City of New Orleans

Urban Waters National Training Workshop 2014

Climate Adaptation/Resiliency: New Orleans' Story

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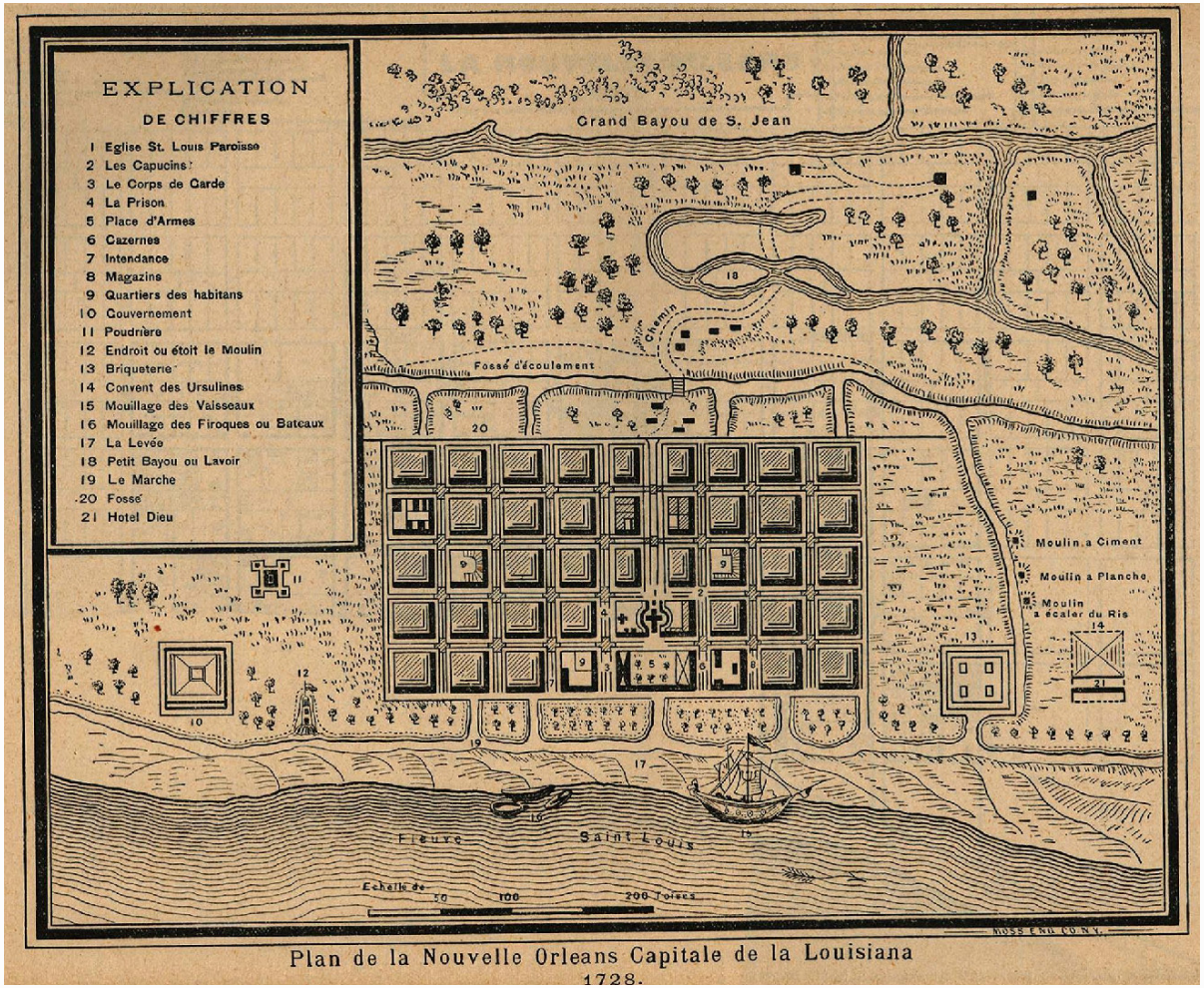
Sewerage and Water Board of New Orleans

