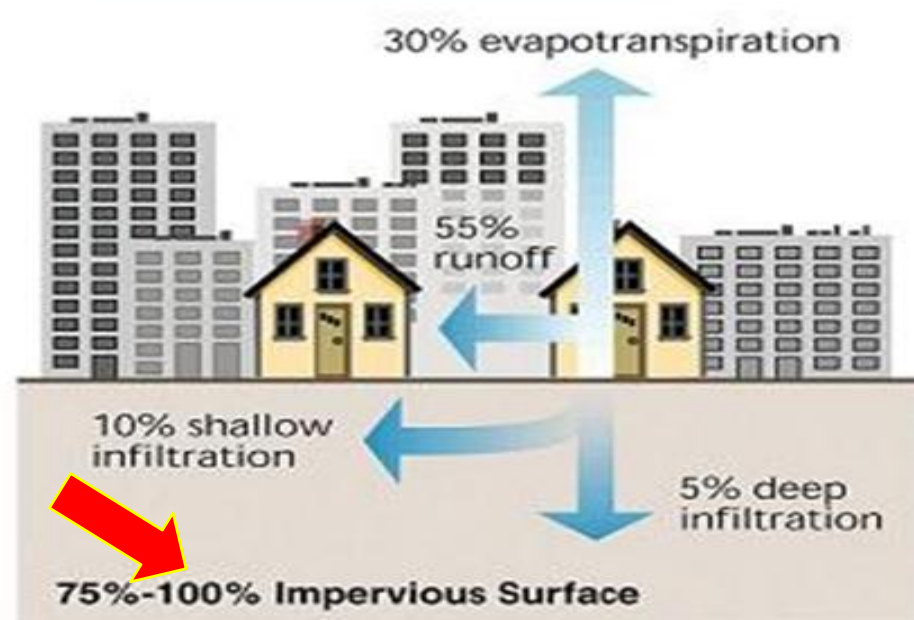
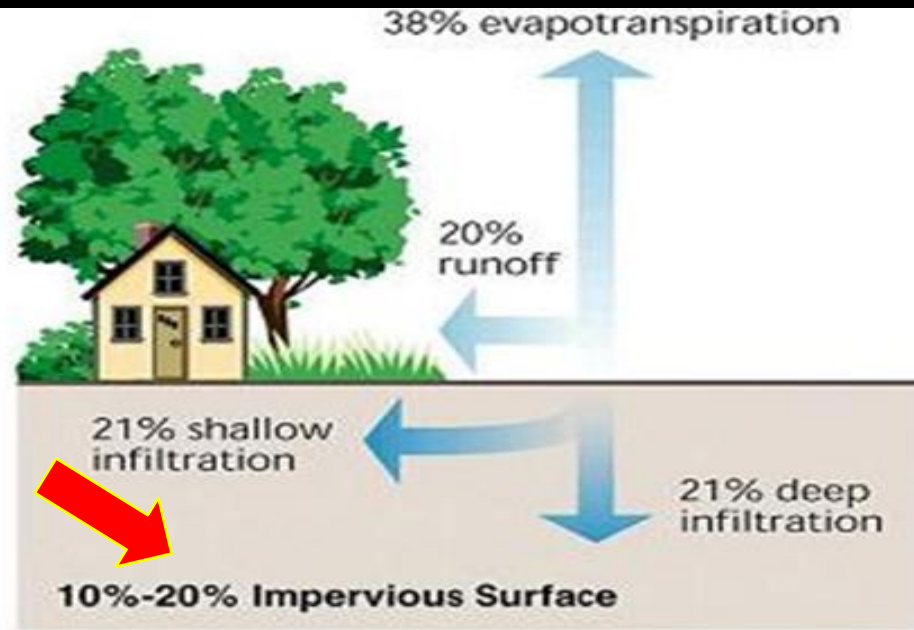
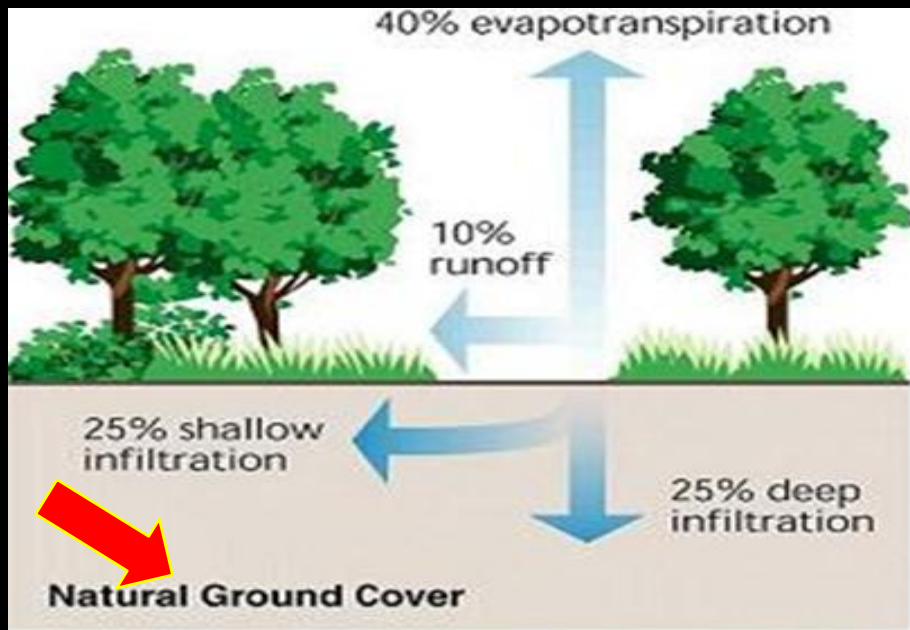


