

# Kansas City's Overflow Control Program



KANSAS CITY  
MISSOURI



KCWATER  
SERVICES

# Kansas City Water Services



Water



Wastewater



Stormwater

# Water Services Department

- 1000 Positions
- 835 Employees
- 3 Utilities
- FY 13/14 Budget = \$307 million
  - Water \$148 million
  - Wastewater \$144 million
  - Stormwater \$15 million

## Average Residential Bill

Water	\$40.52
WW	\$39.44
<u>SW</u>	<u>\$ 2.50</u>
	\$82.46



# Kansas City Water Services: Assets



2 Water Treatment Plants  
6 Pump Stations  
2,800 Miles of Water Main  
35,000 Valves  
23,000 Fire Hydrants



6 Wastewater Treatment Plants  
18 Pump Stations  
2,800 Miles of Sewer Main  
67,000 Manholes



630 Miles of Storm Sewer  
53,000 Storm Inlets  
11 Stormwater Pump Stations  
13 Miles of Levee

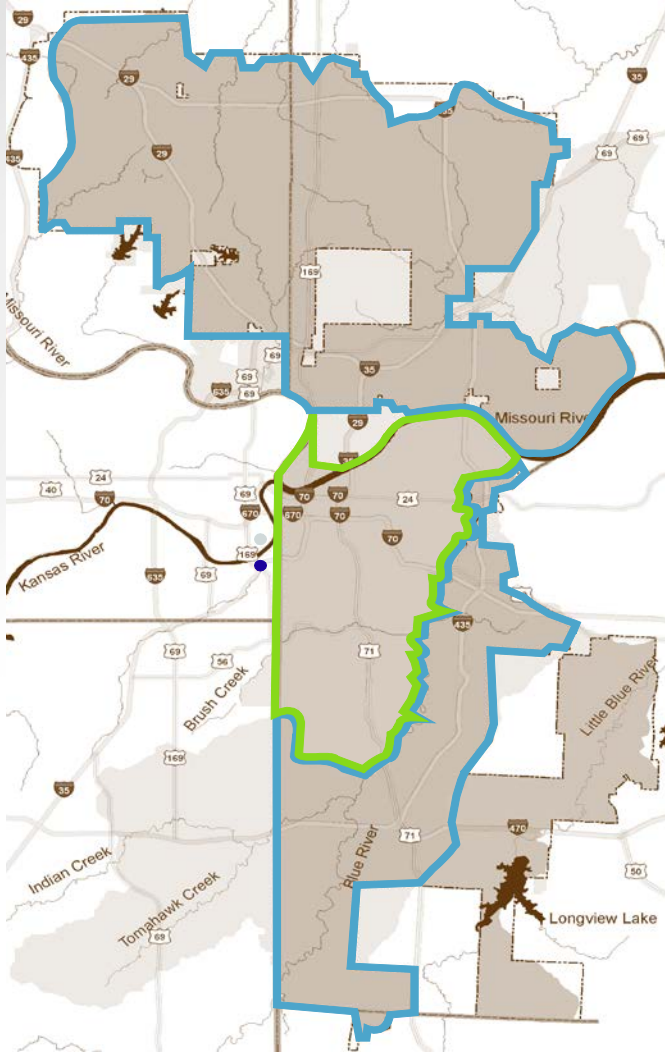


# What is the Overflow Control Program?



- Developed plan to meet regulatory requirements related to reducing and preventing sewer overflows
- City-wide approach
- Address overflows in combined and separate sewer systems
- \$4.5 to \$5 billion when complete (year 2035)
- Largest infrastructure project in Kansas City history

