

# DPU's Plan to Manage the Combined Sewer System



January 2022



# City of Richmond at-a-glance

## Environmental Justice Community

**230,000** Population

**23.2%** Population below poverty level

**36.5%** Population below 200% poverty level

**54%** People of color

## Century-Old Sewer System

**114** Average age of sewer pipes (years)

**950** Miles of pipes

**8" to 27'** Pipe diameters

**25** Combined sewer outfalls

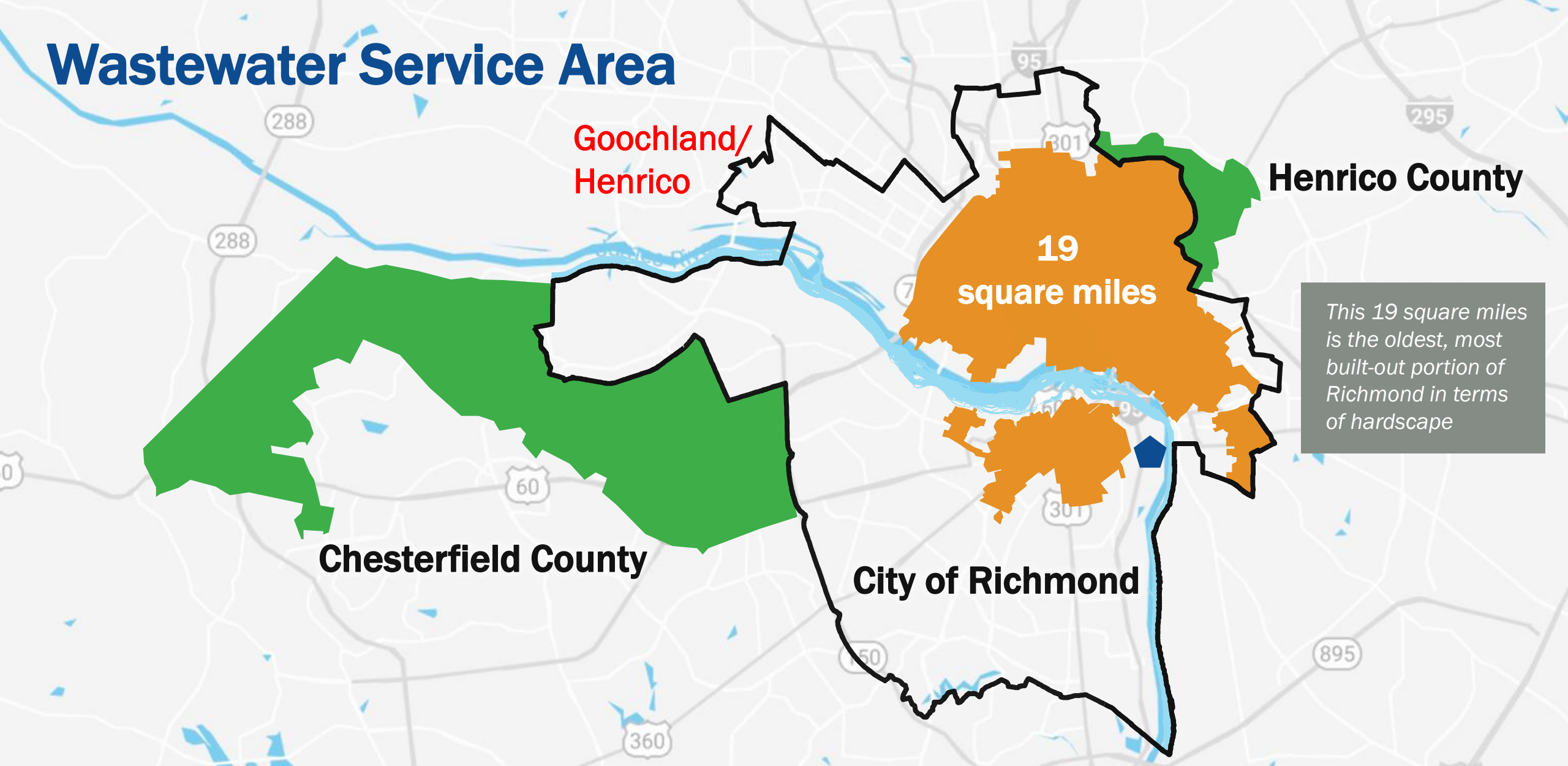
**140** Wastewater treatment plant capacity (MGD)