# Demand for Water

- 2008 The worlds consumption of water was doubling every 20 years, which **is more than twice the rate of population growth**
- McKinsey and Co. forecasts that by 2030, global demand for water will **outstrip supply by 40%** [and **the demand for food will double**]
- Although we have not run out of water yet, we are wasting it, contaminating it, and mismanaging it.  
**THIS IS NOT SUSTAINABLE!**

# URBAN WATER

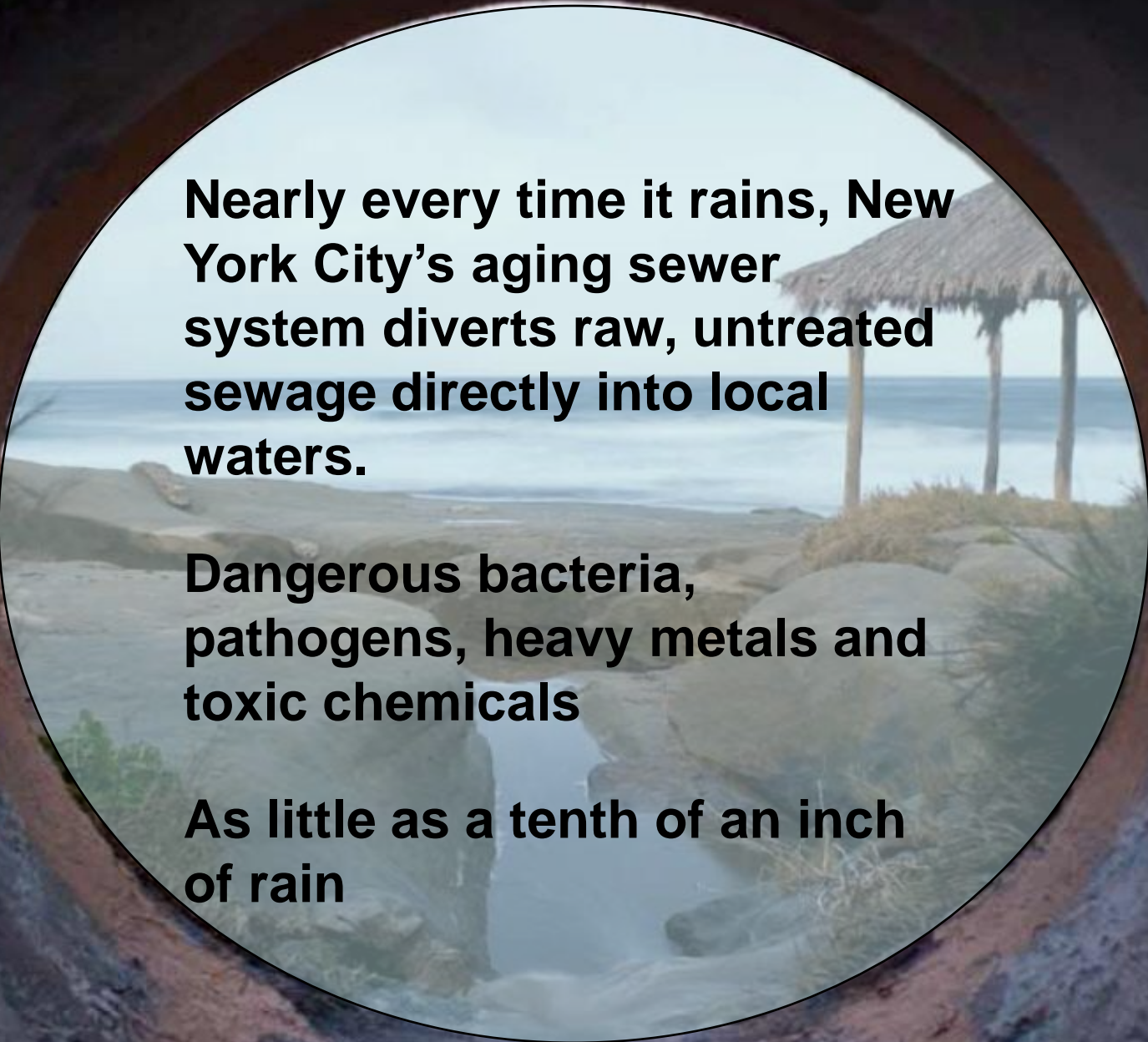
- Every second, the urban population grows by 2 people - **840 PEOPLE DURING MY PRESENTATION**
- UN reports in 2008 for the **first time in history**, more people live in urban areas than in rural areas
- **789 million people** in total, live without access to **improved sanitation** facilities





A circular opening in a concrete pipe provides a view of a rocky coastline. In the foreground, a small pool of water is visible among the rocks. In the background, a thatched hut stands on the shore, and the ocean extends to the horizon under a cloudy sky. The text "Combined Sewage Overflow (CSO)" is overlaid on the image.