# Kansas City's Sewer System

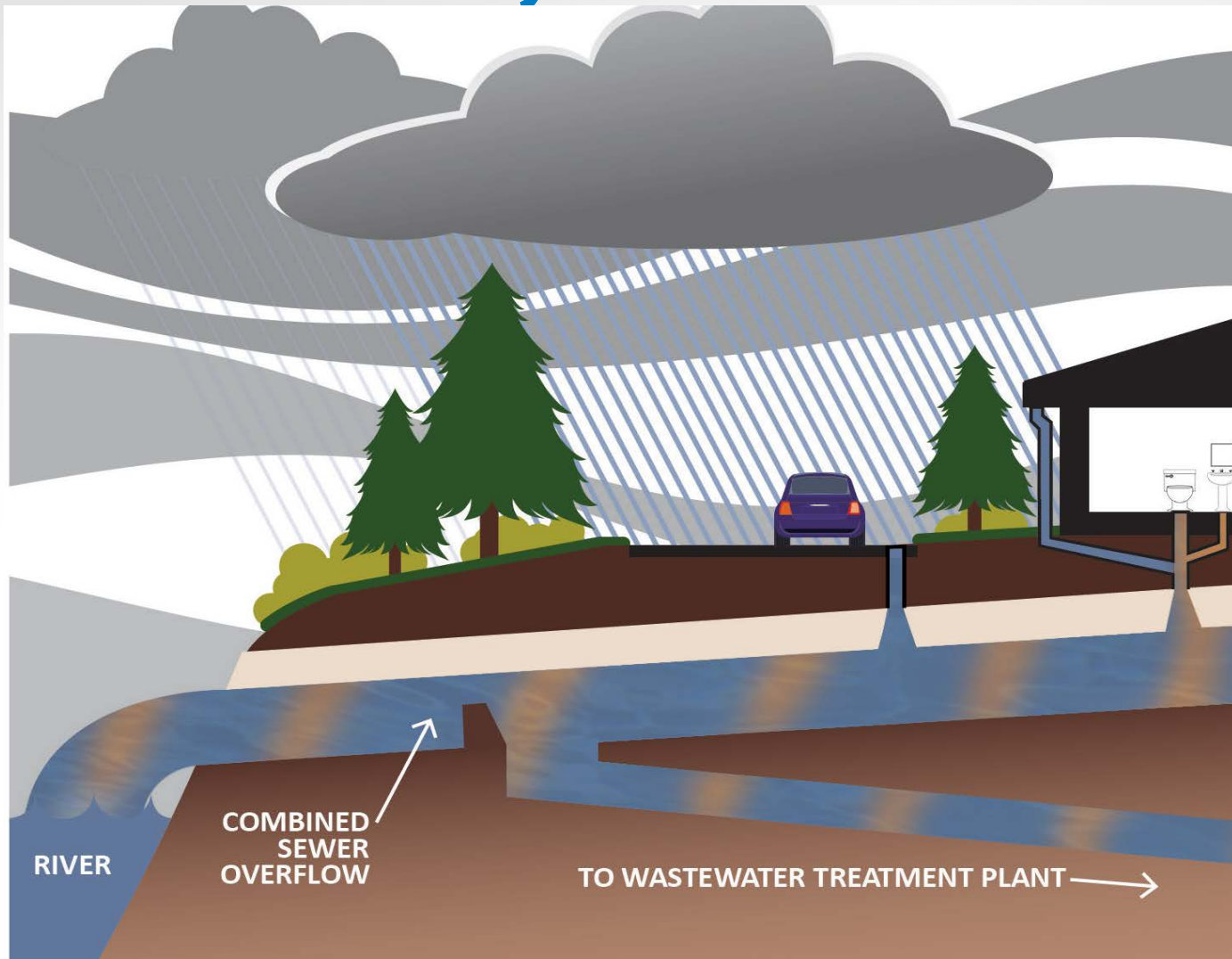


- Over 650,000 people served
- 58 sq. miles of Combined Sewer:  
State Line east to the Blue River & Missouri River south to 85<sup>th</sup> St. plus the downtown airport
- 260 sq. miles of Separate Sewer:  
North of the river, south of 85<sup>th</sup> Street and east of the Blue River