Historic City on the Mississippi Delta

Mississippi River Drainage Basin

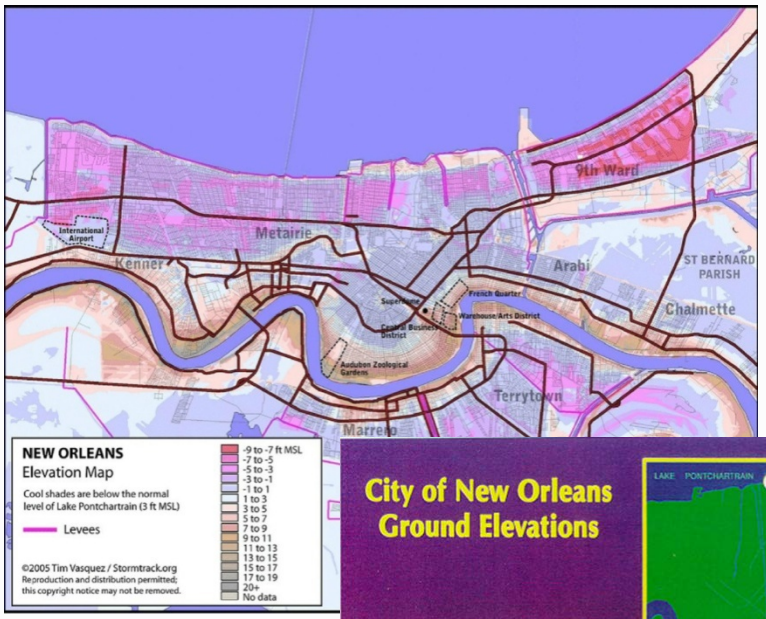
New Orleans
Founded in 1718

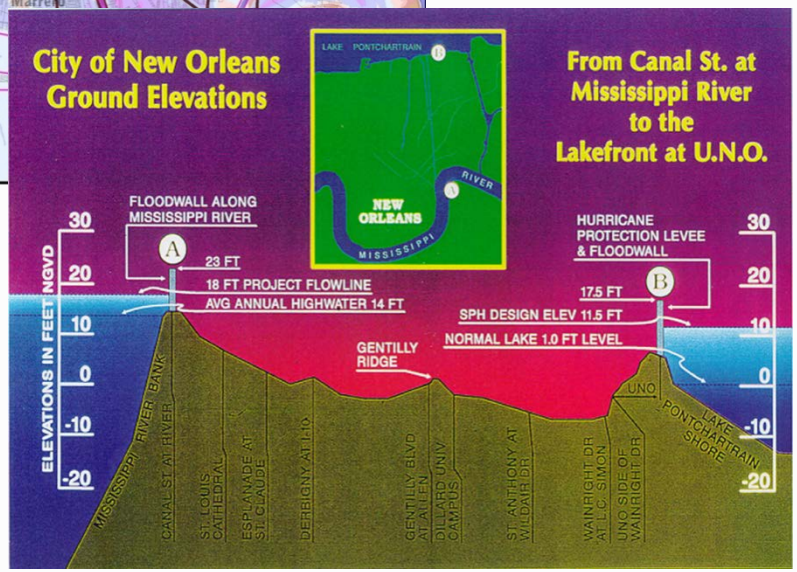


Plan de la Nouvelle Orleans Capitale de la Louisiana
1728.