## Combined Sewage Overflow (CSO)

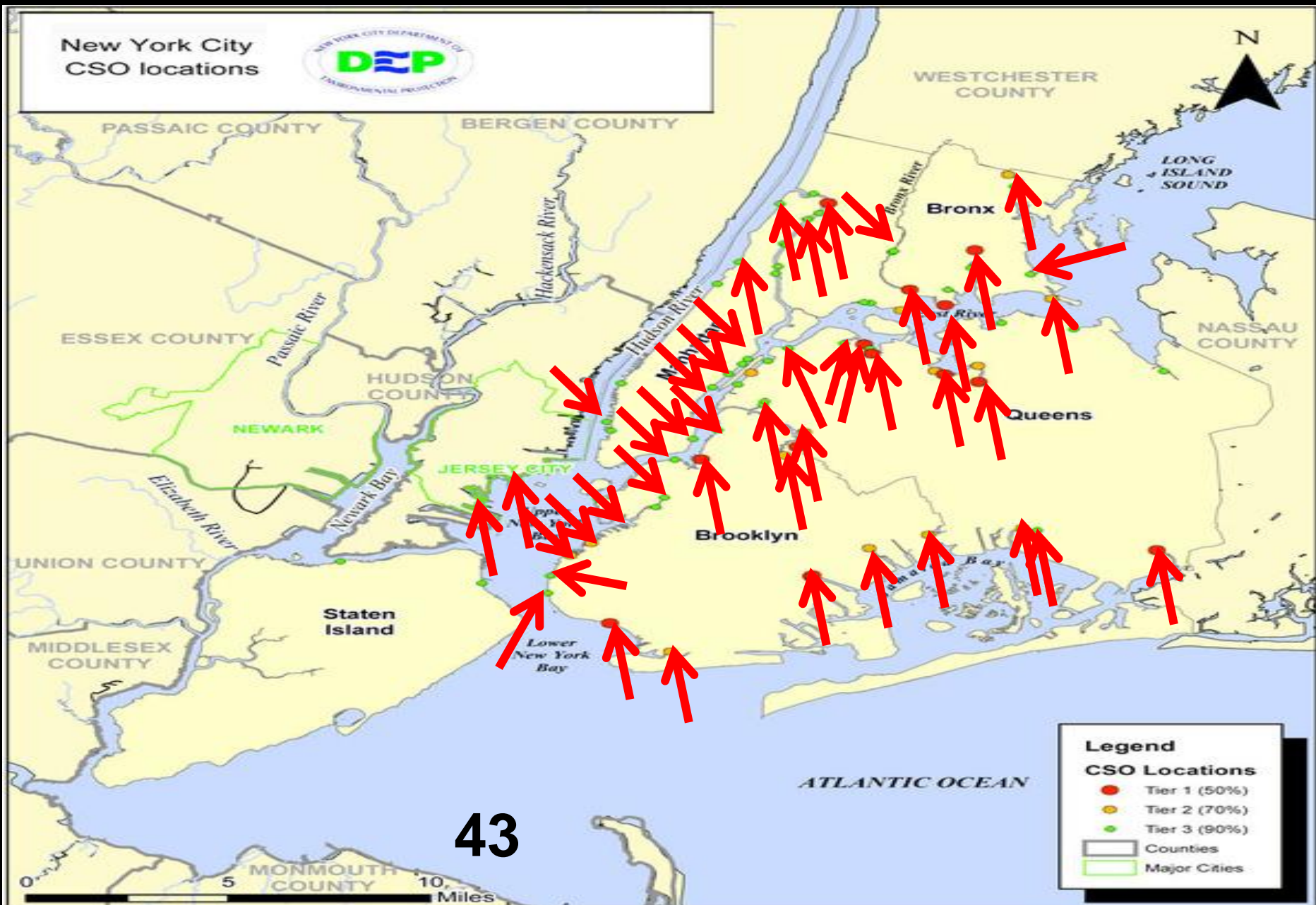


**Nearly every time it rains, New York City's aging sewer system diverts raw, untreated sewage directly into local waters.**