# Combined Sewer System - How It Works



# Combined Sewer System - How It Works





# Separate Sanitary Sewer System - How It Works



# Kansas City's Challenge

- Sewer overflows during wet weather
- Aging wastewater infrastructure
- Sewer backups
- Poor water quality in local streams, urban lakes, and rivers
- Past rates did not reflect the true cost of maintaining wastewater infrastructure



# The Overflow Control Plan (OCP)

**“The Right Plan for Kansas City”**



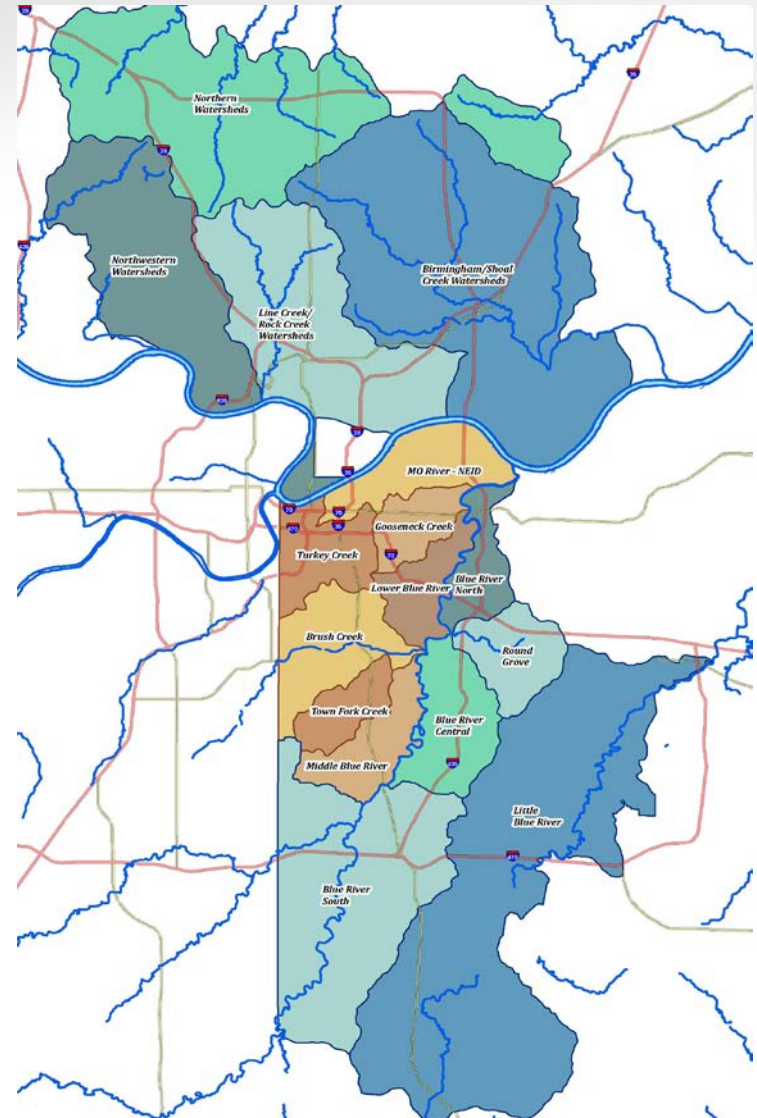
**Adopted in 2009, the plan:**

- **Reflects community priorities**
- **Meets regulations at a minimum cost**
- **Is adaptive and flexible**
- **Addresses water quality on a regional basis**
- **Organized by basin (watershed)**