# City needs to increase wastewater capacity to handle increasing population


- *Population increased by >32,000 from 2000 to 20*
- *Population is expected to increase to 340,000 by 2037\**

# Wastewater Service Area



 Combined Sewer System  
Drainage Area

 County Area  
Serviced by City

 Wastewater  
Treatment Plant

# Progress

## How It Started

**46** Outfalls

**75** WWTP capacity (MGD)

**5B** Gallons of overflow annually

**\$117M** Invested

## How It's Going

**25** Outfalls

**140** WWTP capacity (MGD)

**1.9B** Gallons of overflow annually

**\$312M** Invested to date

**\$50M** Provided by GA and matched by DPU



# CSS Improvements

1970 – Present

20 Projects

50 MG Shockoe Retention Basin  
7 MG Hampton-McCloy storage tunnel  
WWTP capacity expansion to 140 MGD during wet weather  
Conveyance sewers

91% CSO Capture

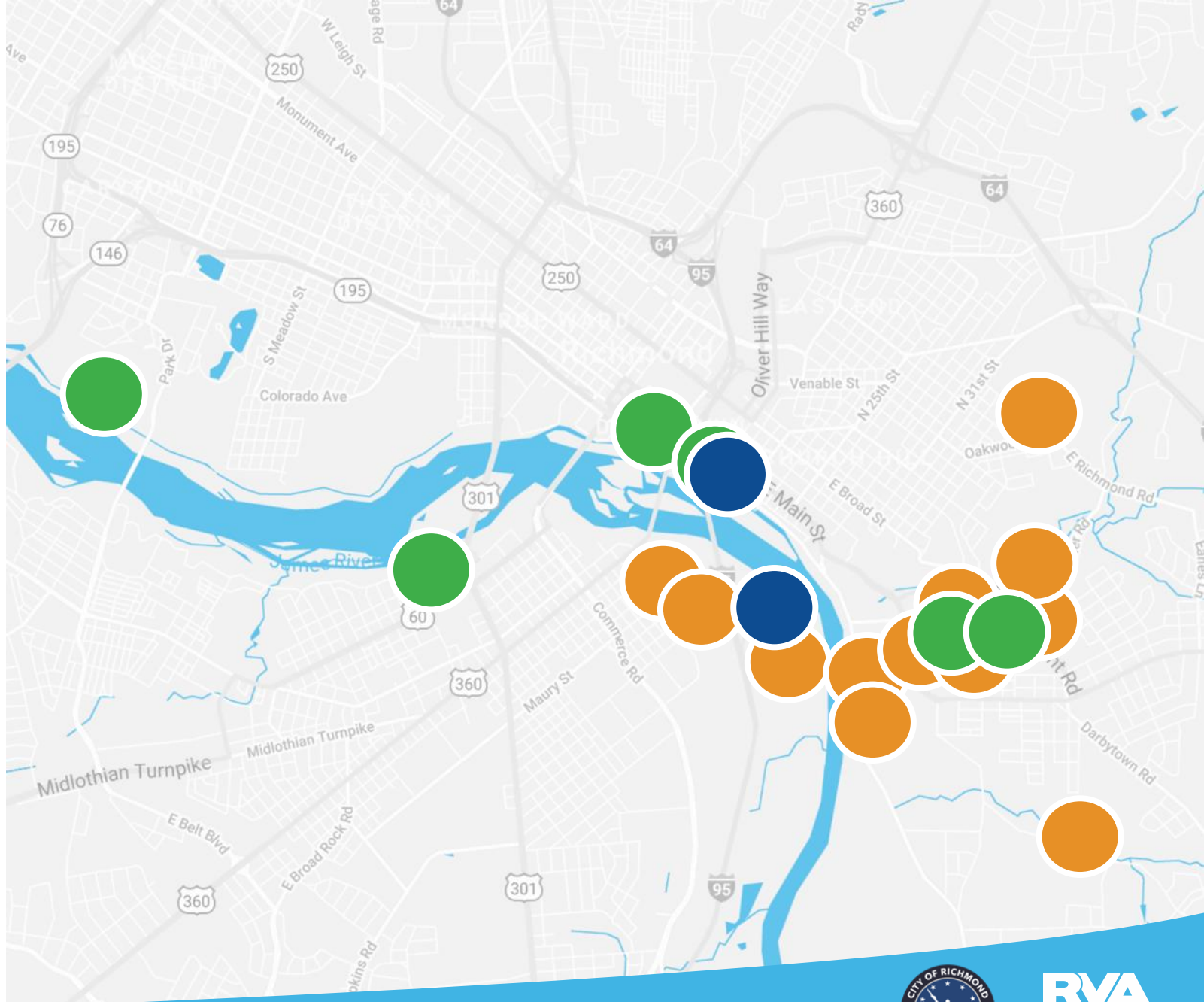
Estimated annual basis

\$312M

(\$713M in 2021 dollars)

\$89M in grant funding

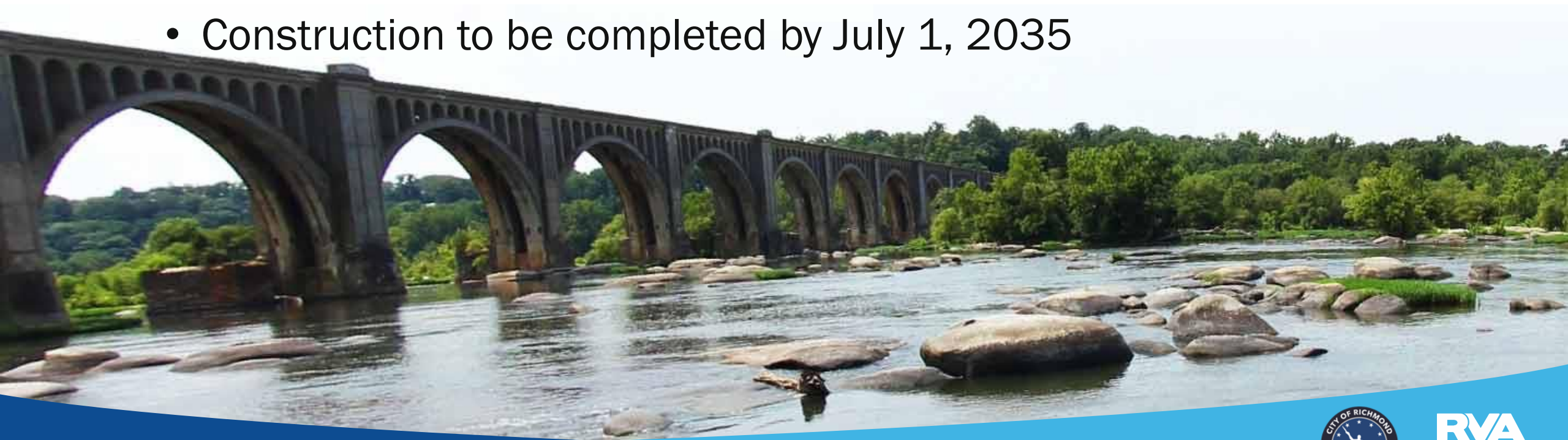
(\$198M in 2021 dollars)



# SB 1064 requires full compliance of the CSS by 2036

We are required to develop/submit Interim and Final Plans:

- **Interim Plan submitted July 2021**
  - Construction to be completed by July 1, 2027
- **Final Plan due July 2024**
  - Construction to be completed by July 1, 2035