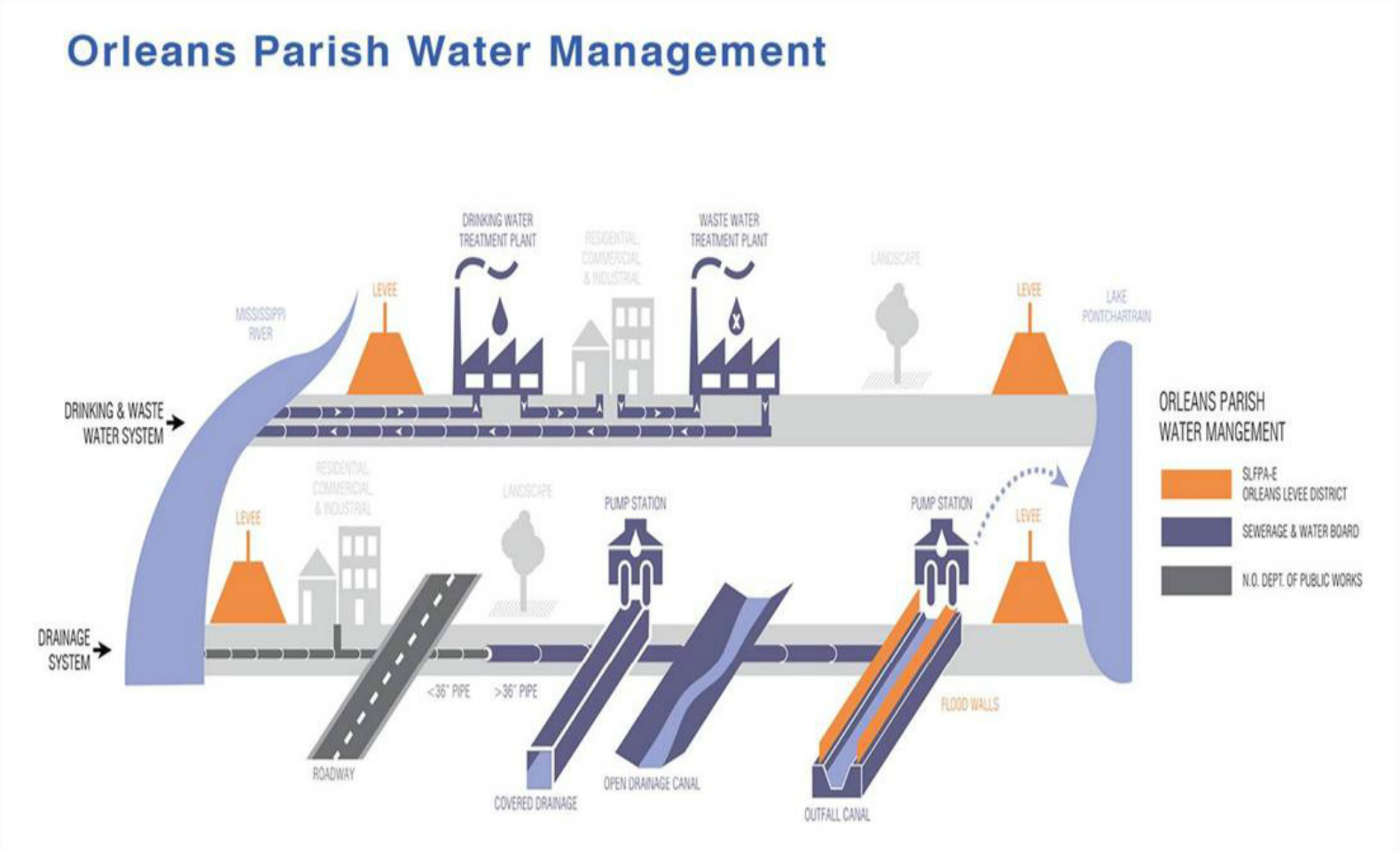
New Orleans:
A Shining City in a Bowl

Constructed to sit atop wetland and silt soil, cross-sectioned with canals to have water move through the city to drain into the lake; and have neighborhoods situated on top of it all.





One Water

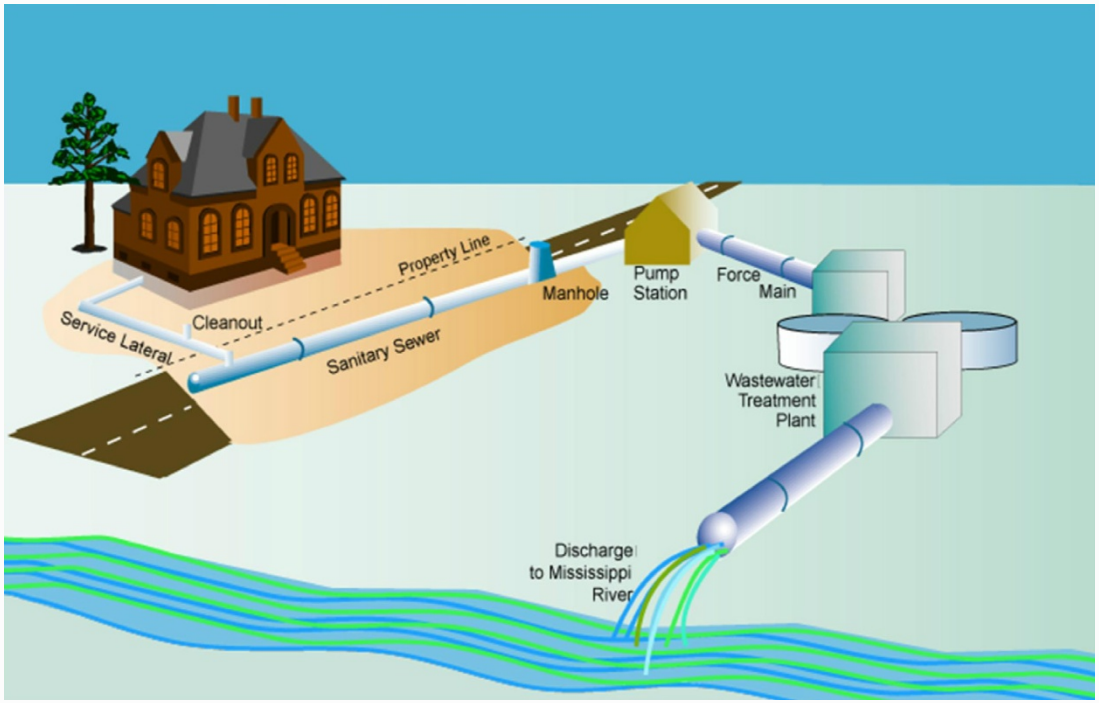

Orleans Parish Water Management
DRINKING WATER TREATMENT PLANT
WASTE WATER TREATMENT PLANT
RESIDENTIAL, COMMERCIAL & INDUSTRIAL
LANDSCAPE
LEVEE
LEVEE
MISSISSIPPI RIVER
LAKE PONTCHARTRAIN
DRINKING & WASTE WATER SYSTEM
RESIDENTIAL, COMMERCIAL & INDUSTRIAL
LANDSCAPE
PUMP STATION
PUMP STATION
LEVEE
LEVEE
DRAINAGE SYSTEM
<36" PIPE
>36" PIPE
FLOOD WALLS
ROADWAY
COVERED DRAINAGE
OPEN DRAINAGE CANAL
OUTFALL CANAL
ORLEANS PARISH WATER MANGEMENT
SLFPA-E ORLEANS LEVEE DISTRICT
SEWERAGE & WATER BOARD
N.O. DEPT. OF PUBLIC WORKS

Water System
Facts and Figures

- 2 Water Treatment Plants
- 260 MGD Capacity
- 1,600 Miles of Water Mains
- 143,600 Service Connections