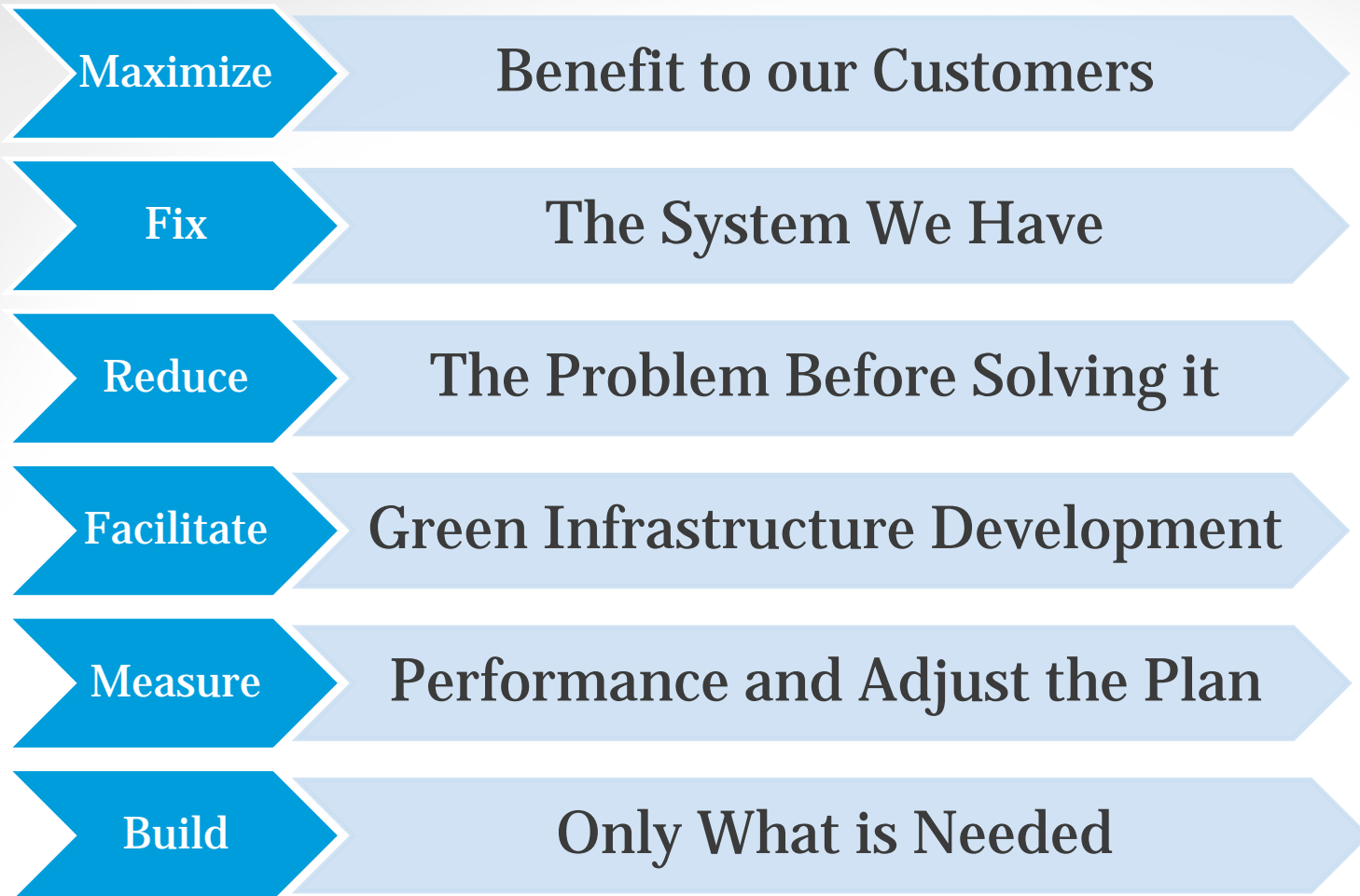
# Why Basins?