# Interim Plan

## 10 Projects

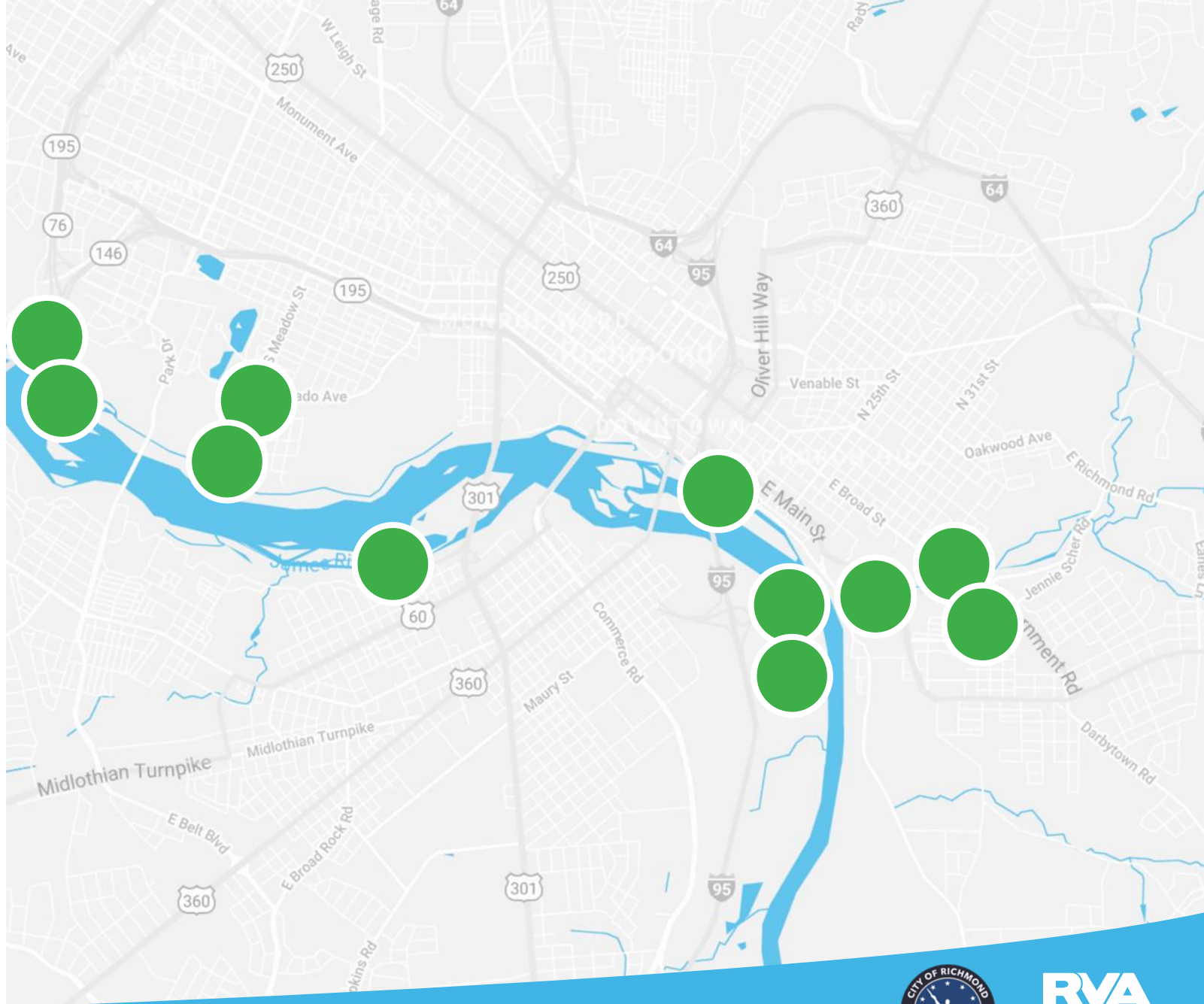
Control overflows by using existing capacity in the combined sewer system  
Estimated 182.3 MG annual capture