Sewer System
Facts and Figures

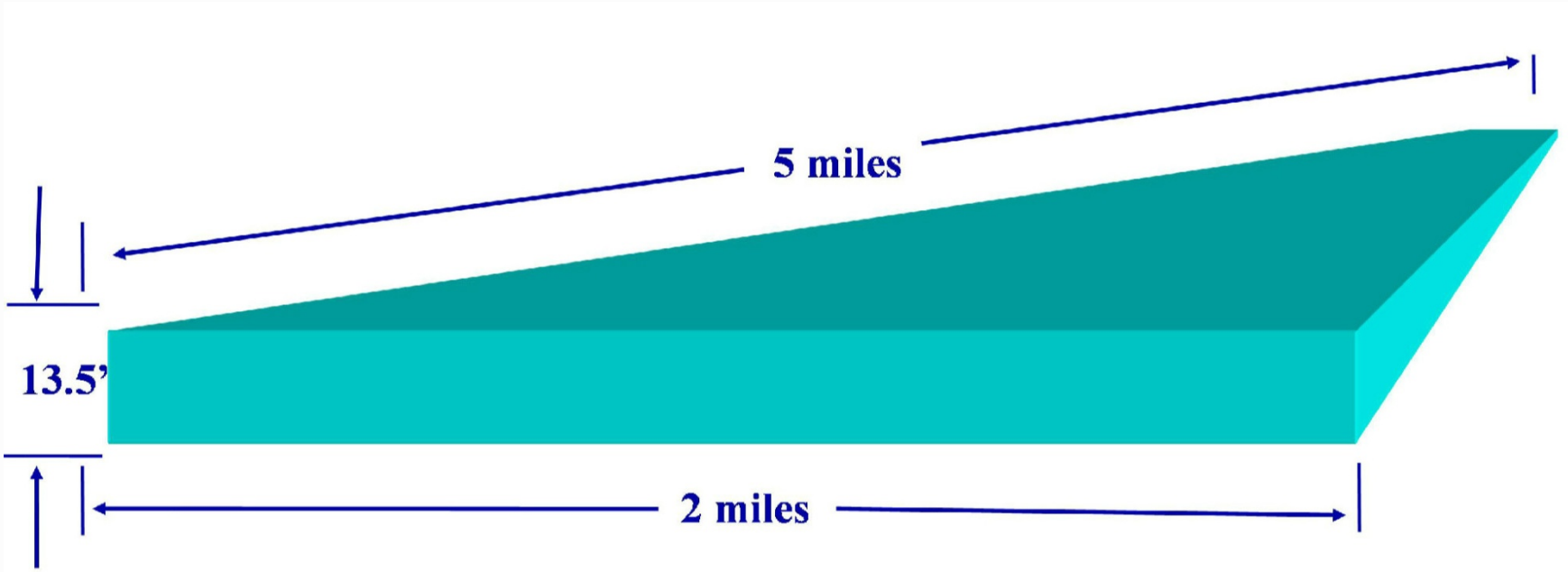
- 2 Sewer Treatment Plants
- 220 MGD Capacity
- 83 Sewer Pump Stations
- Federal Consent Decree since 1998



Drainage System
Facts and Figures

- 150 Miles Covered Canals
- 100 Miles Open Canals
- 200 Miles Pipes > 36”
- 24 Drainage Pump Stations with 119 Pumps
- 51,000 CFS Capacity

Pumping Capacity



System's pumping capacity is over 29 billion gallons per day, enough to empty a lake 10 square miles by 13.5 deep every 24 hours.

Two Different Drainage System Design Philosophies

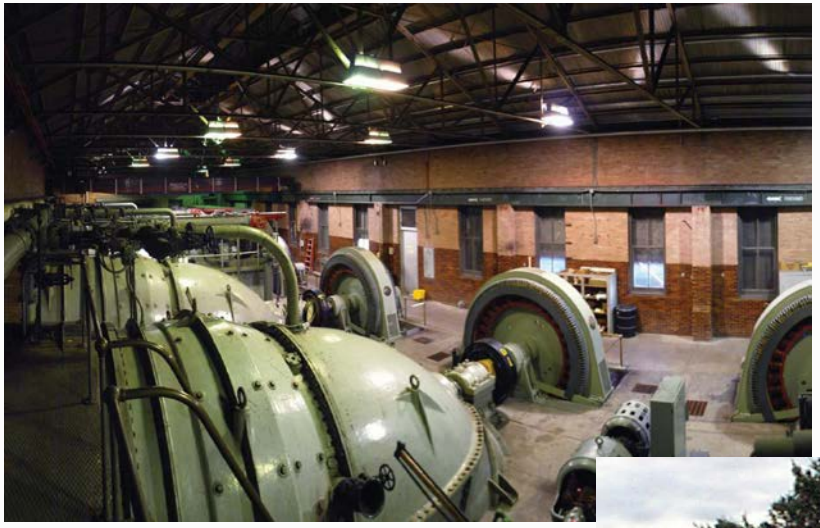
	Acres Drained	Pumping Capacity
Metro New Orleans	28,000 Acres	39,000 CFS
New Orleans East	19,000 Acres	6,000 CFS

New Orleans East uses lakes for rainwater retention.