- Areas of drainage to specific streams, lakes, and rivers
- Defines individual project area boundaries
- Rain and stormwater runoff in a basin are the source of wet weather overflows
- Activities in a watershed affect water quality in streams and rivers in that watershed



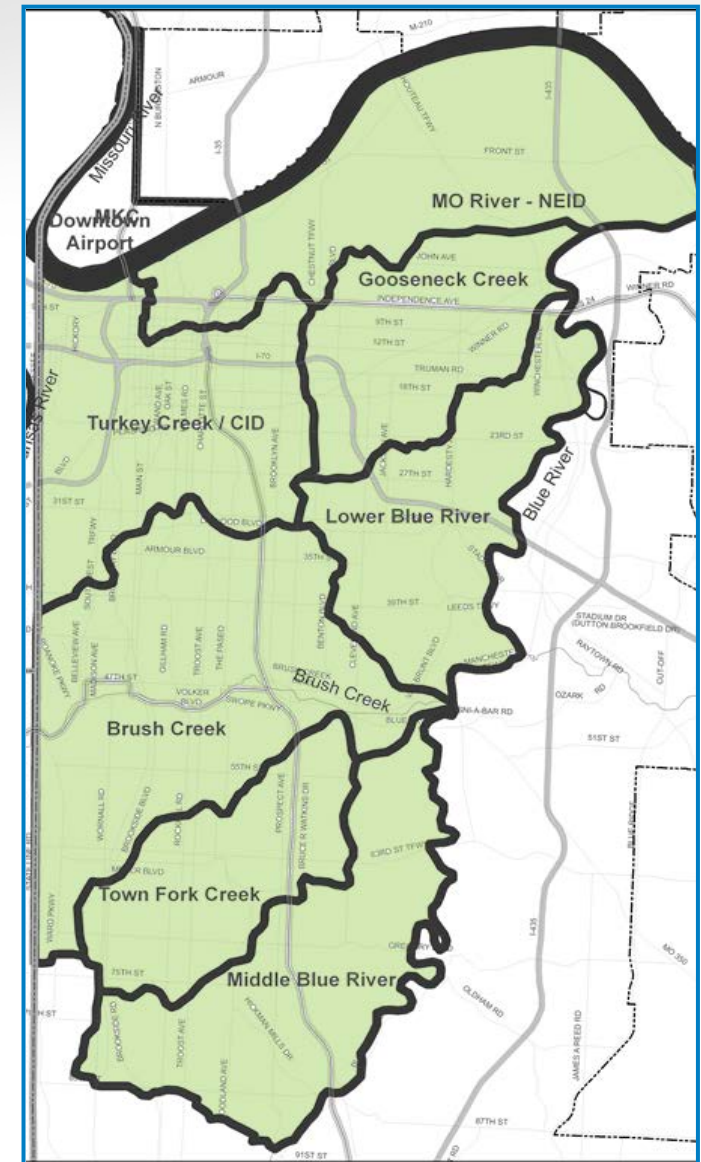


# OCP Strategy



# Combined Sewer System

- 7 basins covering 58 sq. miles
- 1,060 miles of pipe
- 90 outfalls
- 2,500 manholes
- 6.4 billion gallons of overflow in a typical year
- **Overflow Control Plan Goals:**
  - Evaluate green infrastructure
  - Capture 88% of wet weather flows
  - Reduce number of overflows by 65%