## 92% CSO Capture

Estimated annual basis

**\$33.1M\***

\*In 2021 dollars





# Final Plan

Must capture, convey, and treat up to 5 billion gallons per year

99% CSO Capture

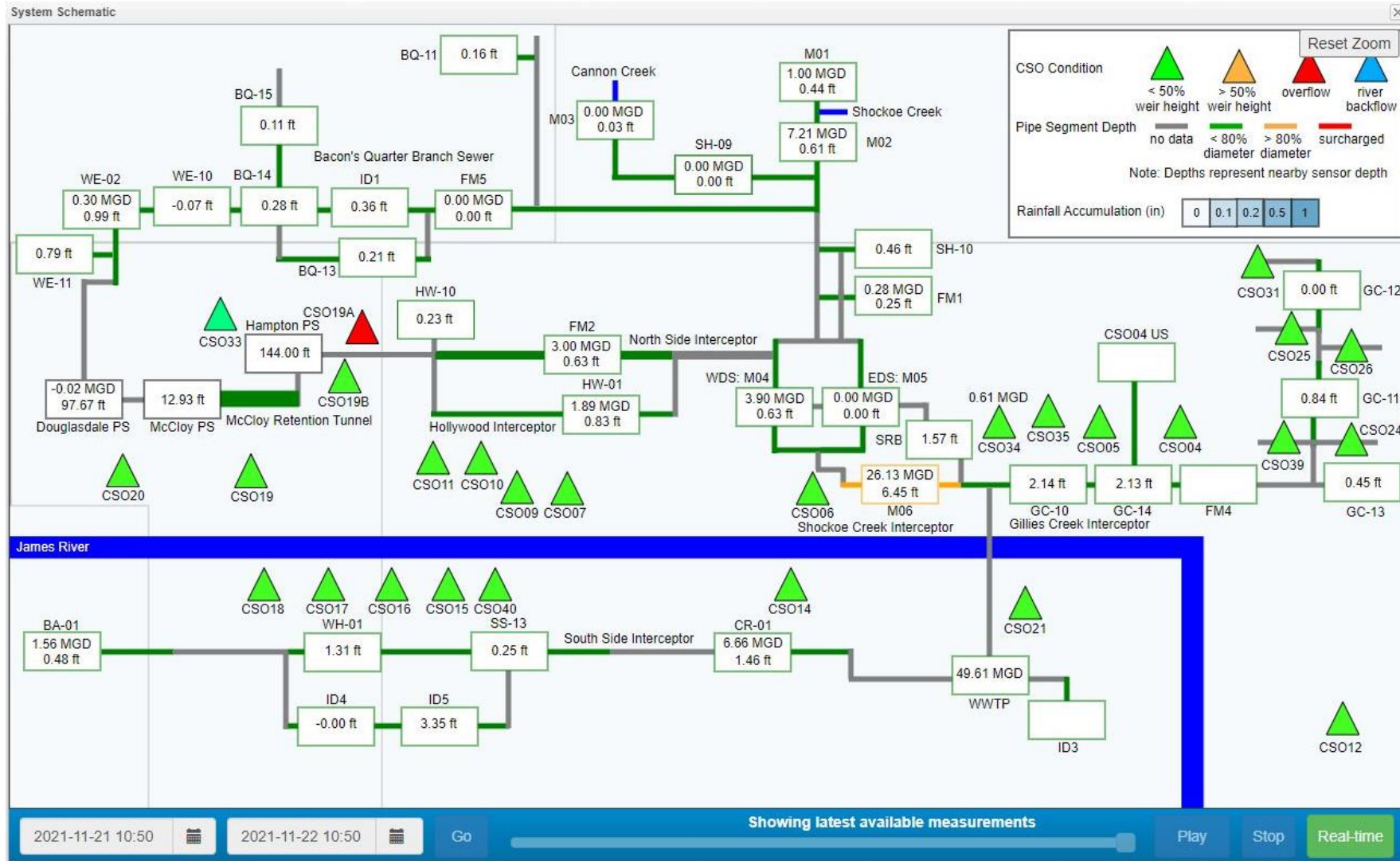
Estimated annual basis

\$1.3B\*

\*In 2021 dollars



# Real-Time Decision Support System



# First in Virginia: Public-Facing, Real-Time CSO Map