Power System
Facts and Figures

- 25 Cycle Power Plant
- 61 Megawatt Capacity
- Provides Power During Storm Events
- Provides 4 MW on continual basis for purification and pumping processes

Multi-Level Protection
Internal Water Management



Reliance Upon Pumps, Canals, Levees and Floodwalls

Investing Towards a More Resilient Water System – *Bolstering the Underground Network of Stormwater Canals*

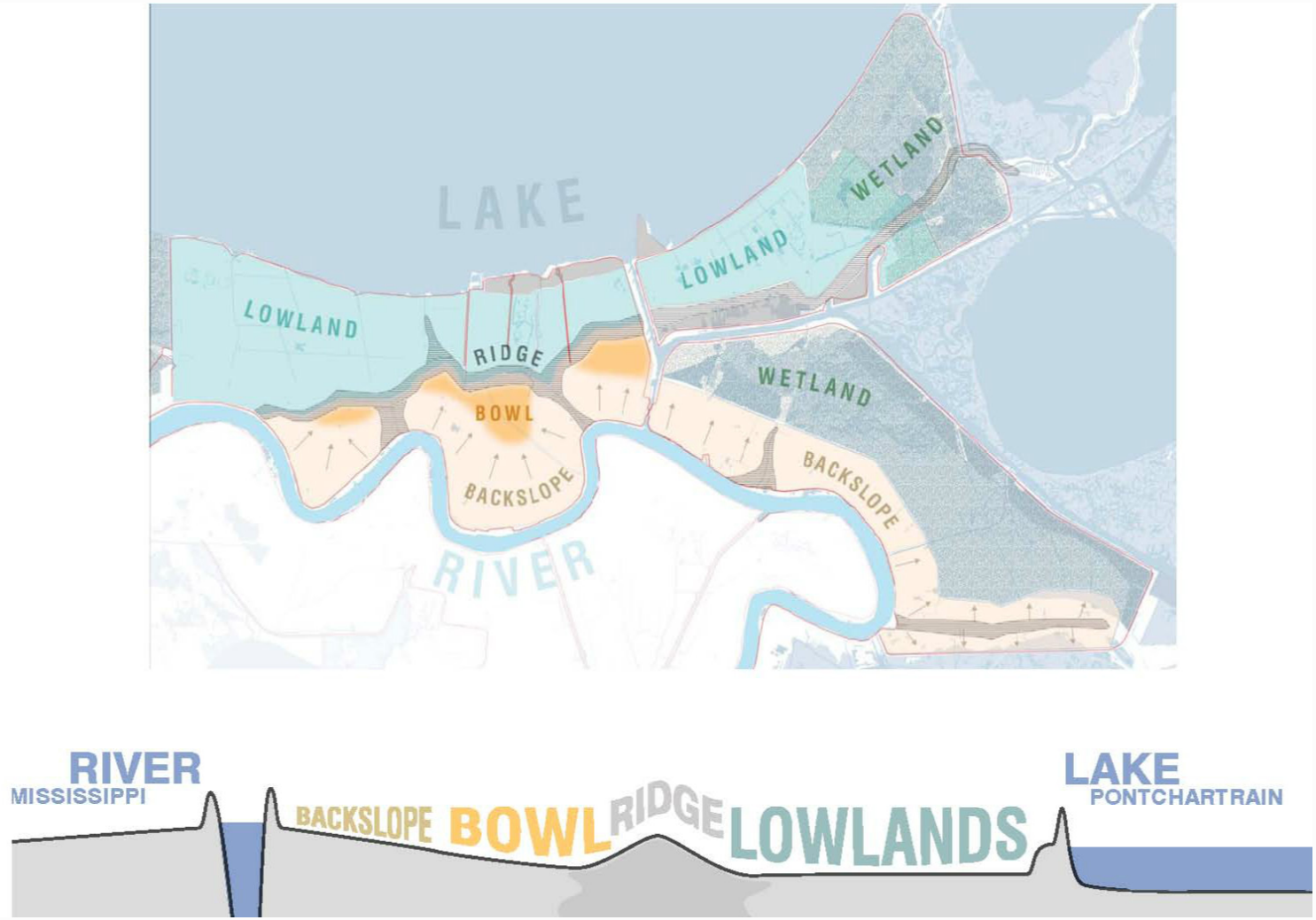
The Army Corps of Engineers and local New Orleans government is investing **nearly $1 billion** to widen and fortify the city's network of underground canals.

Investing Towards a More Resilient Water System: *Advanced Hurricane Risk Reduction*

The Army Corps of Engineers **invested over $14.6 billion to create the Greater New Orleans Hurricane & Storm Damage Risk Reduction System**, which includes 133 miles of levees, floodwalls, floodgates and pump stations surrounding Greater New Orleans.