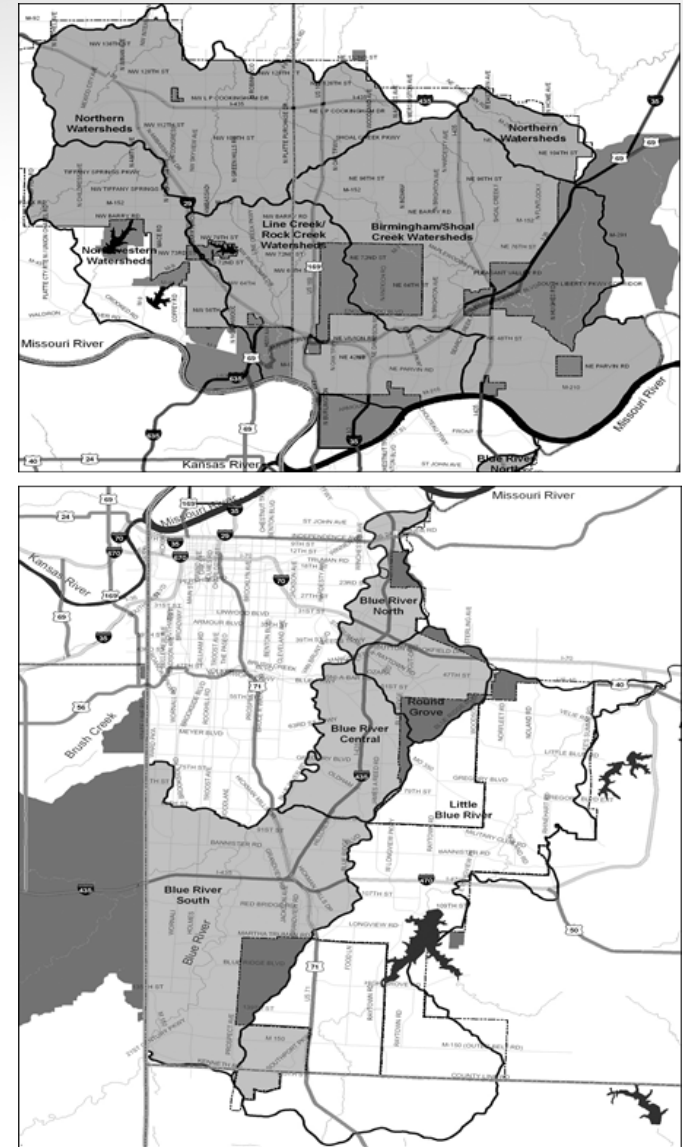
# CSS Planned Improvements

- 10 sewer separation areas
- 310 million gallons per day of wet weather treatment capacity
- Neighborhood sewer rehabilitation
- 25 million gallons of in-line storage
- Pump station and treatment plant modifications
- Green infrastructure development