**Dangerous bacteria, pathogens, heavy metals and toxic chemicals**

**As little as a tenth of an inch of rain**

New York City  
CSO locations



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**Legend**

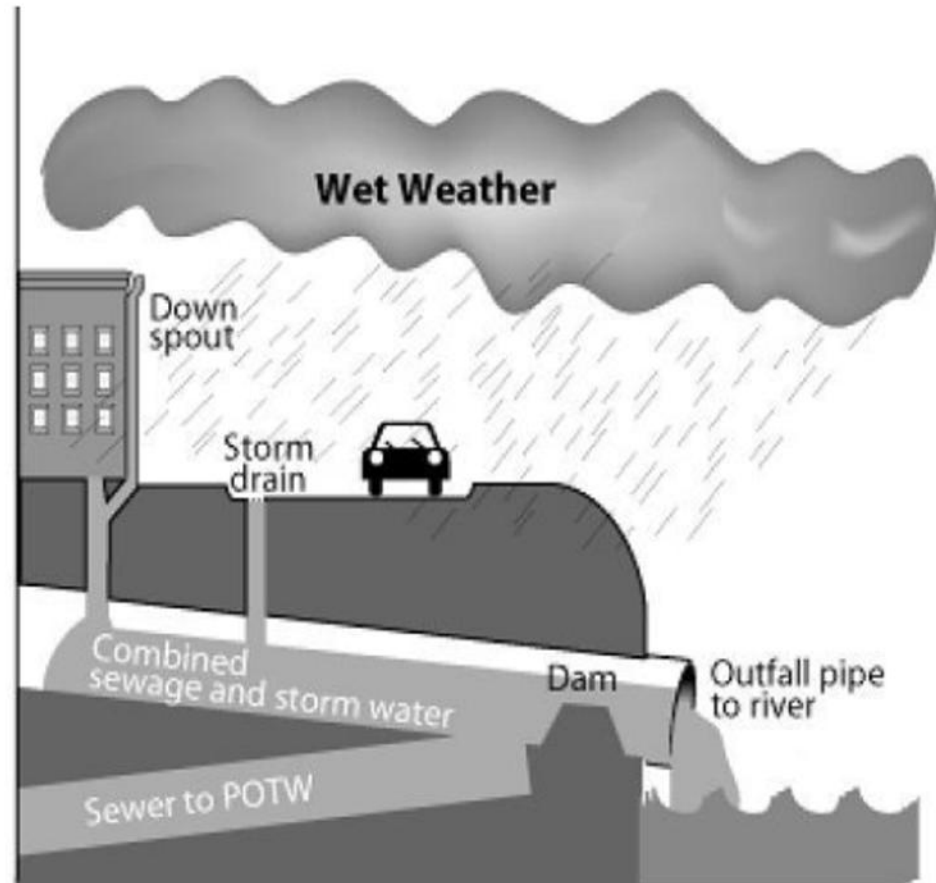
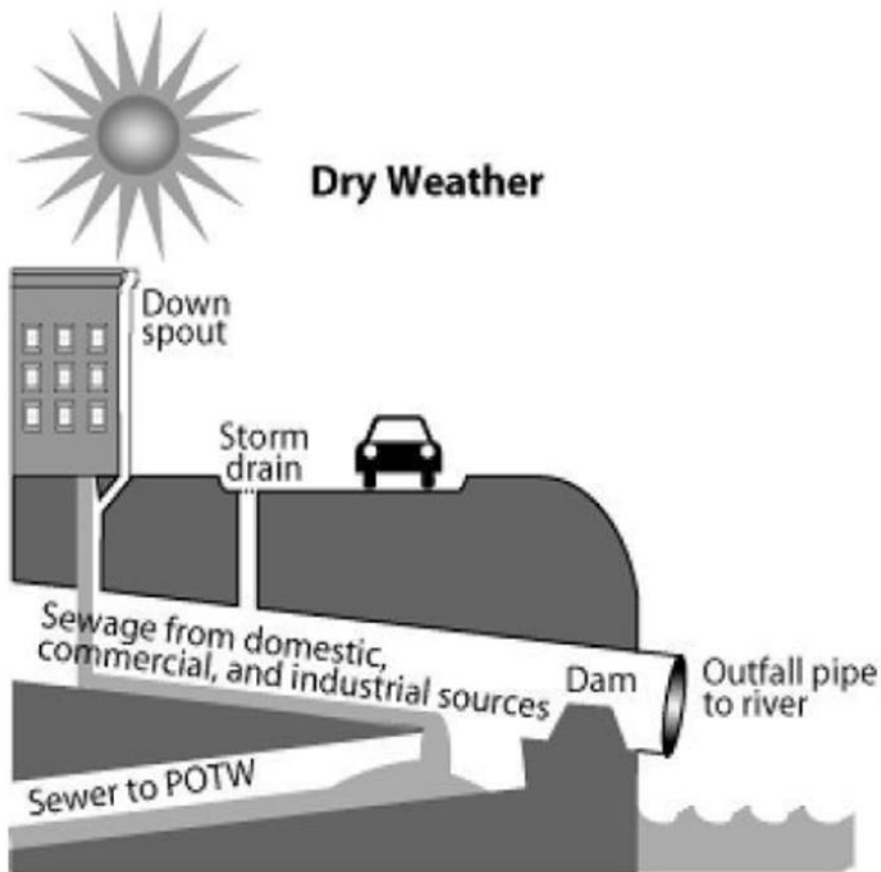
**CSO Locations**