Living Below Sea Level

New Orleans Landscape:
Urban Line of Defense

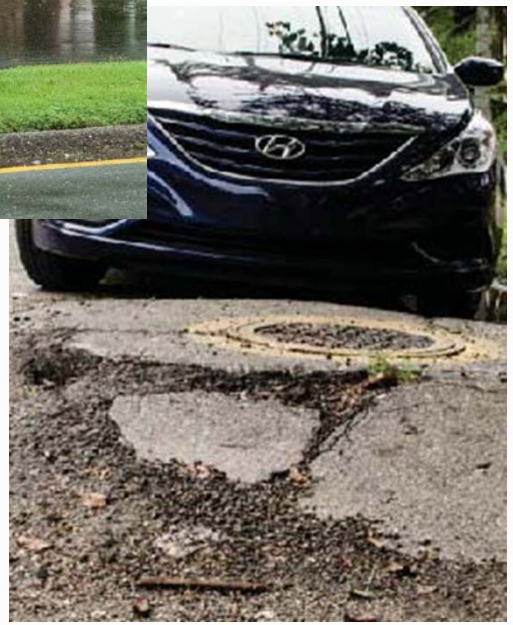


Problems

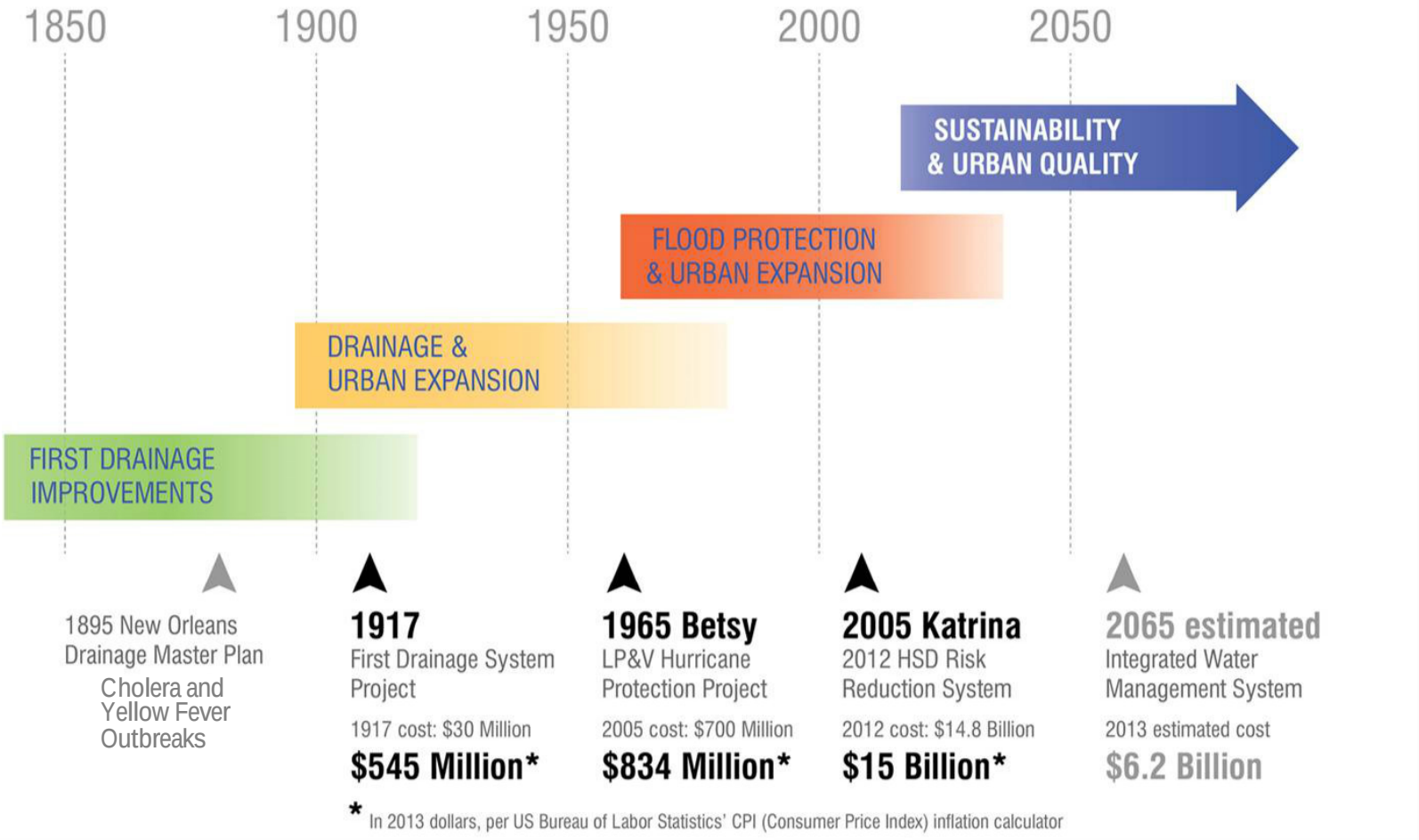
- Flooding
- Subsidence
- Water Assets Wasted

Opportunities

- Improved Safety
- Economic Vitality
- Enhanced Quality of Life



Next Steps: Marrying Resiliency with Sustainability – *Integrating Water/Land-Based Water Management*



Creating a One Water Solution for a More Sustainable and Resilient New Orleans

Complimenting ongoing water infrastructure investment, New Orleans is working to create water-based community development:

- **Aligning and streamlining** water-related governance, policy, and funding.
- **Harnessing** public space to safely detain stormwater and recharge sinking soils.
- **Leveraging** water investment to spur economic and community growth.

Creating a One Water Solution for a More Sustainable and Resilient New Orleans

The Goal: Aligning and streamlining water-related governance, policy, and funding.