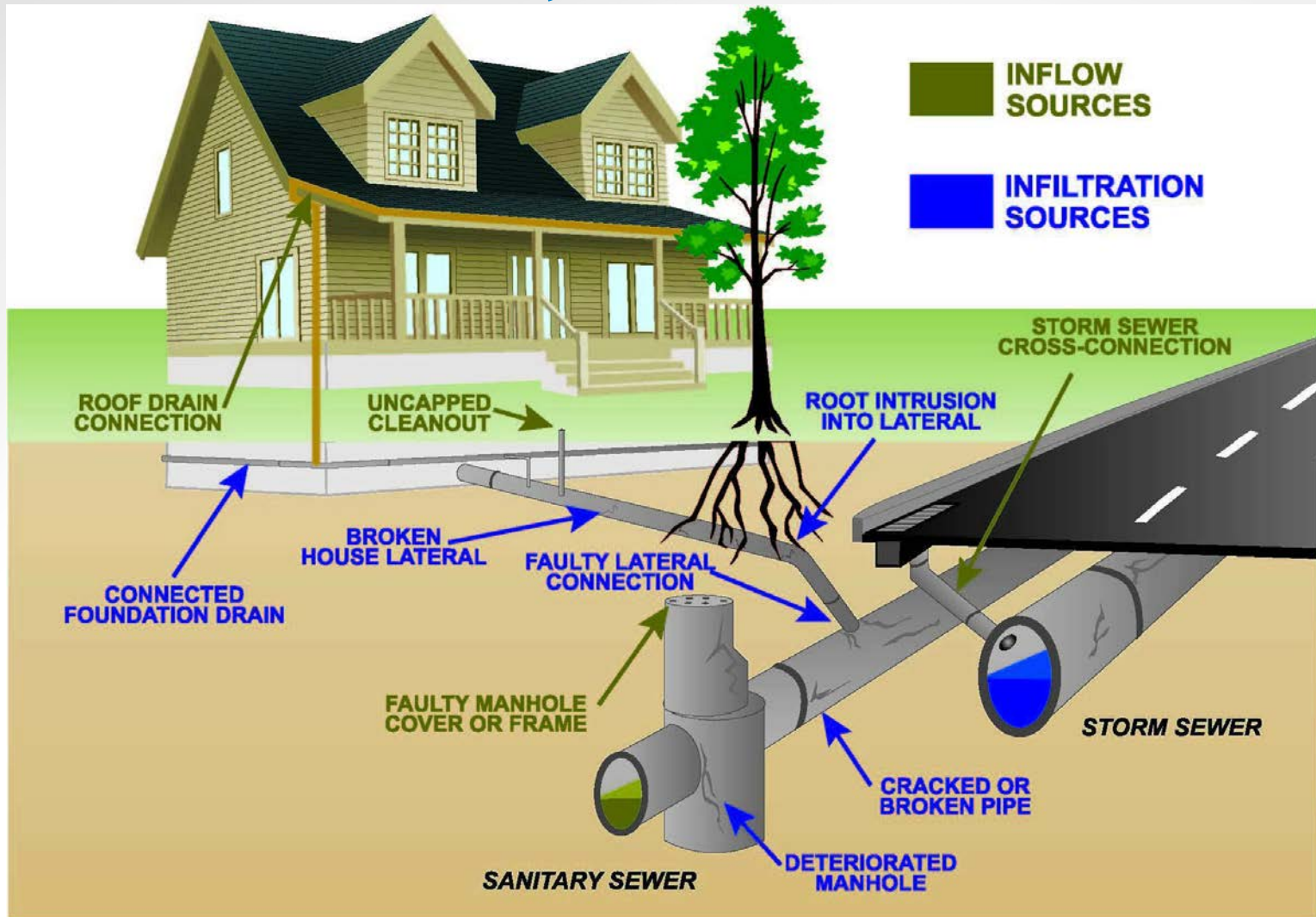
# Separate Sewer System

- 9 Basins over 260 sq. miles
- 1,750 miles of pipe
- Over 66,000 manholes
- Overflow Control Plan Goals:
  - Reduce Inflow and Infiltration (I&I) by 30 to 45% depending on the basin
  - Public and private side programs
  - Eliminate sanitary sewer overflows during a 5-year, 24 hour storm event (approximately 4.68 inches of rain)





# Separate Sewer System - I & I



# SSS Planned Improvements

- Inflow and infiltration reduction
- Pump station rehabilitation and upgrades
- 50 million gallon per day high rate treatment facility north of the river
- 112 million gallons of storage
- 24 in. force mains in north and south



# Estimated Cost and Funding

- **Unfunded federal mandate - Kansas City must comply**
- **\$4.5- \$5 billion in capital costs**
  - **\$2.8 billion in the combined sewer system**
  - **\$2.0 Billion in separate sewer system**
- **O&M costs of \$72 million per year by 2035**
- **50% bonds, 50% cash based over life of program**