- Tier 1 (50%)
- Tier 2 (70%)
- Tier 3 (90%)

Counties

Major Cities

# Typical Combined Sewer System



# Neighborhood Without a Swimming Pool Gets an Alternative to the Bronx River

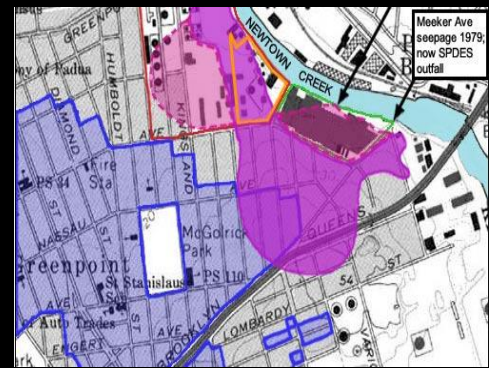


David Gonzalez/The New York Times

On Tuesday, as temperatures neared 100, more than a dozen teenagers were diving off a pier and dock into the murky toxic Bronx River at Hunts Point Riverside Park, despite warnings from police officers about health hazards in the water.



# “Black Mayonnaise”



- At 12:05 p.m. **October 5, 1950** a huge explosion rocked Brooklyn caused by petroleum and other industrial pollutants
- By 2010, the oil spill beneath Brooklyn IS ABOUT **17 to 30 million gallons** of hydrocarbons and other toxic compounds, in **pockets up to 25 feet deep**
  - 6 mil. more gallons than the ***Exxon Valdes*** spill



## Untreated Sewage Discharges to the Great Lakes

More than **24 billion gallons of combined untreated sewage** and storm water is dumped into the Great Lakes each year.

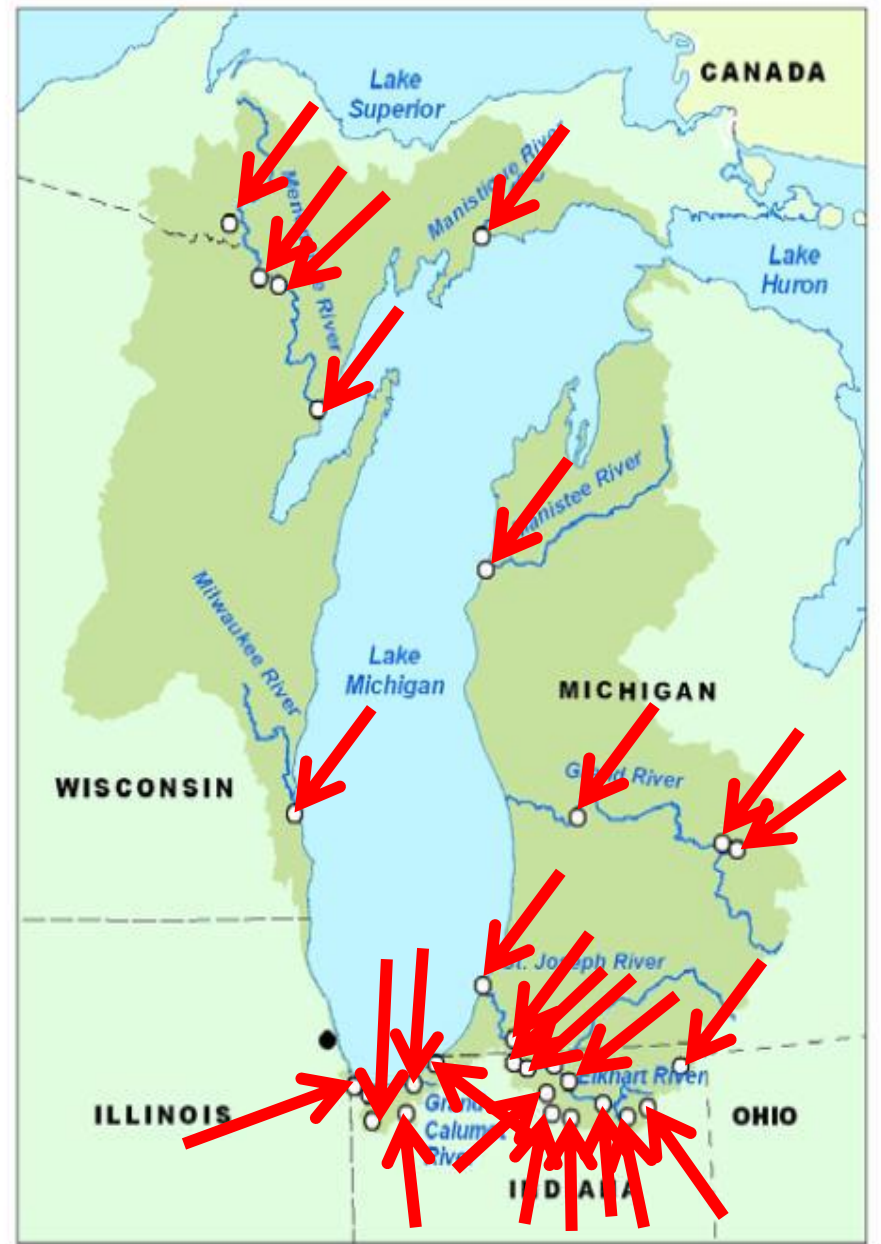
The largest source of combined sewer overflow: **Detroit, Cleveland, Milwaukee and Chicago**