The Challenge: Decades of deferred maintenance funding; inconsistent system-wide strategic planning; and multiple governmental entities managing aspects of a single water system.

The Opportunity: Approval of a framework for drainage service fee; enacted governance reform legislation; and first-time comprehensive stormwater management zoning and permitting regulations.

Creating a One Water Solution for a More Sustainable and Resilient New Orleans

The Goal: Harnessing public space to safely detain stormwater and recharge sinking soils.

The Challenge: Damage to the City's aging drainage pipe system in exacerbated by subsiding soils. The estimated cost of a pipe-only solution is simply unaffordable.

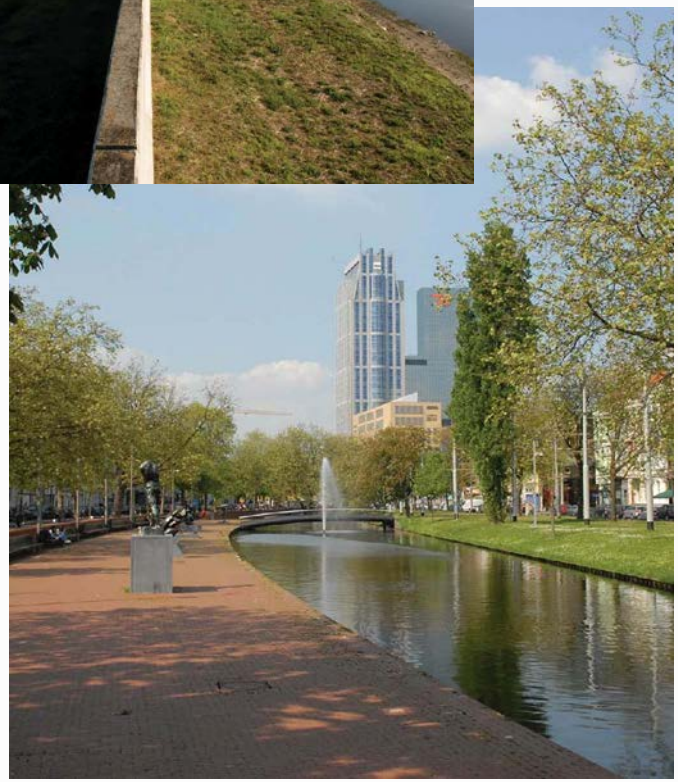
The Opportunity: The City is beginning to identify green infrastructure investment opportunities among ongoing post-Katrina street, park space, and blighted property renovation projects.

Creating a One Water Solution for a More Sustainable and Resilient New Orleans

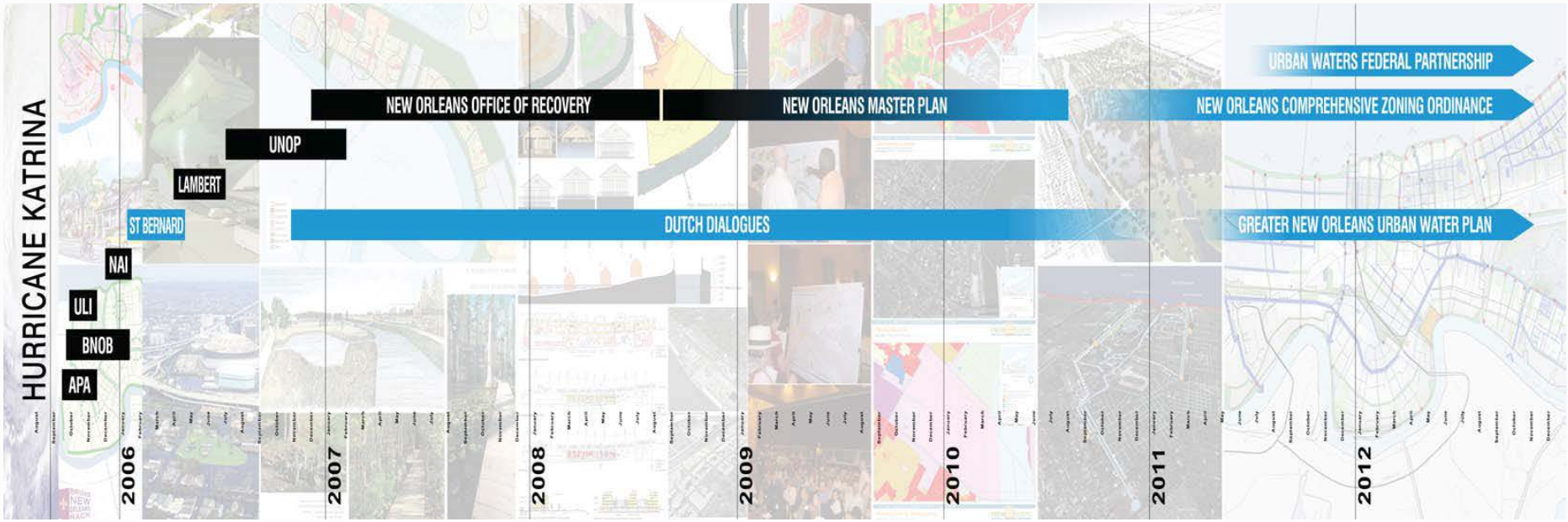
The Goal: Leveraging water investment to spur economic and community growth.