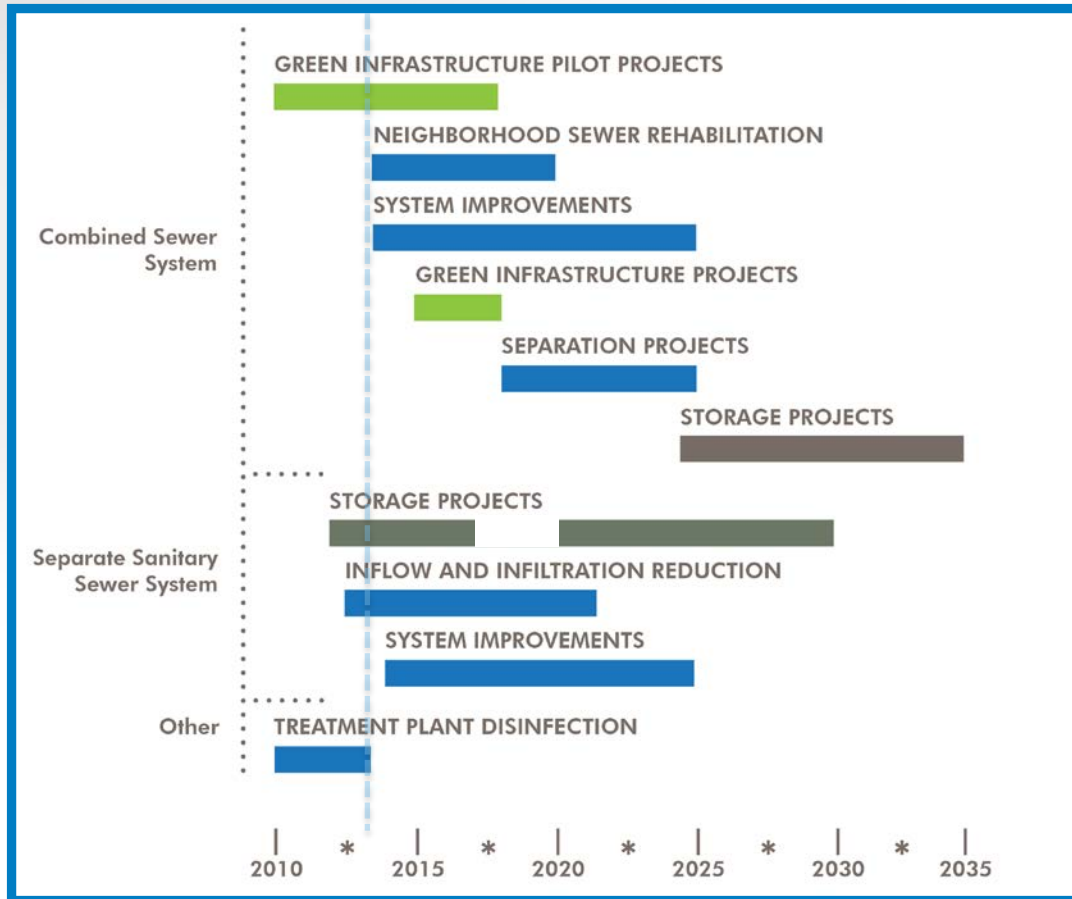
IN THE UNITED STATES DISTRICT COURT FOR THE WESTERN DISTRICT OF MISSOURI WESTERN DIVISION		
UNITED STATES OF AMERICA,	)	
	)	
Plaintiff,	)	
	)	
v.	)	Civil No. 4:10-cv-0497-GAF
	)	
THE CITY OF KANSAS CITY,	)	
MISSOURI,	)	
	)	
Defendant.	)	
	)	
THE STATE OF MISSOURI,	)	
	)	
Non-Aligned Party	)	
Joined Pursuant to	)	
33 U.S.C. § 1319(e).	)	

**NOTICE OF LODGING OF CONSENT DECREE**

Please take NOTICE that the United States submits for lodging with this Court the attached proposed consent decree in the above referenced action, with its appendices A through F. The following points and authorities more fully describe the implications of this notice:

1. The United States is filing this day a complaint in this matter, alleging that Defendant, The City of Kansas City, Missouri violated the Federal Water Pollution Control Act ("Clean Water Act"), 33 U.S.C. §§ 1251 et seq.
2. The parties have resolved the claims set forth in the United States' complaint, and have set forth their agreement in the proposed consent decree that is being filed contemporaneously with the complaint.

# Where are we now?



- Year 3 of 25 year timeline
- First 10 years focus on reducing the problem and improving service
- Most early projects ramping up in planning and design phases
- First green infrastructure pilot complete
- Disinfection projects near completion



# OCP Results to Date

\$14.8

- Cost of Completed Projects (in millions)

162

- Green Infrastructure Installations

6.85

- Miles of Replaced or Rehabilitated Pipe

0.6

- Miles of New Force Main

25

- Miles of Sewer Investigated and Cleaned

48

- Flow Meters Installed

# For More Information

[KC-OCPIInfo@kcmo.org](mailto:KC-OCPIInfo@kcmo.org)

816-513-0124

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