## Location of CSO Communities in the Lake Michigan Basin

The shaded area defines the Lake Michigan basin, which includes portions of Indiana, Michigan, Wisconsin, and Illinois. The white circles (●) indicate Lake Michigan CSO communities. The black circle (●) indicates Chicago.

28

Source: EPA Report to Congress  
Combined Sewer Overflows to the  
Lake Michigan Basin

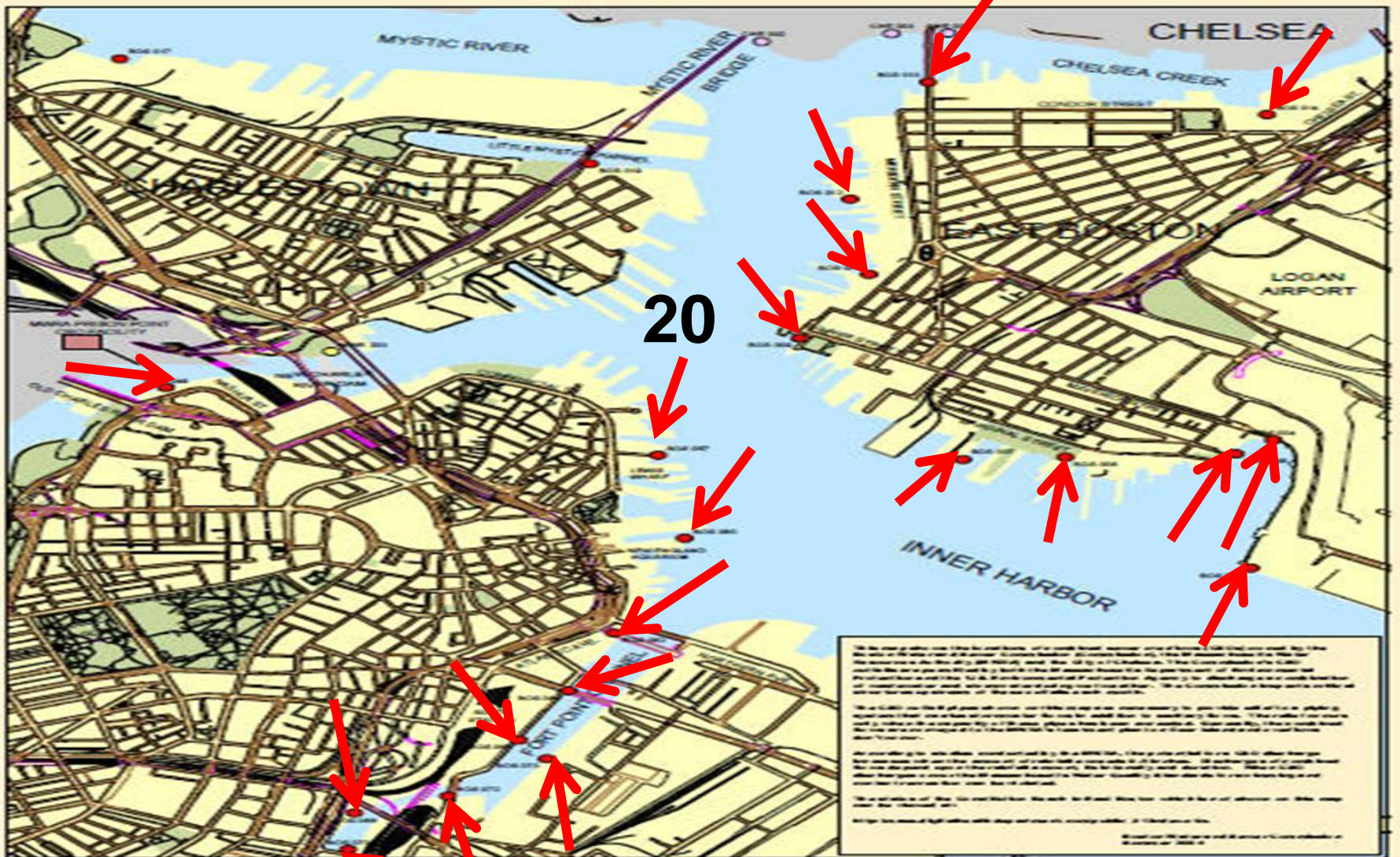




# BOSTON



**Over the course of 150 years, a large and complex sewage infrastructure has been built to transport and treat Greater Boston's wastewater.**