The Challenge: Most of the City's canals and other waterways provide little value as spaces for public life and commercial attraction. Existing surface level water infrastructure is unsightly, dangerous, and walled off.

The Opportunity: The City recently partnered in the development of the Urban Water Plan that identifies short- and long-term pilot projects and economic development strategies to increase community access and private-sector investment surrounding water and green infrastructure.

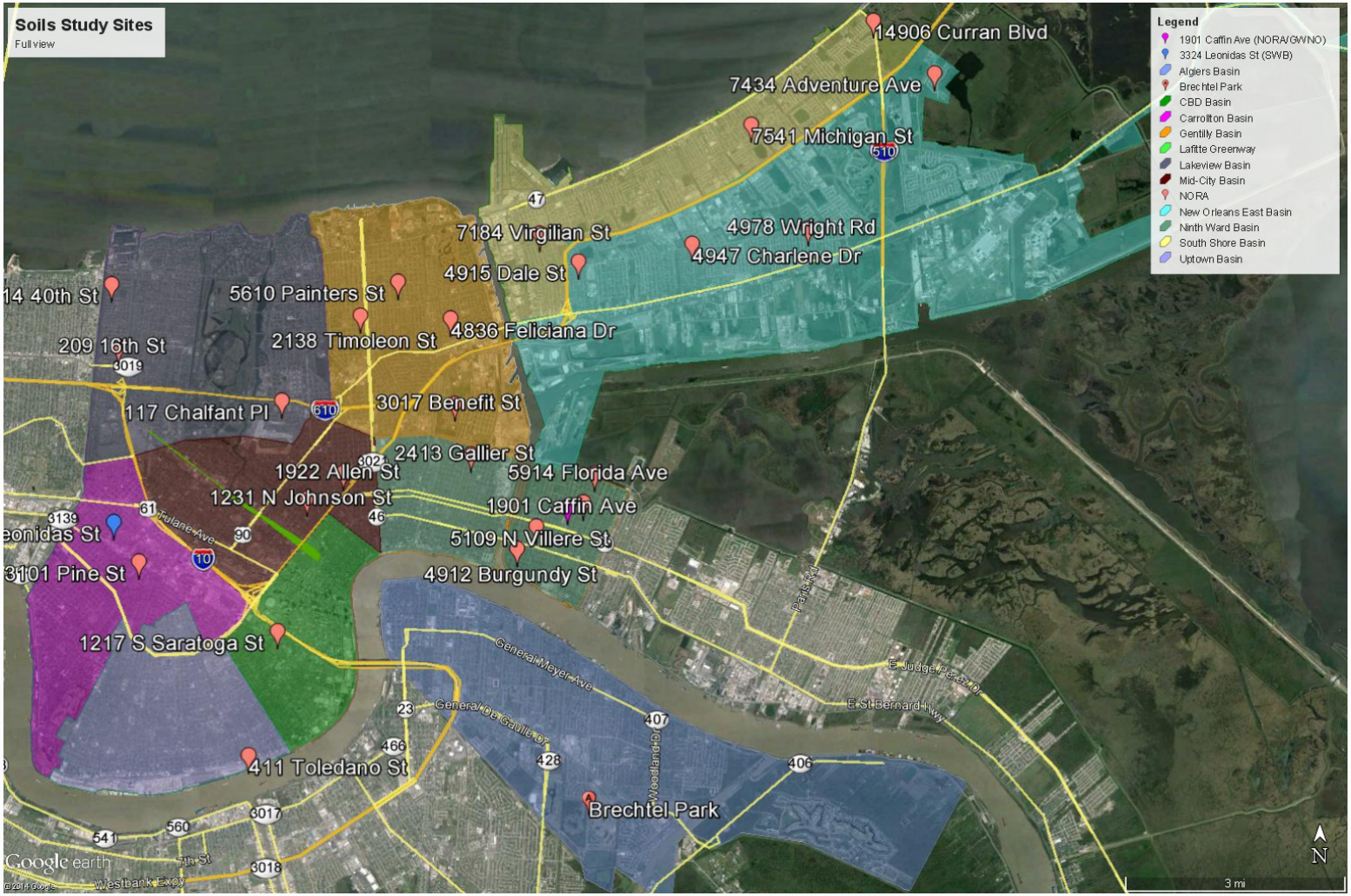


Post-Katrina Water Planning



Urban Soils Assessment:

Partnership of City agencies, UWFP and EPA ORD



Economic Development Engine

- Business owned by local government
- Combined operating and capital budget in excess of $527.9 million
- Anticipated job creation from ten-year capital program of 27,000 job years
- Success of community tied to success of utility

Workforce Initiative Bridging the Skills Gap for Water Management in New Orleans

A powerful partnership composed of anchor institutions:

- City of New Orleans
- Sewerage & Water Board
- Delgado Community College
- General Electric $1.5 million Workforce Grant
- Leveraged with funding from the Ford Foundation, W.K. Kellogg Foundation, and Living Cities

- Any questions?
- Thanks for your time and attention!