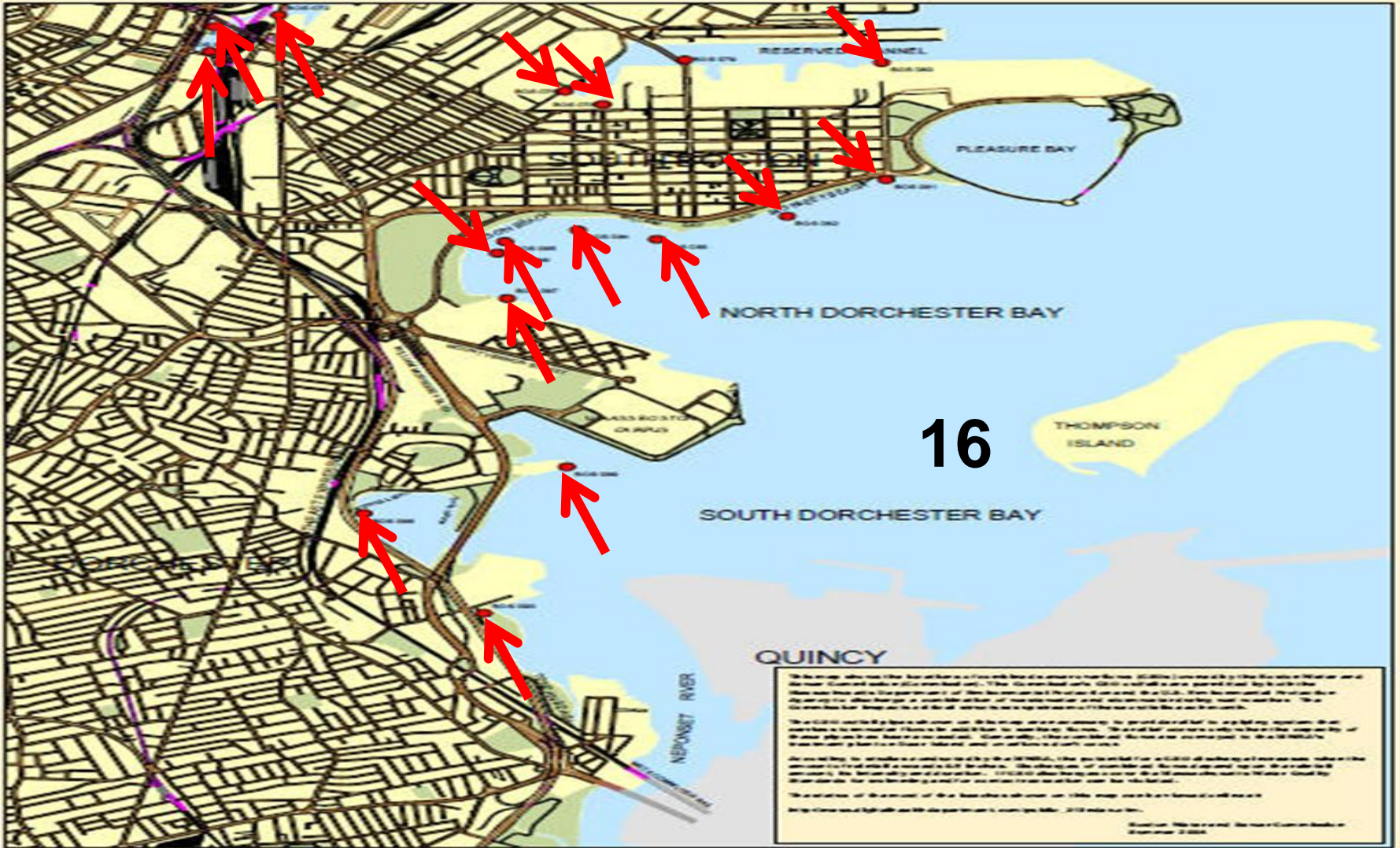


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- CHELSEA CSO OUTFALL
- BWSC CSO OUTFALL
- MWRA CSO OUTFALL

**BWSC CSO Outfalls to  
Inner Harbor, Fort Point  
Channel, and Mystic River  
Chelsea Creek  
Confluence Receiving Waters**





● BWSC CSO OUTFALL

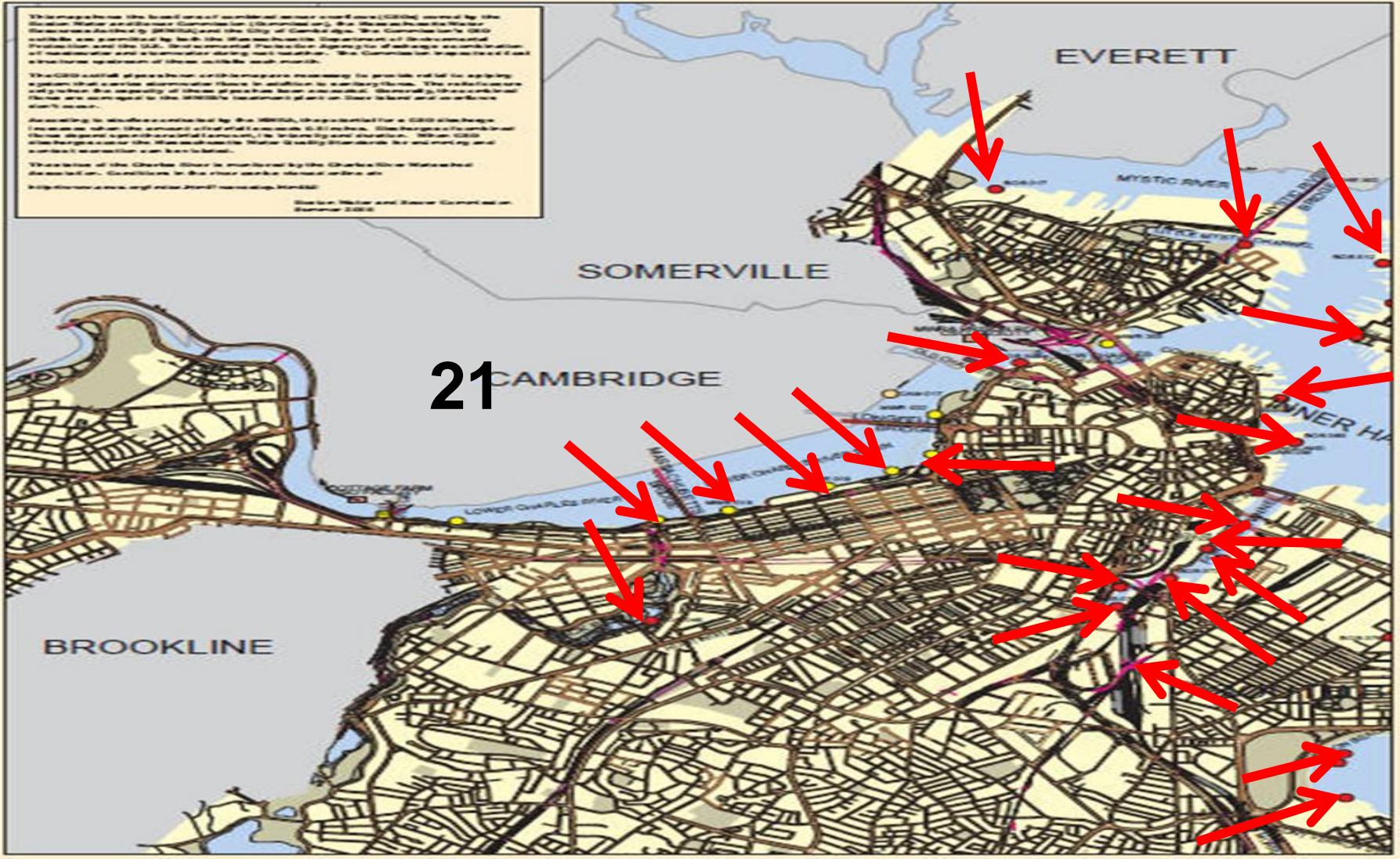
## CSO Outfalls to Dorchester Bay



Boston Water and Sewer Commission  
2010-2011

This map shows the total area of combined sewer overflow (CSO) events by the Boston Water and Sewer Commission (BWSC) in 2007. The map shows the Lower Charles River Basin (LCRB) and the City of Cambridge. The City of Cambridge's CSO events are highlighted in pink. The map also shows the locations of CSO outfalls in the LCRB and the City of Cambridge. The map is a map of the Lower Charles River Basin (LCRB) and the City of Cambridge. The map shows the locations of CSO outfalls in the LCRB and the City of Cambridge. The map is a map of the Lower Charles River Basin (LCRB) and the City of Cambridge. The map shows the locations of CSO outfalls in the LCRB and the City of Cambridge.

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- BWSC CSO OUTFALL
- MWRA CSO OUTFALL
- CAMBRIDGE CSO OUTFALL

**Combined Sewer Overflows (CSOs) Discharging to the Lower Charles River Basin**



# The Great Migration (2 per second)

- 95% of the urban expansion in the next decades will take place in the developing world





# China's Great Uprooting: Moving 250 Million Into Cities

**2010 - 43 cities >1 million**

**2025 - 221 cities >1 million and 44 cities >4 million**

**2025 -2030 70% of Chinese will live in cities >1 million**

**250,000,000**

# Two Mighty Rivers that no longer end at the sea



**COLORADO RIVER**



**YELLOW RIVER**





Thousands have lived  
without love, - not one without water.

-W.H. Auden

